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WHAT'S INSIDE

Chapter 1: Nutrition for the Skin (Satisfies Elective Requirement)

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This course is designed for estheticians who want to discover the most powerful means of growing and treating their clientele. Applying skincare to the outside is never effective unless the inside is treated as well. No amount of skin cream or makeup can hide the effects of a poor diet. Understanding the connection between the mind, the body, and the skin will allow you to treat each skin type and achieve significant results. Grow your clientele by incorporating proper nutrition into their treatment plans and gain a reputation for amazing results. This course covers everything you need to know to create optimal nutritional plans for each and every skin type, including treatment plans for problematic skin issues. By discovering the benefits derived from macro and micronutrients, healthy fats, proteins, carbs, antioxidants, probiotics, vitamins, and minerals, you will be able to advise your clientele and devise the most effective nutritional plan for each client to produce stunning results.

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The cosmetology industry survives on human services focusing on the Integumentary System, and therefore in order to provide quality cosmetic services, it is essential that licensed cosmetologists have a working understanding of the functions, chemical makeup, and proper treatment of the organs within the Integumentary System: skin, hair, and nails.

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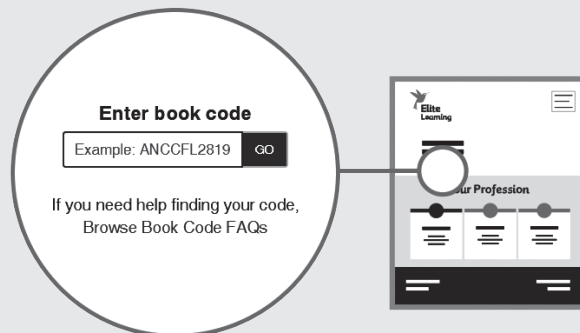
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Chapter 1: Nutrition for the Skin

(Satisfies Elective Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- ♦ Analyze the connection between mind, body, and skin.
- ♦ Research the importance of macro and micronutrients, antioxidants, probiotics, healthy fats, proteins, carbs, vitamins and minerals in effective skincare.
- ♦ Assess the different types of skin and skin problems.
- ♦ Cite three examples that clearly demonstrate the connection between the mind, body, and skin conditions in order to differentiate whether the skin issues are due to internal or external causes and give corresponding comparative treatment options.
- ♦ List six points that summarize how changing the diet by choosing the proper nutrients to create an optimal diet will dramatically improve the overall condition of the skin.
- ♦ List three examples of dehydrated skin and summarize how dehydration affects each skin type.
- ♦ List the seven micronutrients and three macronutrients; evaluate and explain the vital role of these nutrients in creating healthy, beautiful skin.
- ♦ Assess the role of antioxidants in protecting the skin.
- ♦ Research the effectiveness of incorporating probiotics into the diet to aid in treating rosacea, eczema, acne, and aging skin; list twelve foods that contain probiotics.
- ♦ Evaluate the role healthy fats play in skincare; list seven foods containing healthy fats and cite the benefits of each.
- ♦ Define the importance of collagen, explain the link between proteins, amino acids, and collagen; list five healthy food groups that supply essential protein.
- ♦ Cite the two main carbohydrates, list five healthy foods that contain important carbs.
- ♦ Cite the four most important vitamins for all skin types.
- ♦ List the twelve best foods for dry skin.
- ♦ Define sensitive skin; cite five types of food to avoid.
- ♦ Evaluate the nutritional needs of oily skin; list ten foods that help improve the conditions of oily and acne skin.
- ♦ Evaluate and identify the three most common skin problems: Eczema, psoriasis, and rosacea.
- ♦ Research and evaluate the effects of medications on the skin.
- ♦ Research the benefits derived from applying food to your skin; list the benefits for each of nine different foods and be able to create nutritional recipes to apply to the facial area.

INTRODUCTION

This course is designed for estheticians who want to discover the most powerful means of growing and treating their clientele. Applying skincare to the outside is never effective unless the inside is treated as well. No amount of skin cream or makeup can hide the effects of a poor diet. Understanding the connection between the mind, the body, and the skin will allow you to treat each skin type and achieve significant results. Grow your clientele by incorporating proper nutrition into their treatment

plans and gain a reputation for amazing results. This course covers everything you need to know to create optimal nutritional plans for each and every skin type, including treatment plans for problematic skin issues. By discovering the benefits derived from macro and micronutrients, healthy fats, proteins, carbs, antioxidants, probiotics, vitamins, and minerals, you will be able to advise your clientele and devise the most effective nutritional plan for each client to produce stunning results.

SKIN AND THE MIND/BODY CONNECTION

"You are what you eat." This is more than just a saying. The mind, body and skin are all connected. Two great examples that prove how closely the mind, body, and skin are linked are blushing and hives – some people blush when they feel embarrassed, some break out in hives when they are in a stressful situation. There are ten billion neurons in the brain, and between each and every one of them are neurotransmitters – also known as chemical messengers – that move from brain cell to brain cell allowing the cells to talk to each other. There is considerable data showing that how you feel is dictated by certain neurotransmitters. Studies have proven that stress has the ability to make our bodies feel worse. The more stress a person is experiencing, the more cortisol that person produces. Elevated cortisol levels create a rise in blood sugar, which in turn creates a cellular inflammatory response. Stress also increases androgen production, which makes sebaceous glands overactive, which can trigger acne.

Research has shown that a person's diet directly correlates with their mood – there are food groups that are considered "mood-boosting" foods, there are other food groups that are harmful to the mental state. Depletion of certain vitamins, minerals, and nutrients can trigger feelings of depression, anxiety, and stress. **There is a host of scientific data proving that stress can profoundly affect the skin, triggering such conditions as psoriasis, eczema, rosacea, acne, and vitiligo.**

Stress can also alter the microflora in our intestines, again triggering systemic inflammation that can exacerbate acne, psoriasis, and a wide range of skin conditions. The reverse is also true – when our microflora is out of balance due to poor eating habits, our neurotransmitters become imbalanced, which causes

emotional imbalance. What we eat has a direct link to how we feel and how our skin looks. If you are trying to treat a client who repeatedly suffers from acne, rosacea, psoriasis, or even dry or aging skin, no amount of skin treatments will alleviate the problems brought on by a poor diet.

The skin is the body's largest organ. Its main function is to act as a protective barrier. Skin serves to act as a physical, chemical, and antimicrobial defense system. Poor eating habits lead to a breakdown of this shield; as a poor diet is directly linked to feelings of stress, anxiety, and depression. These emotions lead to a decrease in the production of antimicrobial peptides that the skin produces, which in turn impairs the protective function of the epidermis. Changing your eating habits, understanding the building blocks of nutrition, and eating accordingly can bring changes that look miraculous to your skin.

Nutrition is also a vital component of the healing process. When skin cells become damaged, good nutrition will help speed the healing process. The most essential nutrients for skin repair are energy, protein, fluid, healthy fats, vitamins, and minerals. The protein derived from eating right is used for cell production. Fluid is vital, as it transports the needed supply of nutrients and oxygen. Fats are needed to absorb certain vitamins. Energy is used to fuel the healing process.

Stress depletes the stores of nutrients that are vital for both healthy skin and the healing process. When stress kicks in, the body automatically redirects the supplies of vitamin C, B vitamins, and magnesium, along with other crucial nutrients. One automatic response to stress is for the body to create the stress hormones adrenaline and cortisol, so the available stores of

vitamin C are pulled away from the skin in order to be utilized for the creation of stress hormones.

Understanding that depleted stores of essential proteins, healthy fats, vitamins, and minerals have a direct correlation with our

moods is the first step in making a huge impact your clients' skin. Our eating patterns can have a direct effect on our mood, and our moods have a direct correlation with our skin – the mind, body, and skin are all intertwined, and you cannot affect one without affecting the others.

Why you need knowledge on skin nutrition for your clientele

Your clients turn to you to improve their skin. Facials and proper skincare routines are a vital element necessary to maintaining healthy skin, however if your client is suffering from skin conditions that stem from improper diet, they will be disappointed when just applying creams and lotions don't fix the problem. When you are able to go one step further than other aestheticians by offering some solid advice on how nutrition affects the skin, your clients will be able to see *real* change in the look, feel, and texture of their skin.

Skin is constantly undergoing a cycle of cellular turnover, and fueling that change and the growth of new, healthy cells, is food. The body, including skin, uses vitamins and nutrients it derives from food to repair and rebuild.

Understanding how diet affects skin is a huge step in more effectively treating your clientele. Poor eating habits trigger anxiety and stress, and stress and anxiety can trigger the following skin conditions:

- Psoriasis.
- Eczema.
- Acne.
- Vitiligo.
- Rosacea.
- Dull, dry skin.

Why nutrition for the skin is important

The skin is the largest organ of the human body. It's the first line of defense against injuries, illness, infections, ultraviolet radiation, heat, and cold. Skin is composed of three layers:

- **Epidermis:** The epidermis is the top layer – the protective layer. The epidermis is composed of hardened dead cells that create a protective layer. Below that is the basal layer, where living cells continuously divide to replace the outer layer over a three- to four-week cell production and loss cycle.
- **Dermis:** The dermis supports the blood circulation for the cell reproduction cycle happening in the epidermis. The individual cells in this layer contain collagen and elastin fibers in the matrix of support tissue. The dermis contains the nerve cells that produce sensation, and lymph vessels that fight infections. Sweat glands that help regulate your body's temperature are also located in the dermis. Fibroblasts that are responsible for collagen synthesis and macrophages that regulate how the body responds to infection are found in the dermal layer.
- **Subcutaneous layer:** The subcutaneous layer works as a protector of underlying tissues by insulating and absorbing shock. This is the last layer between the skin and the tissues; beneath it is the fascia, which attaches skin to muscle.

When your skin suffers damage, the body responds by triggering repairs to the tissue. Good nutrition aids the body in repairing damaged skin; lack of good nutrition leads to slower healing times.

Changes in diet can also affect skin's appearance. When you can go one step further than other aestheticians by offering some solid advice on how nutrition affects the skin, your clients will be able to see *real* change in the look, feel, and texture of their skin.

Skin discoloration and slow wound healing are effects of lack of vitamin C. Here is a list of some of the most common cause and effects created by nutritional requirements:

- **Vitamin A:** Lack of vitamin A can lead to slow wound healing.
- **Vitamin C:** Vitamin C helps limit the damage caused by exposure to UV rays. Vitamin C also regulates the synthesis

If you have a client who consistently has problems with their skin, take a few minutes to discuss eating habits with them. Another important point to review is how certain medications can affect the skin. Later in this course, we will go over dietary changes to counteract the side effects of various medications.

Skincare is a huge step in improving the quality, look, and feel of the skin. However, if your clients' skin problems are brought on by poor eating habits, no amount of creams or potions will correct the resulting condition. As an esthetician, when you can take a holistic approach by understanding and advising on correcting dietary imbalances, you will be able to have a powerful impact on the condition of your clients' skin. The ability to treat and improve on conditions that have plagued them in the past will give you a happy clientele: This translates to building a solid repeat clientele. Also, the referrals passed along by your happy clients can give a huge boost to your business.

Understanding how certain foods affect the skin and being able to advise your clients as to which foods they should add to their diets and which foods they should eliminate, is a service you can easily provide to your clientele. The combined impact of good skincare and proper nutrition will give them impressive and lasting changes to the quality of their skin. You'll be able to achieve results that go above and beyond merely treating the surface; and you will gain a reputation for getting amazing results.

of collagen; and can help increase collagen protein synthesis in order to repair damaged skin.

- **Vitamin E:** Vitamin E is a fat-soluble antioxidant that is vital for maintaining healthy skin. It helps prevent free radical damage caused by UV rays, and it has anti-inflammatory properties.
- **Zinc:** Zinc is found in both the epidermis and the dermis. Zinc stabilizes cell membranes.
- **Omega-3 fatty acids:** Enough intake of omega-3 fatty acids is a crucial aid against dry skin.
- **Selenium:** Selenium deficiency has been linked to higher instances of skin cancer.
- **Protein:** Your body needs protein to build and repair skin, muscle, and bone.

These are just a few examples of nutrients that the skin depends on in order to remain healthy. Nutrition can also be used as an aid in helping the body to heal certain skin conditions. Some of the skin issues that have been found to have a direct correlation with the diet are:

- **Eczema:** Food containing anti-inflammatory nutrients have been known to aid in healing stubborn eczema patches. The reverse is also true – some foods, such as citrus, spicy food, and gluten, have been known to trigger bouts of eczema.
- **Psoriasis:** Certain foods, such as dairy, alcohol, and red meat, have been linked to triggering psoriasis flare-ups.
- **Rosacea:** Foods that reduce inflammation, such as salmon and leafy greens, can be helpful in treating rosacea.
- **Acne:** Foods with high glycemic index have been linked to causing and exacerbating acne.
- **Vitiligo:** Bananas, apples, and leafy greens have all been used successfully in treating vitiligo.
- **Skin cancer:** Studies have shown that diets rich in fruits and vegetables help lower the risks for skin cancer.
- **Aging:** Sugar can accelerate signs of aging, as it promotes cross-linking of collagen fibers.

Numerous studies have proven that an improper diet, or a diet lacking in nutrients, can lead to a whole host of skin conditions. The reverse is also true – by understanding how nutrition works,

and eating a healthy, balanced diet, you can feed your skin the nutrients it needs to stay soft, supple, and glowing. By understanding and avoiding certain foods that are known to

Problems from dehydration

Dehydration is one of the most common, and most oftentimes misdiagnosed, skin problems plaguing a large number of people. Dehydration and dry skin are often confused with each other, but they are very different issues. *Dehydration* is the lack of water in both the skin and the body.

Dry skin is the lack of naturally occurring oils and sebum in the skin. Dry skin is a type of skin brought about by genetics; dehydrated skin is a condition brought about by a diet that is lacking in enough water. Sometimes people who consume a lot of water are confused by the fact that they are dehydrated – but dehydration occurs when the body is putting out more water than it is taking in. Excessive sweating brought about by exercise or heat, excessive caffeine (a diuretic) intake, and vomiting and diarrhea can all cause dehydration, in spite of the client drinking large amounts of water.

Dehydrated skin and dry skin have different characteristics:

Dehydrated skin:

- Lacks enough water, can be experienced by anyone.
- Can feel both oily and dry at the same time.
- Comes and goes.
- May also experience breakouts.

Dry skin:

- Lacks enough lipids.
- Is a genetic skin type.
- Feels dry all over, including scalp and hands.
- Is consistently dry, can also become dehydrated.

Dehydrated skin and dry skin demand different treatments: Dry skin needs lipid-based products on the skin, and more healthy fats introduced into the diet. Dehydrated skin needs water-rich products to help hydrate on the outside, and more water and water-based fruits in the diet.

Because dehydrated skin feels so tight and dry, the brain reacts by ordering a larger production of sebum to be delivered to the epidermis; because of this, dehydrated skin can feel both dry and tight, while looking oily and suffering from breakouts at the same time.

When devising a skincare and/or a nutrition plan for a client, it's imperative to determine if they have dry skin due to genetics, dehydrated skin due to lack of water in the diet, or a combination of both. When determining which skin type or condition they have, start by asking the following questions:

- Do they consistently feel like their skin is tight and dry, or does this condition come and go?
- Are their hands and scalp also dry?
- Is oiliness occurring at the same time that they are suffering from the tight, dry feeling?

Another way to determine whether the skin is dehydrated as opposed to just being dry skin, is to look for the following signs of dehydrated skin:

- New fine lines and wrinkles developing.
- Dark under-eye circles.
- Shadows on the skin, most notably around the eyes and nose.
- Redness.
- Dry patches; also can have oily patches at the same time.
- Dullness.
- Itchy, flaky patches.
- Sunken eyes.
- Sometimes excessive oil production and breakout occur simultaneously with the tight, dry skin.
- Skin feels tight and dry, and lacks elasticity.

Dehydrated skin always *lacks elasticity*. A quick and easy way to check for dehydration is to pinch the cheek – if the skin is dry, it will bounce back into its original shape immediately. If the skin is dehydrated, a gentle pinch will leave it wrinkling and remaining

trigger flare-ups in conditions such as eczema and psoriasis, people who are prone to these issues can take action by avoiding these foods.

in the “tented” shape it was pinched into. Because the two different skin conditions require very different treatments, always follow up the “pinch test” with the questions to be sure that you are 100 percent getting the correct diagnoses.

When distributing water and all nutrients throughout the body, the epidermis is the last organ that receives whatever is available. When someone is not getting enough water in their diet, their face will be the first place that shows obvious signs of dehydration. Dehydration can also cause a whole host of other problems, including dizziness, lethargy, and brain fog. Dehydration is damaging to the body, the brain, and is a vital part of maintaining healthy, glowing, supple skin.

Advise all clients to drink at least eight glasses of water daily; if they are dehydrated advise them to also add a variety of high-water content foods. All persons should be both drinking enough fluids as well as eating a variety of fruits and vegetables, but a person suffering from dehydration needs to really up their intake. The following foods are all great water content foods:

- **Cucumbers:** Coming in at 96.7% water, cucumbers have the highest water content of all the foods.
- **Iceberg lettuce:** Crispy iceberg lettuce is lacking the nutrient-filled punch of darker, leafy greens, but with a water content of 95.6%, it is the perfect item to add to a dehydration-busting diet.
- **Celery:** Celery packs a nice nutritious punch to go along with its high-water content. Celery contains folate and vitamins A, C, and K; and has a water content of 95.4%.
- **Radishes:** Radishes contain a water content of 95.3%, and they're filled with antioxidants, such as catechism – the antioxidant green tea is so famous for.
- **Tomatoes:** Tomatoes aren't strictly for salads – with a little salt and pepper, they also make nutritious snacks. Tomatoes have a water content of 94.5% and are full of antioxidants and vitamin C. Tomatoes contain lycopene, famous for its cancer-fighting abilities, and vitamins K, C, potassium, and folate.
- **Green peppers:** Bell peppers of all colors have high water content, but the green variety comes in the highest at 93.9%. The red, yellow, and orange peppers come in just slightly lower, at approximately 92% water content. Peppers are also loaded with antioxidants, which are vital to healthy skin.
- **Cauliflower:** Cauliflowers pack a powerful punch of both water content (92.1%) , vitamins, and phytonutrients that have been shown to help lower cholesterol and fight cancer.
- **Watermelon:** Watermelon boasts both a high-water content (91.5%) and is a rich source of lycopene, an antioxidant known to fight cancer. Watermelon boasts an even higher content of lycopene than tomatoes – about 12 milligrams per wedge, as opposed to a raw tomato's 3 milligrams per medium sized tomato. Tossing a few wedges of watermelon in a pitcher of water creates a refreshing drink and is a terrific way to up your water intake.
- **Spinach:** Spinach packs a strong nutritional punch to go along with its high-water content. Spinach is 91.4% water, and contains lutein, potassium, fiber, and folate. Just one cup of raw spinach leaves contains a full 15% of your daily intake of vitamin E. Vitamin E is well-known for fighting off free radicals that damage both your skin and your other organs.
- **Star fruit:** This tropical fruit is also known as carambola. It contains a water content of 91.4% and is rich in antioxidants. One note of caution – people with kidney problems should avoid star fruit, because it contains high levels of oxalic acid.
- **Strawberries:** While all berries are great for hydration, strawberries come in with the highest water content at 91.0%. Raspberries and blueberries have water contents of around 85%, and blackberries contain 88.2%.
- **Broccoli:** Broccoli has an impressive amount of both water content and valuable nutrients. Broccoli is 90.7% water, and

contains lots of fiber, potassium, vitamin C, and vitamin A. Broccoli also contains sulforaphane, a compound that boosts the body's protective enzymes.

- **Grapefruit:** Grapefruit has a water content of 90.5%, and compounds in the fruit help fight fat, lower cholesterol, and stabilize blood sugar.
- **Baby carrots:** Baby carrots contain more water content than their full-size counterparts. Baby carrots are 90.4% water content, while the larger carrots come in at 88.3% water. They are also loaded with vitamin A, a boon to your eyesight.
- **Cantaloupe:** Cantaloupe has a high-water content of 90.2%, and this fruit is also loaded with vitamins A and C. Just one quarter of this melon will supply 100% of the recommended daily intake of these vitamins.

The plus side of having dehydrated skin as opposed to genetically dry skin, dehydration is easily combated. However,

dehydration is a dangerous, although common, condition, and in its more severe forms can cause serious problems. Everyone should make sure that they are not only drinking the recommended eight glasses of water daily but should also be adding the water-rich fruits and vegetables to their daily diet. Dehydration is damaging to the skin, the body, and the brain. Side-effects of severe dehydration are not only serious, but they can also be fatal.

Caffeinated drinks are diuretic – so rather than adding to the daily doses of water that are crucial to remain healthy, they cause the body to lose its supply of water. Sodas and other sugary drinks are not substitutes for water; if the client is craving something with a little more punch than plain water, they're better off opting for adding fruits, cucumbers, or lemon wedges to their plain water, or enjoying any of the many varieties of sparkling and flavored waters that are easily available.

MACRONUTRIENTS AND MICRONUTRIENTS

Macro means *big*. **Macronutrients are your big nutrients – the proteins, carbohydrates, and healthy fats that are the building blocks of every nutrition plan.** These should comprise the larger part of your daily diet.

Micronutrients are needed in smaller amounts. These are the vitamins, minerals, antioxidants and so on, essential to a healthy diet. Micronutrients combine with the macronutrients to create energy, maintain metabolism levels and cellular function, and aid in physical and mental well-being.

While all foods contain some amount of macronutrients, not all foods contain micronutrients. Diets that are high in processed foods tend to be deficient in the valuable micronutrients. The best, and easiest, way to ensure enough micronutrients in the diet is to make sure the diet is rich in fresh vegetables and fruits.

Vitamins are important to include in every diet, as they are necessary for energy production, immune function, blood clotting, and other important functions. Minerals aid in growth, bone health, and fluid balance, as well as other functions. The difference between vitamins and minerals is their composition: Vitamins are organic compounds made by plants and animals which can be broken down by heat, acid, or air. Minerals are inorganic, and exist in soil or water. Minerals, unlike vitamins, cannot be broken down. Vitamins and minerals can be divided into four categories:

- **Water-soluble vitamins:** Water-soluble vitamins will dissolve in water. The majority of vitamins are water soluble. These are not easily stored by your body, and flush out with urine.
- **Fat soluble vitamins:** Fat soluble vitamins do not dissolve in water. The body has the easiest time absorbing them when they are consumed along with a healthy fat. Fat soluble vitamins are stored in the liver and fatty tissues until needed.
- **Macrominerals:** Macrominerals are needed in larger amounts than trace minerals. They each play very specific roles in the body.
- **Trace minerals:** Trace minerals are needed in smaller amounts than the macrominerals but are still a vital part of a healthy diet.

The **Water-Soluble Vitamins** are:

- **Vitamin B1 (thiamine):** Helps convert nutrients into energy. Recommended daily allowance: 1.1 – 1.2 mg. Can be found in whole grains, meat, and fish.
- **Vitamin B2 (riboflavin):** Needed for energy production, cell function, and fat metabolism. Recommended daily allowance: 1.1-1.3 mg. Found in organ meats, eggs, and whole milk.
- **Vitamin B3 (niacin):** Niacin drives the production of energy from food. Recommended daily allowance: 14-16 mg. Can be found in leafy greens, meat, salmon, and beans.
- **Vitamin B5 (pantothenic acid):** Necessary for fatty acid synthesis. Recommended daily allowance: 5 mg. Found in avocados, tuna, mushrooms, and organ meats.
- **Vitamin B6 (pyridoxine):** Helps the body to release sugar from stored carbohydrates, to create both energy and red

blood cells. Recommended daily allowance: 1.3 mg. Can be found in potatoes, fish, carrots, and milk.

- **Vitamin B7 (biotin):** Helps with metabolizing fatty acids, amino acids, and glucose. Recommended daily allowance: 30 mcg. Found in eggs, almonds, spinach, and sweet potatoes.
- **Vitamin B9 (folate):** Folate is vital for cell division. Recommended daily allowance: 400 mg. Found in asparagus, spinach, beef, liver, and black-eyed peas.
- **Vitamin B12 (cobalamin):** Crucial for red blood cell formation. Also aids in nervous system and brain function. Recommended daily allowance: 2.4 mcg. Can be found in fish, clams, and meat.
- **Vitamin C (ascorbic acid):** Required for the creation of collagen (the main protein of the skin). Aids in creating neurotransmitters. Recommended daily allowance: 75-90 mg. Can be found in citrus fruits, bell peppers, and Brussels sprouts.

The **Fat-Soluble Vitamins** are:

- **Vitamin A:** Vital to vision and organ functions. Recommended daily allowance: 700- 900 mcg. Can be found in liver, dairy, fish, sweet potatoes, carrots, and spinach.
- **Vitamin D:** Necessary for healthy immune functioning. Assists in bone growth and calcium absorption. Recommended daily allowance: 600-800 IU. Vitamin D can be obtained from sitting in the sunlight. Food sources include fish oil and milk.
- **Vitamin E:** Vitamin E is an antioxidant that protects the skin and other cells from damage. It also aids in having a healthy immune system. Recommended daily allowance in 15mg. Vitamin E can be obtained from sunflower seeds, wheat germ, and almonds.
- **Vitamin K:** Vitamin K is necessary for both proper bone development and blood clotting. Recommended daily allowance: 90-120 mcg. Can be obtained from leafy greens, pumpkin, and soybeans.

Macrominerals are needed in larger amounts than the trace minerals. The **macrominerals** are:

- **Calcium:** Calcium aids in muscle function, blood vessel contraction, and the formation and function of teeth and bones. Recommended daily allowance: 2,000-2,500 mg. Good sources are milk and milk products (such as cheese, yogurt, etc.), leafy greens, and broccoli.
- **Phosphorus:** Phosphorus is part of bone and cell membrane structure. Recommended daily allowance: 700 mg. Can be found in yogurt, turkey, and salmon.
- **Magnesium:** Magnesium assists with over 300 enzyme reactions. It is an important aid in regulating blood pressure. Recommended daily allowance: 310-420 mg. Can be found in almonds, cashews, and black beans.
- **Sodium:** Sodium is an important electrolyte that aids in maintaining blood pressure and fluid balance. Recommended daily allowance: 2,300 mg. Sodium is in salt, and most processed and canned foods.
- **Chloride:** Chloride is used to create digestive juices. It also helps maintain fluid balance. Recommended daily allowance:

1,800-2,300 mg. Can be obtained from celery, seaweed, and salt.

- **Potassium:** Potassium is an important electrolyte that helps with muscle function, nerve transmission, and helps maintain the fluid status in cells. Recommended daily allowance: 4,700 mg. Can be found in bananas, lentils, and acorn squash.
- **Sulfur:** Sulfur is part of every living tissue. It is contained in the amino acids methionine and cysteine. No recommended daily allowance has been established. Sulfur can be found in garlic, onions, Brussels sprouts, eggs, and mineral water.

Trace minerals are needed in smaller amounts than macrominerals. Just remember: Macro means big, so you need bigger amounts of macronutrients and macrominerals. The **trace minerals** are:

- **Iron:** Iron aids in providing oxygen to the muscles; it also helps create certain hormones. Recommended daily allowance: 8-18 mg. Can be found in oysters, white beans, and garlic.
- **Manganese:** Manganese assists in carbohydrate, amino acid, and cholesterol metabolism. Recommended daily allowance: 1.8-2.3 mg. Some good sources are pecans, peanuts, and pineapples.
- **Copper:** Required for healthy brain and nervous system function. Copper also assists in connective tissue formation. Recommended daily allowance: 900 mcg. Some good sources are cashews, liver, and crab.
- **Zinc:** Zinc is needed for healthy immune function, wound healing, and normal growth. Recommended daily allowance: 8-11 mg. Can be found in chickpeas, oysters, and crab.
- **Iodine:** Iodine assists with thyroid regulation. Required daily allowance: 150 mcg. Some good sources are yogurt, cod, and seaweed.
- **Fluoride:** Fluoride is crucial in the development of teeth and bone. Recommended daily announcement: 3-4 mg. Some good sources can be found in water, fruit juice, and crab.
- **Selenium:** Selenium aids in several areas: Thyroid health, reproduction, and it aids in defending against oxidative damage. Recommended daily allowance: 55 mcg. Some good sources are ham, sardines, and Brazil nuts.

***All recommended daily allowances are for adults 19 and older.**

Micronutrients are vital to nearly every process of the body. Some of the micronutrients are antioxidants, which play a

crucial role in healthy skin. It's important to get the correct proportion of each nutrient in the correct amount; too little leads to deficiencies – causing the body and skin to have problems functioning well; but too much of these micronutrients can lead to toxicity. The most common sets of **deficiencies** to watch out for are:

- **Vitamin D:** Over 77% of Americans are vitamin D deficient. It can be obtained from certain foods; sunlight (in moderation) also helps provide this vitamin.
- **Vitamin B12:** Vegetarians and vegans have to carefully balance their daily diets to ensure they get enough vitamin B12, as it's usually obtained through eating meat. Seniors also need more, as bodies tend to slow down in their ability to absorb this vitamin as they age.
- **Vitamin A:** Women and children in developing countries have problems getting enough of this vitamin in their diets.
- **Iron:** This is another one vegetarians and vegans have to be careful to get enough of – Iron is usually obtained through eating meat. Additionally, women and preschool children easily develop iron deficiencies
- **Calcium:** Over 10% of men and women over 50 do not get enough calcium.

Toxicities are less common than deficiencies, but they are still something to be aware of. They most likely occur with the fat-soluble vitamins, since these nutrients are stored in the liver and fatty tissues. The most common causes of **toxicity** come from the following vitamins:

- **Vitamin A.**
- **Vitamin D.**
- **Vitamin E.**
- **Vitamin K.**

These can build to toxic levels because, unlike the water-soluble vitamins, they cannot be secreted from the body. Over-consumption of these vitamins rarely occurs when they are solely derived from food sources. Toxicity tends to develop when people overdo the amounts of supplements added to their daily diet.

Both macronutrients and micronutrients are vital to a healthy body and healthy, glowing skin. The safest source to derive any nutrient from is food. Sometimes people do need to supplement their diets with prepackaged nutritional supplements, but they must be careful to consume the correct amounts, as over-consumption can lead to toxic results.

ANTIOXIDANTS, ANTI-INFLAMMATORIES, AND PHYTOCHEMICALS

Antioxidants, anti-inflammatories, and phytochemicals can be found in the daily supply of foods containing micronutrients. They are a necessary part of certain vitamins and minerals that can be obtained via a healthy diet.

Antioxidants play a crucial role in skin care, as they combat free radicals in both the skin and the body. Free radicals are damaging molecules that lead to cancer. Certain antioxidants, most notably vitamins A and C, have proven in study after study to be highly effective in combating the free radicals that cause skin cancer, as well as other cancers. Good sources for antioxidants are vegetables and fruits. Antioxidants are often found in the darker varieties of fruits, such as blueberries.

Anti-inflammatory is a general term pertaining to any molecule, either man-made (such as Tylenol) or occurring naturally in food, that reduces inflammation. Chronic inflammation is unhealthy and can be combated by eating foods loaded with anti-inflammatory micronutrients. Some good food sources that supply a healthy amount of anti-inflammatory micronutrients are colorful fruits and vegetables, omega and olive oils, nuts, seeds, and even certain spices.

Phytochemicals are beneficial chemicals produced by plants. This group includes:

- Indoles.
- Retinoids.
- Tocopherols.
- Polyphenols.

- Glucosinolates.
- Carotenoids.
- Phytosterols.

Polyphenols: Polyphenols have anti-inflammatory properties. These include both phytochemicals and manage molecules like flavonoids and isoflavone. Their role in human health is still not completely understood. These occur in grape skin, wine, oranges tea, soy, and chocolate.

Glucosinolates/isothiocyanates: These are phytochemicals that are currently being researched for their cancer-combating abilities. These can be found in broccoli and Brussels sprouts.

Carotenoids: Carotenoids produce color in plants. Some of the carotenoids have proven to be beneficial to eye health. These can be found in carrots, spinach and collards.

Phytosterols: Phytosterols are helpful in slowing down absorption of cholesterol. These can be obtained from beans and peas.

The safest, and simplest, way to add a healthy amount of these micronutrients is by eating a large, colorful variety of fruits and vegetables in your daily diet. As different colors of produce (think of green, orange, red, and yellow peppers as a good example) contain different amounts and varieties of the micronutrients, introducing a vast rainbow of different fruits and vegetables is the surest and safest way to introduce a healthy combination of all the important micronutrients. Exercise caution

when deciding to add supplements, as this can lead to overdoing some of the micronutrients and can lead to toxicity. Adding foods containing antioxidants is crucial when working with a client who suffers from skin cancer growths. This does not replace going to a dermatologist to have the cancerous cells removed, but it can help slow down and sometimes even prevent new ones from forming. Clients who suffer from inflammatory skin conditions, such as eczema, rosacea, and psoriasis, can be helped by incorporating foods such as nuts, seeds, and a colorful array of fresh fruits and vegetables into their diet. Research has shown that the anti-inflammatory

micronutrients obtained from eating these foods can be beneficial in helping to clear up these conditions; and improving the diet is especially recommended when all topical creams and lotions have failed. Adding foods rich in antioxidants is also a sure-fire way to add glow to a client's skin – creams, lotions, toners, etc., can definitely improve the outward appearance of the skin, but if the diet is lacking the micronutrients essential for strong, healthy skin, the only way to see a huge improvement in overall tone, texture, suppleness and glow is by adding nutrient-rich food containing the important vitamins and minerals to the daily diet.

PROBIOTICS

Probiotics are “good” bacteria that can be found naturally in certain foods. They promote the growth of healthy bacteria in the intestinal tract. True probiotics are live organisms that can be found in fermented foods such as yogurt or sauerkraut. They work to reduce inflammation in the gut, which in turn reduces skin inflammation. A too-high ratio of bad bacteria to good bacteria can damage the intestinal lining, thereby inviting irritating substances (that normally would have been eliminated) into the bloodstream. This causes a chain reaction effect throughout the entire body, and can lead to skin inflammation, redness, and sensitivity.

New research shows that adding probiotics derived from natural food sources to the diet can lead to glowing skin with an overall improvement in both tone and texture. Probiotics have enjoyed a long-standing reputation for improving immune systems, digestive systems, and overall mental acuity; the latest research also shows that including a healthy amount of probiotics in the diet can lead to clear, radiant skin.

Scientific studies have proven that what goes into the stomach definitely affects the epidermis. An inflamed gut leads to inflammation on the skin. Probiotics are microscopic little warriors that combat inflammation of the intestinal tract. Chronic inflammation leads to skin disorders such as acne, rosacea, eczema, skin cancer, even premature aging. Applying lotions and potions are helpful in combating these conditions, but without changing the diet topical treatments usually fail to be 100% effective. By designing a healthy nutrition plan that includes probiotics, you can get to the root of the problem. This holistic, one-two punch of treating both the outside and the inside can have almost miraculous results.

The best sources for probiotics are the natural sources. Healthy food that are great sources for getting enough probiotics into the diet are:

- Yogurt with live, active cultures (check the label).
- Kimchi.
- Sauerkraut.
- Kombucha (a type of tea).
- Miso.
- Kefir.
- Tempeh.
- Pickles.
- Apple cider vinegar.
- Cultured vegetables.
- Buttermilk.
- Natto. (A fermented soybean product).
- Cottage cheese.
- Gouda, mozzarella, and cheddar cheese.

There are trillions of strains of bacteria in the intestinal tract. Most of the strains are friendly and are responsible for such things as aiding digestion and boosting the immune system. There are also different strains of probiotics that are helpful in combating the “bad” bacteria and can be highly effective in helping to heal various skin conditions. Adding a variety of food that's rich in probiotics is the best defense for the skin, as that ensures getting a variety of strains into the daily diet.

The GI tract and the epidermis are both detoxification organs. The body needs a healthy microbiome in the intestinal tract to break down food, absorb important nutrients, and eliminate

toxins. When the gut is off-balance and full of more bad bacteria than good, it affects the body's entire system, and is the most noticeable on the face. Chronic inflammation of the intestinal tract leads to chronic inflammation of the skin – stubborn acne, eczema, etc., can all be linked directly to the gut.

Cutting processed foods, sugar, and gluten out of the daily diet and adding a few probiotic-rich foods in combination with a good skincare routine can produce amazing results.

Numerous studies have been done on the link between probiotics and skin conditions. Probiotics have shown to be especially effective in combating four skin conditions:

- **Acne:** Studies have found that probiotics, used both internally or topically, are beneficial toward treating clients with acne. A double-whammy of both adding the probiotics to the diet in combination with applying either a lotion containing probiotics (or just applying yogurt to the skin as a mask) were effective in reducing the number of acne lesions.
- **Eczema:** One study gave pregnant women and nursing babies probiotic supplements. The study found that the babies who received the probiotics were resistant to contracting eczema, in spite of strong family histories of the skin condition.
- **Rosacea:** Studies have shown probiotics to be helpful in clearing up the redness and bumps caused by rosacea.
- **Anti-aging:** Newer studies show that probiotics may be helpful in building collagen, the main protein in the skin that affects its tone and texture. Probiotics have also shown to be helpful in improving the appearance of fine lines and wrinkles.

Probiotics come in many different strains. Some people find that adding a supplement containing the strain they need can be effective in combating severe skin conditions. The different strains have different purposes:

- **Bifidobacterium Breve:** This strain has shown to be particularly effective for its anti-aging properties.
- **Lactobacillus Rhamnosus:** This is one of the most extensively researched strains for both children and adults. This strain has proven to be especially beneficial in preventing eczema outbreaks.
- **Lactobacillus Acidophilus:** This is one of the most widely recognized probiotics. Studies have proven that in acne patients who have taken this probiotic, over 80% saw major improvements in their skin. It is especially beneficial for people with inflamed acne.
- **Lactobacillus Plantarum:** This strain has proven to be beneficial in reducing inflammation, both in the intestines and on the skin.
- **Streptococcus Thermophilus:** This strain has shown to be helpful in supporting overall skin support. S Thermophilus has a beneficial effect on the level of ceramides in the barrier of the skin, which protects the dermis from dehydration, infection, and chemicals. Ceramides are naturally occurring lipids that make up the surface skin structure, a depletion in ceramide levels has been clinically linked to dry, damaged skin.

If a client opts to introduce more probiotics into their diet by using supplements, they should understand how to shop for the most effective types. When looking at supplements, or if it's a food like yogurt, always check the label to be sure that

the bacteria are live. Also check the sell-by date, to ensure not winding up with expired probiotic strains. Probiotics should be kept away from heat and moisture, as these can kill off the

microbes. A cool dry place, or a refrigerator, are the ideal places to store probiotics.

HEALTHY FATS

Fats are a macronutrient, meaning the body requires fat, protein, and carbohydrates in larger amounts than is needed from the micronutrients. Healthy fats are one of the building blocks of any healthy nutrition plan. Omega-6 fatty acids are building blocks of cell membranes. They help prevent dryness and keep the skin healthy and hydrated. Omega-3 fatty acids are necessary to keep skin thick, supple, and moisturized.

When incorporating fats into a healthy nutrition plan, it is important to understand the difference between healthy fats and bad fats. "Bad fats," the fats that cause health problems, are artificial trans fats and saturated fats. These types of fats are guilty for causing weight gain, clogged arteries, and increased health risks. On the flip side, there are the "good fats." Omega-3s, omega-6s, monounsaturated fats, and polyunsaturated fats are all healthy fats, and are good for the skin, the heart, cholesterol, and overall health.

The good fats provide all of the following health benefits:

- Improved skin tone and texture.
- Lower risk of heart disease and stroke.
- Lower bad LDL cholesterol levels while increasing good HDL.
- Prevent abnormal heart rhythms.
- Lower triglycerides associated with heart disease and fight inflammation.
- Lower blood pressure.
- Prevent atherosclerosis (hardening and narrowing of the and narrowing of the arteries).
- Help fight fatigue.
- Help control weight.
- Help overall moods and brain function.
- Help build healthy cell membranes.

The fats from the healthy fats group can easily be incorporated into any nutrition plan, as they can be found in a wide variety of foods.

Good sources for monounsaturated fats are:

- Olive oil.
- Peanut oil.
- Sesame oil.
- Nuts (almonds, peanuts, macadamia, hazelnuts, pecans, and cashews).
- Peanut butter.
- Avocados.
- Olives.

Good sources for polyunsaturated fats are:

- Sunflower seeds.
- Sesame seeds.
- Pumpkin seeds.
- Flaxseed.
- Walnuts.
- Fatty fish (salmon, tuna, mackerel, herring, trout, and sardines).
- Soybeans.
- Soy milk.
- Tofu.

The superstars of the healthy fats group are easily the omegas. Numerous studies have been done that prove that adding food groups containing the omega-3 fatty acids and omega-6 fatty acids to the diet can provide a whole host of health benefits. Clients suffering from dry or dehydrated skin can especially benefit from eating a diet rich in the omega fats, as they help the skin to stay soft, supple, and hydrated.

Research has shown that increasing the amount of omega-3 fatty acids in the diet can provide the following benefits:

- Prevent and reduce symptoms of depression, ADHD, and bipolar disorder.
- Protect against memory loss and dementia.
- Reduce the risk of heart disease and stroke.

- Reduce the risk of cancer.
- Ease arthritis and joint pain.
- Help heal and reduce the occurrence of inflammatory skin conditions such as rosacea, eczema, and acne.
- Support a healthy pregnancy.
- Battle fatigue.
- Boost brain power, sharpen memory, and balance mood.

There are different types of omega-3s. Omega-3 contains eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). These are long-chain omega-3 fatty acids and come from animal sources. EPA and DHA have the most health benefits and can be found in fish and algae. DHA provides the highest anti-inflammatory benefits. Omega-3 also contains alpha-linolenic acid (ALA), which is a short-chain fatty acid derived from plant sources. ALA is a less potent form of omega-3, and has no known value, outside of the body converting it to DHA. However, the body is only able to convert about 8% into the healthy DHA; for this reason, vegetarians will need to eat more of these foods to supplement their diets, if they are avoiding fish.

Some great sources containing rich amounts of omega-3 fatty acids that are high in EPA and DHA are:

- Anchovies.
- Herring.
- Wild-caught salmon.
- Mackerel.
- Trout.
- Sardines.
- Tuna.
- Mussels.
- Oysters.
- Halibut.

Some great sources for the less potent (but still healthy) omega-3s high in ALA are:

- Algae (such as seaweed) is also high in the healthy EPA and DHA.
- Eggs, which also contain *small* amounts of the healthy DHA.
- Flaxseeds and flaxseed oil.
- Chia seeds.
- Soybean oil.
- Canola oil.
- Walnuts.
- Mayonnaise.
- Edamame.
- Beans.
- Brussels sprouts.
- Spinach.
- Kale.

The American Heart Association recommends that people with documented heart disease get about 1 gram of EPA plus DHA per day. For people with no documented heart problems, the AHA recommends eating at least two 3.5 oz (100 grams) servings of fish per week. Some people choose to supplement their diets with fish oil supplements; we review the information regarding these supplements in another chapter.

Vegetable oils help to lower LDL cholesterol, while raising the healthy HDL levels. The "good" vegetable oils also help lower cholesterol levels. The good oils containing healthy amounts of the omega-6 fatty acids are:

- Olive oil.
- Canola oil.
- Safflower oil.
- Sunflower oil.
- Extra-virgin olive oil (also contains healthy phytochemicals).

When using olive oil, choose the extra-virgin over the regular oil, as the extra-virgin olive oil has additional heart benefits. Always look for naturally occurring, unhydrogenated vegetable oils.

Trans fats are the “bad” fats and should be avoided as much as possible. Trans fats are found in fast food, processed food, and commercially baked treats. Saturated fats are also in the “bad” fats group and can be found in red meats and whole milk products. Saturated fats do not have to be completely eliminated from the diet but lowering the amount to be consumed is always a good idea. Switching the diet to include less red meat and more fish, poultry, beans, and nuts can improve one’s overall health.

For a healthy diet, omega-3s should be consumed every day. If a person opts to get their daily dose of the omegas from food, the easiest way to up their intake is by eating fish, walnuts, ground flax seeds, and cooking with the healthy oils. Other great sources that are easy to add to the daily diet are avocados, nuts, and olives. These make for much healthier snacks than simply grabbing chips. Commercial salad dressings are loaded with sugars and unhealthy fats; a much healthier way to go is to make a dressing from scratch using one of the healthy oils, some apple cider vinegar or lemon juice, and season to taste. If your client switches from processed, sugary, and fast foods and opts for a diet containing a high amount of the healthy omega-3 and omega-6 fatty acids, they will see a definite improvement in the strength, softness, tone and texture of their skin.

Many people think “dessert” when thinking of fatty foods. Most desserts are loaded with sugar and unhealthy trans fats. For a sweet tooth, opt for dark chocolate instead of the other unhealthy sweets. Dark chocolate is a nice treat that can be added to any diet. Surprisingly enough, this delicious candy is actually a *healthy* treat! Milk chocolate *cannot* be substituted, as milk chocolate is loaded with sugar and doesn’t have the health benefits of dark chocolate.

Studies have shown that people who eat dark chocolate five or more times each week have a lowered risk of heart disease. It also improves brain function and protects the skin from damage by UV rays. Dark chocolate contains a rich amount of the healthy fats, and a 100-gram bar with 70% or higher cocoa content also offers the following benefits:

- Contains 67% of the daily RDI for iron.
- Contains 58% of the daily RDI for magnesium.
- Contains 89% of the daily RDI for copper.
- Contains 98% of the daily RDI for manganese.
- Loaded with potassium, phosphorus, zinc, and selenium.
- Dark chocolate is *loaded* with antioxidants, scoring even higher than blueberries.

- Contains 11 grams fiber.
- Lowers blood pressure and protects LDL cholesterol from becoming oxidized.
- Contains flavonoids, which protect the skin from toxins
- Contains oleic acid – a heart-healthy monounsaturated fat.

***RDI stands for Reference Daily Intake, used to determine the daily value of foods as established by the Food and Drug Administration.**

To reap the benefits dark chocolate offers, the candy must be at least 70% cocoa, and contain natural ingredients. Adding sugary fillers such as marshmallow or caramel might taste good, but it’s adding unhealthy fats and sugars to an otherwise healthy treat.

Omega-3 fatty acids and omega-6 fatty acids exist in a ratio to each other. This means that they compete with each other for space in the body. Both fats are necessary for optimal health, but the omega-3s should be eaten in a higher ratio. Omega-3 is the healthiest fat; it is terrific for your cells, and helps control eczema, lupus, rheumatoid arthritis, and protects against stroke. It is anti-inflammatory and helps in healing skin conditions such as inflamed acne, eczema, psoriasis, and rosacea. The omega-3s also have amazing anti-aging properties. The omega-6 fatty acids help with brain function, muscle growth, hormone production, and are the building blocks of cell membranes; however, they are inflammatory and should be ingested in smaller amounts.

Adding foods rich in the omega-3s and the omega-6s is a great way to improve a whole host of skin conditions. These healthy fats are the building blocks of healthy cell membranes, and help to produce the skin’s natural oil barrier, which is a critical part of maintaining younger looking, plumper, well-hydrated skin. Due to the anti-inflammatory nature of omega-3 fatty acids, they are also useful in combating such skin conditions as eczema, rosacea, psoriasis, and inflamed acne. People who do not get enough essential fatty acids in their diet are prone to dryness, inflammation, blackheads and whiteheads.

Think of the essential fatty acids as powerhouses when it comes to skin care. Numerous studies have proven that they hydrate dull, dry skin; combat the signs of aging; and are extremely valuable in healing skin suffering from inflammatory conditions such as eczema and acne. Adding essential fatty acids to the diet has also proven to be effective in reducing sun sensitivity in those who suffer from photodermatitis.

Healthy fats offer a huge range of health benefits on top of the beauty boost they give to skincare. They should be a part of every healthy nutrition plan and can give your clients beautiful results they could not have achieved by topical treatments alone.

PROTEINS

Proteins are another one of the macronutrients. Proteins break down into amino acids, which are the building blocks for the body. Protein is an important component of every cell in the body, and your body uses proteins to build and repair tissues. Proteins help the body repair wounds and fight off infection. They come in different shapes, sizes and types that help to construct collagen and create lubricating ceramides for the skin. Ceramides are lipid molecules found within cell membranes. They hold skin together and form a protective layer that plumps the skin and holds moisture. Ceramides also act as a barrier against bacteria and environmental pollutants.

Most people derive their protein from meat, however there is an abundance available in plant-based foods. Not all proteins are equal, caution must be exercised when deciding which type of protein to add to the diet. Processed meats, such as deli meats, sausages, and hot dogs, contain nitrates and have been linked to several health problems, including type 2 diabetes, colorectal cancer, and cardiovascular problems. There are more natural, and healthier, ways to get enough protein into the diet:

- **Fish:** Fish offers a nice serving of protein while also adding healthy omega-3s to the diet.

- **Poultry:** Poultry is a heart-healthy alternative to red meat. For optimal health benefits, remove the skin.
- **Beans:** Beans are loaded with fiber, which helps you to feel full for hours. Beans contain the most protein out of all the plant-based protein choices.
- **Nuts:** One ounce of almonds supplies almost the same amount of protein as an ounce of ribeye steak.
- **Whole grains:** One slice of whole wheat bread supplies 3 grams of protein.
- **Steak and other red meats:** Red meat offers up a good serving of protein, however a 4-ounce steak also comes loaded with about 5 grams of saturated (bad) fats.
- **Lentils:** Lentils are grouped with beans and peas as part of the legume family. They are packed with protein, and also carry a healthy serving of iron, folate, phosphorus, potassium, and fiber.
- **Eggs:** One egg provides 6 grams of protein.
- **Dairy:** An 8-ounce glass of milk contains 8 grams of protein. Protein is also in the other dairy products, including cheese, yogurt, and some ice creams.
- **Seeds:** Seeds are also high in fiber and healthy fats.
- **Tofu and soy products:** These products are high in protein and low in fat.

- **Bone broth:** Bone broth is one of the easiest ways to add all of the essential amino acids found in protein to the diet. It can be made by simmering the leftover bones from dinner.

Collagen is the skin's "cement." It is a fibrous protein found in skin, bone, teeth, tendons, cartilage, hair, nails, and blood vessels. Lack of healthy collagen leads to sagging skin, fine lines, and wrinkles. Collagen is essential for skin elasticity and is a structural tissue that is replaced very slowly. Collagen comprises 30% of the total body's protein. Collagen strengthens the skin, bones, blood vessels and teeth. It holds together the cells in various organs and tissues. Collagen, and its strong white fibers – called *elastin* – form the connective tissues that hold the body together. The key component for the body to make collagen is protein – which is combined with certain vitamins and minerals to create the *amino acids* needed to create collagen.

When protein is eaten, the digestive tract breaks it down into amino acids. These amino acids pass into the blood and are carried throughout the body. There are 20 different amino acids, and each one carries its own characteristics. The body cannot make these amino acids on its own, it must be ingested. Most animal sources of protein, such as meat, dairy, eggs, fish, and poultry deliver all the amino acids the body needs. Plant-based sources of protein, such as grains, beans, nuts, and vegetables, lack one or more of the essential amino acids. Vegetarians and vegans can ensure getting all of the amino acids their bodies need by making sure they eat a *wide variety* of the plant-based proteins.

Without enough protein, the body cannot repair itself, and new tissue is slow to regenerate. Protein is an integral part of every healthy diet, and provides a whole host of benefits:

- Protein keeps the immune system functioning properly.
- Maintains heart health.
- Speeds recovery after exercise.
- Helps to reduce the risk for diabetes and cardiovascular disease.
- Protein is vital to growing children, and for maintaining health in senior years.
- Improves mental acuity and improves memory.
- Improves mood and boosts resistance to stress, anxiety, and depression
- Helps the body maintain a healthy weight.
- Builds healthy skin, hair, and nails.
- Helps to build muscle.

It is important to opt for high-quality protein in the diet. Grass-fed meat, and organic fruits, vegetables, eggs, etc., are the healthiest choices. The following is a breakdown of how much protein can be derived from different food sources:

- **Canned tuna (3 ounces):** 20 grams.
- **Salmon (3 ounces):** 19 grams.
- **Turkey breast (3 ounces):** 26 grams.
- **Chicken breast (3 ounces):** 27 grams.
- **Skirt steak (3 ounces):** 25 grams.
- **Ground beef (3 ounces lean ground beef):** 22 grams.
- **Kidney beans (1/3 cup):** 4 grams.
- **Black beans (1/3 cup):** 5 grams.
- **Non-fat milk (1/2 cup):** 4 grams.
- **Soy milk (1/2 cup):** 4 grams.
- **Eggs:** 6 grams.

- **Mozzarella cheese (3 ounces):** 19 grams.
- **Cheddar cheese (3 ounces):** 19 grams.
- **Cottage cheese (1/2 cup):** 12 grams.
- **Peanut butter (2 tablespoons):** 7 grams.
- **Almonds (1/4 cup):** 8 grams.
- **Walnuts (1/4 cup):** 3 grams.
- **Veggie burger (1 patty):** 23 grams.
- **Yogurt (1 cup):** 9 grams.
- **Whey protein powder (1/3 cup):** 19 grams.

The body cannot store excess protein, so it needs its daily servings in order to function properly. As protein is an essential building block for the skin, it's important to make it a part of every healthy nutrition plan. The tell-tale signs of protein deficiency are:

- Dull skin.
- Thin skin.
- Cellulite.
- Flaky skin.
- Redness.
- Skin swelling.

Doctors and other health experts recommend eating 5 to 8 servings of protein daily. Adding fish, nuts, nut butters, seeds, and eggs to the diet is a good way to ensure getting enough grams of protein each day. Some people choose to supplement their diet with protein powders, shakes, and bars. We'll go over the pros and cons of supplements in another chapter.

If your client has a wound or a skin infection, they will need to increase their daily serving of protein in order to aid the healing process.

A great way to up the amount of protein in a diet is to make protein smoothies using natural ingredients. Use almond milk, coconut milk, or regular milk as the base. Add Greek yogurt, silken tofu, nut butter and raw cashews. Vegans and vegetarians can substitute chia seeds, whole oats or ground flax instead of yogurt. Throw in a banana or some berries, and you have a healthy, protein-packed shake. If it needs sweetening, agave is a wonderful, tasty, and healthy alternative to sugar.

One of the best ways to increase the amount of collagen producing protein to the diet is by making bone broth. Bone broth is made by simply boiling down, then simmering the bones of various animals. Beef bones, chicken bones, even fish heads can be used to make a healthy bone broth. It can be consumed as soup, refrigerated until it gels into gelatin, or added to gravies and sauces. Bone broth is packed with healthy collagen producing amino acids and protein. Because the body needs a variety of the amino acids that can be obtained by eating meat, vegetarians and vegans have to be especially careful that they consume enough of a variety of plant-based foods with protein in order to ensure that they are consuming *all* of the crucial amino acids.

Collagen and ceramides are vital to a glowing, healthy complexion. Unfortunately, the body naturally slows down production as we age. The best way to keep the skin strong, soft, and healthy is to eat the right combination of foods to aid the body in producing these essential molecules. Protein, healthy fats, and vitamins – especially vitamin C, are crucial in aiding the body to keep up with the production of healthy skin cells, collagen, and ceramides.

CARBOHYDRATES

Carbohydrates are one of the three main macronutrients, which means they are needed in large amounts in the diet. They supply the main source of energy for the body. Carbs are also important for healthy brain function; studies show improved memory, mood, and decision-making abilities in those with enough carbs in their diet. This does *not* mean it's OK to load up on empty carbs like donuts and processed wheat. It is important to add *healthy* sources of carbohydrates to the diet.

Carbohydrates have gotten a lot of bad press, and it's a common misconception to think that too many carbs lead to unwanted weight gain. The truth is – all carbs are not created equal. A diet

high in processed carbs, like the ones found in white flour and processed foods, are bad, and can lead to weight gain and other health issues. But to deprive the body of healthy carbs means you've taken away its main source of fuel and have deprived your body of essential nutrients.

Carbohydrates are foods that get converted into glucose during digestion. There are two kinds of carbohydrates:

- Simple carbohydrates include sugar found in such foods as honey, table sugar, dairy products, fruit and fruit juices.
- Complex carbohydrates are starches and can be found in grain products and some vegetables.

Simple carbohydrates contain just one or two sugars and can cause spikes and drops in blood sugar. Simple carbohydrates have no nutritional value and are the empty carbs you can find in candy, white bread and white rice, sodas and pastries. Simple carbs usually come from white flour or refined sugar, have no nutritional value, and have no place in a healthy diet.

Complex carbohydrates contain three or more sugars and are digested and absorbed more slowly than simple carbs. Complex carbohydrates are the ones found in beans, whole grains, lentils, nuts, potatoes, yams, as well as other vegetables.

Refined carbohydrates, such as white rice and white pasta, are carbohydrates that have had all the fiber and nutrients removed. Avoid eating refined carbohydrates, as they have no nutritional value. Instead, opt for the healthy choice for carbs: Eat natural, unprocessed foods that contain healthy unrefined carbohydrates. Some great sources for *healthy* unrefined carbohydrates are:

- Whole grain breads.
- Brown rice.
- Fresh fruit. (Not juice).
- Whole grain pasta.
- Oats.
- Barley.
- Quinoa.
- Wheat berries.
- Amaranth.
- Vegetables.
- Dairy products.
- Beans.
- Lentils.
- Peas.
- Whole grain cereals.
- Legumes.

These unrefined sources of healthy carbohydrates still carry their full supply of fiber and important nutrients. The glucose from unrefined carbs can get into the blood faster, supplying a natural source of energy. Whole grain and fresh fruits carry the following nutrients:

- B vitamins.
- Folate.
- Vitamin E.
- Zinc.
- Magnesium.
- Fiber.

When a diet lacks enough carbohydrates, it begins using up the available proteins to provide energy. This weakens the body's ability to build healthy cells, and the collagen and ceramides

needed for healthy skin. Studies show that carbohydrate deficiency leads to problems such as:

- Lack of energy.
- Dizziness.
- Physical weakness.
- Mental weakness.
- Stress on the kidneys (due to body burning protein for energy).
- Digestive problems (due to lack of fiber).
- Loss of elasticity in the skin.

Carbohydrate stores are limited in the body. The body is only able to store about half a day's energy, so it's important to supply the body with a steady supply of healthy unrefined carbs. When the body runs out of carbohydrates to turn into energy, it starts using protein as fuel, which leads to a whole host of problems, including thin, dull skin.

According to the USDA Dietary Guidelines, the average person needs 45 to 65% of their diet to be composed of unrefined carbohydrates. The best way to get enough healthy carbs is to add whole-grain breads, whole-grain pastas, legumes, and fresh fruits and vegetables to the diet. Snacking on sliced apples dipped in nut butter supplies a much better source of energy than grabbing a donut or chips.

Adding the complex carbohydrates that can be found in natural food sources helps the body to feel full longer, feel full more quickly, and experience sustained energy without the spikes and crashes associated with the simple carbs. Carbohydrates have four main functions in the body:

- Carbohydrates provide energy.
- Carbohydrates help the body to store energy.
- Carbohydrates help build macromolecules.
- Carbohydrates spare the body from burning protein and fat.

Many people skip eating carbs in an effort to lose weight. The problems with that are obvious: When the body is forced to burn the proteins and fats that are necessary for healthy skin and a healthy body and brain, there aren't enough proteins and fats left to build cells, or to provide healthy skin and a healthy body and mind. Eating the complex carbohydrates that can be found in the natural, unrefined sources can actually help with weight loss, as the body easily burns these carbs for energy, and the complex carbs help the person to feel full quickly and stay full longer.

Carbohydrates are a *vital* part of a healthy diet. The trick to remember is to avoid the simple carbs that can be found in candy, soda, and processed grains, instead opt for the healthy complex carbs that can be found in unrefined, unprocessed food.

VITAMIN AND MINERAL SUPPLEMENTS

The healthiest way to provide the body with the right amount of vitamins, minerals, and other micronutrients is to eat a balanced diet with a variety of fruits, vegetables, and the other foods that contain these important nutrients.

Fresh food is loaded with all the vitamins, minerals, and nutrients a body needs. On the other hand, processed food and fast food both lack the vital nutrients necessary for a healthy body. People who tend to eat too much refined, processed, and sugar-laden foods wind up coming up short on vital nutrients. Diets high in refined and processed foods have been linked to skin inflammation and chronic illness. Some people choose to augment their diets with vitamin and mineral supplements. In theory, this sounds like a good plan, but caution must be exercised as when taking supplements this way it's all too easy to overdo some of them, and this can be toxic.

By getting all the vital nutrients through a balanced diet loaded with fresh, healthy foods, the body can better absorb and utilize the nutrients. Also, if a person is getting all their vitamins and minerals through natural food sources, there is no risk of taking them in toxic levels.

If someone is unable or unwilling to change their diet in order to gather all their nutrients through food, then supplements may

be necessary. Again, exercise caution – supplements are not regulated the way food is, so there's really no way to be 100% sure what's in them.

The best bet is to eat a well-rounded, healthy diet with a variety of fresh, unprocessed foods. If that just isn't possible, the diet can be augmented with supplements, as long as caution is exercised. The following is a list of the best vitamins for healthy skin:

- **Vitamin A:** Vitamin A is vital for healthy cell turnover and renewal. It is easy to overdo when using supplements, and too much vitamin A is toxic. Vitamin A can be found in the following food sources: Carrots; dark, leafy green vegetables; sweet potatoes; and eggs.
- **B-complex:** Studies show that the B vitamins helps the body produce healthy skin cells. Vitamin B-5 has been shown to help both with aging and acne. Natural food sources for the B vitamins are: Nuts; eggs; seafood; meat; and seeds.
- **Vitamin C:** Think C for collagen. This vitamin helps the web of protein hold its shape. Vitamin C is also a powerful antioxidant, protecting the skin from free radicals. Natural food sources are: Citrus fruits; broccoli; cauliflower; and squash.

- **Vitamin D.** This vitamin helps the skin to grow and repair itself. Vitamin D has also proven to be helpful in treating chronic skin inflammation conditions, such as eczema and acne. Natural sources include: Milk; cereal; tuna; swordfish; and salmon.
- **Vitamin E.** Vitamin E is another antioxidant vitamin and helps to prevent signs of aging by slowing down damage from free radicals. Natural sources are: Spinach; corn; and mangoes.

There are many vitamins and minerals that help skin health, and the best way to ensure getting enough nutrients in the diet is by eating a wide variety of nutrient-rich natural foods.

CREATING A HEALTHY FOODS DIET

Once you understand the basics of nutrition, it's time to implement this knowledge by creating healthy nutritional guides geared towards helping each client improve their skin. All diets start with the ABCs of a solid nutrition plan – that's getting all the macronutrients through fresh, healthy foods, in large enough doses. After that, it's time to figure out which micronutrients will be the most efficient at clearing up each client's specific issue.

To help in creating an optimal nutrition plan, here are the twelve best foods for overall healthy skin:

- **Fatty fish:** Salmon, herring, and mackerel are all great examples of fatty fish. With salmon, look for wild salmon – it's much healthier than the farmed kind. Fatty fish are rich in the omega-3s, which keep the skin plump, supple, and moisturized. A deficiency of omega-3 fatty acids can cause dry, flaky skin. Omega-3 is also anti-inflammatory, and is great at combating redness, acne, and any inflammatory skin conditions. It also helps the skin to be less sensitive to harmful UV rays. Fatty fish is also loaded with vitamin E, which protects against damage from free radicals and inflammation. This type of seafood is also chock full of high-quality protein, which is needed for healthy skin and cell turnover. Fish also provides a source for zinc, which is vital to fight inflammation, healthy cell turnover, and overall skin health. A diet deficient in zinc leads to inflamed skin, lesions, and delayed wound healing. Every diet should include servings of fish at least two to three times each week.
- **Avocados:** Healthy fats are essential in keeping skin moisturized and supple. Avocados are rich in healthy fats. Studies have proven that diets high in healthy fats directly lead to healthy, soft, supple, springy skin. Avocados contain compounds that protect the skin from sun and UV damage, which is helpful in preventing wrinkles. Avocados are a great source of vitamin E, which is essential to healthy skin. Vitamin E is an important antioxidant that protects the skin from oxidative damage. Most Americans don't get enough vitamin E in their normal diets – adding a few avocado slices to salads and sandwiches, or enjoying some fresh guacamole each week can help. Vitamin E works best when it is combined with vitamin C, another important vitamin that avocados are loaded with. Vitamin C is crucial when it comes to collagen production, and healthy collagen production translates to beautiful skin.
- **Walnuts:** Walnuts are another wonderful source for healthy fatty acids, the kind your body cannot produce on its own. Walnuts are rich sources for both the omega-3 and the omega-6 fatty acids; in fact, they have more of these healthy fatty acids than any other nut. These healthy-skin nuts are also a great source for zinc, which is an essential mineral for healthy, strong skin. Walnuts also contain vitamin E, vitamin C, and selenium, plus 4-5 grams of proteins per ounce.
- **Sunflower seeds:** These nutritious seeds are packed with vitamins and minerals that are crucial for healthy, glowing skin. Just 1 ounce provides a whopping 37% of the recommended daily allowance for vitamin E, 32% of the recommended daily allowance for selenium, 10% of the recommended daily allowance for zinc, plus 5.4 grams of protein.
- **Sweet potatoes:** Sweet potatoes are a wonderful source of beta-carotene, which converts to vitamin A once it is in

the body and protects the skin against sun damage. A mere one-half cup serving of sweet potatoes contains nearly four times the recommended daily allowance of vitamin A. Once consumed, this antioxidant is incorporated into the skin to protect the skin cells from sun exposure and sun damage.

However, if a person is unable to eat a diet rich in nutrients, supplements can make up for some of vitamins and minerals they lack in their diets. Always remember that caution must be exercised with supplements, as some of the vitamins are toxic in too-large doses. Vitamins can help with some skin conditions, but some can actually have the opposite effect if a person takes them without understanding their purpose. Vitamins and minerals obtained through natural food sources (as opposed to supplements) are always safe, as it's impossible to eat enough to create toxic levels, and the body has an easier time and can more efficiently utilize nutrients gained through eating healthy, unprocessed food.

- **Red or yellow bell peppers:** These peppers are one of the best sources for vitamin C, which helps in creating collagen, to keep the skin strong and healthy. Studies have proven that diets high in vitamin C protect against early signs of aging, dry skin, and wrinkles. These peppers are also rich in vitamin A.
- **Broccoli:** Broccoli is chock full of important vitamins and minerals that are important for skin health. Broccoli contains healthy servings of zinc, vitamin A, and vitamin C. This veggie also contains *lutein*, a carotenoid that works like beta-carotene. Lutein protects the skin from oxidative damage and helps in preventing wrinkles and dry skin. Broccoli florets also carry a special compound called *sulforaphane*, which provides some impressive benefits: Sulforaphane has anti-cancer effects and provides a powerful protective agent against sun damage. Sulforaphane acts by neutralizing harmful free radicals, and by also switching on other protective systems within the body. Sulforaphane also works to protect the skin against sunburn and skin cancer, and to help maintain healthy collagen levels in the skin.
- **Tomatoes:** Tomatoes are another terrific source of vitamin C, the vitamin that's essential to collagen production. Tomatoes also contain *all* of the major carotenoids, including lycopene. Beta-carotene, lutein, and lycopene have been shown to protect the skin against sun damage and to help prevent wrinkling. Thanks to containing all of the essential carotenoids, tomatoes are excellent for producing and maintaining healthy skin. Pairing tomatoes with a source of healthy fats, such as cottage cheese, increases the absorption rate of the carotenoids.
- **Soy:** Soy contains isoflavones. Isoflavones have been shown to reduce fine wrinkles and increase skin elasticity. Soy also has shown to be helpful in improving dry skin and increasing collagen production, and in protecting the skin from UV damage.
- **Dark chocolate:** This *cannot* be substituted with other types of chocolates, *only* dark chocolate with 70% or higher cocoa contents carry the antioxidants that are so beneficial to all skin types. Studies have been done on the effects of consuming dark chocolate, and the results are pretty phenomenal. Dark chocolate consumption has been attributed to thicker, healthier, more hydrated skin. It's been shown to improve rough, scaly skin, make skin less sensitive to sunburn, and improve blood flow – which is essential in carrying important nutrients to the skin. Dark chocolate with 70% or higher cocoa content has been proven to be rich in important antioxidants, and to be beneficial in maintaining healthy skin. Now your clients have a great excuse to eat it!
- **Green tea:** Another antioxidant powerhouse, green tea can help prevent signs of aging and damage. It's best to drink the tea straight, as adding milk can reduce the effectiveness of the antioxidants green tea contains. The tea is chock-full of powerful compounds called *catechins*, which have proven to improve the overall health of the skin on many different

levels. Like other antioxidants, catechins protect the skin against sun damage. They've also proven to be effective in reducing redness, improving moisture content, clearing up rough patches, and improving both elasticity and thickness. For healthier, clearer, more hydrated skin, green tea is an easy addition to any diet.

- **Red wine:** Here's a great excuse for that glass of wine each night. Red wine contains *resveratrol* – a compound that comes from the skin of red grapes. Resveratrol is famous for a wide range of health benefits that include reducing the signs of aging. This antioxidant protects against harmful free radicals, which damage skin cells and cause the skin to show signs of age. Of course, there are also problems associated with drinking any alcoholic beverage, so be careful which clients you recommend red wine to.
- **Healthy oils:** These include olive oil, safflower oil, sunflower seed oil, flaxseed oil, and canola oil. Adding high-quality oils to the diet keeps the skin lubricated and keeps it both looking and feeling better. The oils to look for are either cold pressed, expeller processed, or extra virgin. Avoid the commercially processed oils, as these have unhealthy solvents added to them, and the process they go through strips them of important nutrients.
- **Whole wheat bread, cereals, and muffins:** Selenium plays a key role in creating healthy skin cells. Studies show that a diet high in selenium is effective in combating damage from exposure to the sun and harmful UV rays. It's important to opt for whole-grain products, as refined flours have zero nutrients.
- **Turkey and tuna:** These are also terrific choices for getting enough selenium into the diet. Studies have shown that even skin that has already been damaged by the sun suffers fewer consequences if the diet is high in selenium.
- **Blackberries, blueberries, strawberries, and plums:** These fruits are powerhouses of skin-friendly antioxidants, weighing

in with the *highest* total antioxidant capacity of all the food groups. The antioxidants and phytochemicals found in these four fruits can protect the skin cells and battle harmful free radicals. Tossing berries into water gives a great one-two punch, offering the antioxidants contained in the berries, and the necessary hydration that only water can provide.

- **Water:** Hydration is key for healthy, beautiful skin. Sodas and caffeinated beverages do not count, as caffeine is a diuretic, and sugar as well as the sugar substitutes found in diet sodas are actually harmful to a healthy, glowing complexion. In addition to keeping skin cells hydrated, water helps cells to move nutrients in and harmful toxins out. For people who don't like the taste of water – slice up some fresh fruits, cucumbers, melons, citrus, or berries – any of these can be added to natural or mineral water for a refreshing taste. There's no way to get around it, anyone who desires a beautiful complexion needs to get in the habit of drinking at least eight to ten 8-ounce glasses of water each day.

When creating a nutrition plan for anyone, it's important to start with the macronutrients. Every nutrition plan has to include proteins, healthy fats, and carbohydrates. When recommending which micronutrients to add, it is first imperative to understand what skin type your client has, and what skin conditions or issues they are dealing with. Knowing which foods are especially effective when combating signs of aging, dehydration, acne and other inflammatory conditions is key in developing a solid nutrition plan.

All the information necessary is provided in the first half of this course, but to make it easier to quickly design an optimal, and highly effective plan, we've broken the different types of diets down according to skin issues in the following chapters. Keep this on hand for a handy reference guide, and you will always be able to easily create the perfect plan for each and every individual client.

Healthy food for dry skin

People with dry skin tend to slather on potions and lotions but are generally disappointed with the results achieved by only treating the skin topically. Good skin care *combined* with a diet rich in the nutrients that dry skin craves can create stunning results, and your clients will be thanking you for the following nutritional advice.

People with dry skin need to avoid, as much as possible, foods that are high in either salt content or preservatives. These dry out the skin from the inside out, and also create a puffy appearance. Dry skin sufferers do well when adding foods rich in omega-3 fatty acids to their diets, as well as adding antioxidant-rich food. Here are some of the best foods for clients with dry skin:

- **Fatty fish:** Salmon, trout, tuna, and herring are all powerhouses of the omega-3 fatty acids. These healthy fats are crucial for dry skin sufferers, as they help the skin to retain moisture and strengthen the skin's barrier, which tends to be thinner and weaker in those with naturally dry skin. If your client is vegetarian or vegan, they can substitute foods such as flaxseed and nuts that are rich in omega-3s.
- **Nuts:** Nuts provide natural oils, which are building blocks for the components of the skin barrier. They are packed with proteins, vitamins, and oils that enrich dry skin. Nuts also contain vitamin E, which protects the skin from oxidative damage and protects the skin's barrier. Nuts are also terrific for dry skin, itchy skin, and eczema.
- **Avocados:** Avocados are rich in vitamin E as well as over 20 other important vitamins, minerals, and antioxidants. Avocados are also rich in monounsaturated fats, which keep the skin moist and reduce inflammation.
- **Sweet potatoes:** Vitamin A is one of the most important vitamins in both preventing and treating dry skin, and sweet potatoes are loaded with A! The nutrients in sweet potatoes help to repair tissue damage and keep the skin moisturized. These amazing sweet treats are packed with antioxidants like beta carotene, which help the skin to produce collagen and remain soft and supple.

- **Oysters:** Oysters help to hydrate the skin. The omega fatty acids found in oysters help the skin to build its own natural oils. Oysters are also packed with zinc, which repairs the skin and builds collagen. Zinc is also key in repairing other skin issues such as inflammation and scarring. They also contain iron, which aids in several important skin processes. Iron deficiency can actually cause dry skin, as the skin receives less oxygen from the blood during a deficiency, causing it to become dry and damaged.
- **Olive oil:** Olive oil is a nutritional powerhouse for dry skin. It contains vitamin E, monounsaturated fats, and omega-3 fatty acids. This oil protects against sun damage and prevents dryness and eczema. Olive oil helps to provide the raw materials necessary for dry skin to produce its own oils. Cooking with olive oil, or even just eating a teaspoon a day, helps to reinforce the cell membrane and maintain a healthy skin barrier. A tasty way to add more olive oil to the diet is to use it as a dip for fresh, whole grain baguettes.
- **Cucumbers:** Cucumbers contain one of the highest levels of water content of all the foods, which helps to hydrate tight, dry skin. Cucumbers are also packed with vitamin A and vitamin C, which both help to soothe skin and fight dryness and damage. The silica found in cucumbers and other water-rich vegetables helps to increase both moisture and elasticity in skin.
- **Dark chocolate:** Research study participants who added dark cocoa powder to their diets showed thicker, softer, more hydrated skin after only twelve weeks. The chocolate has to be 70% cocoa or higher, anything less lacks the crucial antioxidants and contains too much sugar.
- **Walnuts:** These nuts are packed with nutrients that prevent dry skin. They contain the all-important omega-3s, as well as vitamin E. Walnuts are also loaded with potassium, which helps to counteract against the drying effects that eating foods containing sodium has on healthy skin.

- **Eggs.** Eggs are packed with protein and promote cell regeneration. They also supply lutein, which hydrates the skin and promotes elasticity.
- **Carrots.** Carrots are loaded with vitamin C, which is an essential building block in creating collagen. Carrots are also packed with vitamin A, which attacks harmful free radicals, and prevents both wrinkles and uneven skin tone. Vitamin A also stimulates fibroblasts, which are the cells responsible for developing the tissue that keeps skin firm and healthy.

Healthy food for sensitive skin

Sensitive skin is skin that is hyper-reactive to its environment. Sensitive skin can appear to be red, flaky, spotty, or inflamed, and often feels itchy and uncomfortable. The skin barrier that is meant to protect the epidermis is compromised in people with sensitive skin; this can be due to genetics or external factors. Stress, age, hormones, and diet can all contribute toward creating sensitive skin issues.

Research shows that diets high in processed or refined carbohydrates and unhealthy fats (trans fats and saturated fats) lead to both aging and sensitive skin. Certain foods can trigger sensitive skin issues. Clients with sensitive skin should **avoid**:

- **Additives:** Food coloring and other additives can trigger inflammation.
- **Salt:** Salt dehydrates the entire system, which leads to rough, flaky, and dry skin.
- **Sugar:** Sugar triggers inflammation. It binds to collagen in a process called glycation, which leaves the skin stiff and leads to premature aging. It triggers sensitive skin, acne, and rosacea.
- **Junk food and processed foods:** These contain high levels of salt, sugar, and additives.
- **Spicy food:** Spicy food can be too stimulating for those with sensitive skin. It stimulates circulation and raises body temperature, which can cause sensitive skin to become more sensitive and inflamed.

Other foods that have been known to trigger already sensitive skin are peanuts, gluten, dairy, and soy. These foods typically cause problems in people with food allergies.

Foods that are rich in antioxidants have proven to be especially helpful for those with sensitive skin issues. Omega-3 fatty acids are also essential to include in the diet, as sensitive skin needs to stay hydrated. The following nutrients have proven to be highly effective in helping and healing sensitive skin issues:

- **Omega-3 fatty acids:** These help to hydrate from within and help to replenish the skin's barrier. These can be found in: Fatty fish; walnuts; flax seed oil.
- **Selenium:** Protects skin from harmful free radicals. Selenium can be found in: Brazil nuts; prawns; beef; fish; lamb; turkey; sardines; oysters; crab; whole wheat pasta.
- **Antioxidants:** Important for slowing down and preventing damage for free radicals. Also helps in maintaining healthy

Healthy foods for aging skin

Everybody ages, and no one wants those tell-tale signs of aging to show up on their skin. Imagine how happy your clients will be when you tell them that by combining their skincare routine with a nutritious diet, they can actually eat their way to a youthful complexion!

Foods that are rich in vitamins and minerals help reverse the signs of aging. The all-important collagen boosters vitamin C and vitamin E are a vital part of an anti-aging nutrition plan. Other important nutrients to include are ellagic acid and biotin, which also help with collagen production. Collagen gives skin its fullness and plumpness, and as we age our collagen stores deplete. Protein and vitamins C and E are crucial for creating more collagen. Ellagic acid aids in both collagen production and skin elasticity, and biotin boosts collagen production and helps to produce fatty acids that nourish the skin. Here are some of the best foods for boosting collagen, improving skin elasticity, texture, and firmness, and helping to prevent lines and wrinkles:

- **Fruits.** Fruits are water-rich and loaded with antioxidants and other important nutrients. Most fruits contain high levels of both vitamin A and vitamin C, which is essential for creating collagen.

People with dry skin need to avoid foods high in salt, sugary drinks, coffee, and alcohol, as these are all drying to the skin. Clients with dry skin also need to ensure that they are drinking enough water each day. Drinking coconut water is another great way to stay hydrated and promote silky skin.

skin cells. Can be found in: Fruits and vegetables, most notably berries, squash, peppers, tomatoes, spinach, beetroot.

- **Coenzyme Q10:** This important antioxidant gets depleted as the body ages. It's vital for helping cells to work effectively and can be found in: Salmon; tuna; poultry; liver; whole grains.
- **Vitamin A:** This important vitamin is essential to help heal and repair sensitive skin. It can be found in: Carrots, leafy green vegetables, oranges, melon, dairy food.
- **Vitamin C:** This helps to protect the skin from sun damage, is vital to repairing skin cells and in the production of collagen. Vitamin C can be found in: Citrus fruits; papayas; kiwis; broccoli; bell peppers.
- **Vitamin E:** This is considered to be one of the most important for sensitive skin. Vitamin E helps to both prevent and repair sun damage, and works to reduce inflammation. This important vitamin can be found in: Vegetable oils; nuts; seeds; greens; asparagus.
- **Vitamin B:** The B vitamins help with overall skin tone. B can be found in: Nuts, seeds, dark leafy vegetables, lentils, brown rice.

Dehydration can lead to skin becoming sensitive; it's important that these clients include lots of water-based vegetables, such as celery and cucumbers, in their diet, and to ensure that they drink at least a half-gallon or more of water each day. When the top layer of the skin becomes dehydrated, it cannot function properly. When healthy, the lipids and cells that make up this layer work as a permeable barrier that blocks toxins out and keeps moisture in. When the skin becomes dehydrated due to the body lacking enough fluids, the barrier breaks down and can no longer do its job effectively.

Besides drinking enough water, adding bone broth to the diet has been proven to be effective in helping people with sensitive skin. It adds hydration from the water, plus all the nutrients that bone broth is packed with.

People with sensitive skin should avoid diuretics such as alcohol and caffeine drinks and avoid sugary sodas.

Skin takes approximately six weeks to renew each cycle, so with a combination of improved topical skincare and improved diet, they should expect to see results in a little over a month.

- **Avocados:** Avocados are nutrient boosters, they enhance the body's ability to absorb vitamin A and valuable fat nutrients. They are packed with healthy fats that nourish the skin, and lutein to protect the skin from sun damage.
- **Eggs:** Eggs are packed with collagen-producing protein and biotin. Eat the entire egg – as the yolks contain valuable nutrients.
- **Blueberries:** Blueberries are packed with antioxidants, and contain vitamins C and E, to boost collagen production and give skin a healthy glow.
- **Extra virgin olive oil:** Put it on salads, cook with it, use it as a dip. Olive oil is a powerhouse of healthy fats that help nourish the skin and prevent dryness and fine lines.
- **Salmon:** All fatty fish are loaded with the all-important omega-3, and salmon also boasts a healthy supply of the carotenoid antioxidant astaxanthin, which improves skin elasticity and hydration.

- **Walnuts:** These nutrient-packed nuts boast the highest amount of antioxidant activity than any other food. They're also a great source for vitamin E, melatonin, and non-flavonoid polyphenols.
- **Bone broth:** Bone broth is simple to make and packed with nutrients. The longer you allow the bones to simmer, the more collagen and gelatin are released from the bones into the broth. Bone broth is chock full of collagen, amino acids, and minerals that promote healthy, younger looking skin.

Healthy food for oily skin

Acne and oily skin affect more than 50 million Americans each year. One of the most common skin conditions, acne and oily skin need a combination of treatments to effectively combat the pimples, blackheads, etc., that excessively oily skin produces. For severe cases, prescription medications may be necessary. All cases benefit from a combined, holistic plan that incorporates both diet and topical treatments. A lot of foods have been known to trigger acne flare ups, a great place to start with a nutritional plan to help people with oily, acne prone skin is by letting them know which foods to **avoid**:

- **Dairy products:** All dairy products contain high levels of hormones, which leads to increased oil production and blocked pores.
- **Refined white flour and rice:** Refined products have had the nutrients stripped from them and cause a rapid spike in blood sugar levels. This spike creates more insulin in the blood stream, and more oil on the skin.
- **Trans fats and saturated fats:** These are the unhealthy fats, and they cause excess oils and inflammation of the skin.
- **Salt:** A little salt is crucial for our health but can be found naturally in food. Most Americans consume too much salt, and this leads to dehydration, both of the body and of the skin. This dehydration automatically sends a signal to the brain to produce more skin oil, in order to compensate for the dryness. This leads the client to suffer from both dehydration and excess sebum production in the skin.
- **Sugar:** Sugar spikes blood sugar levels, which causes the body to produce more insulin.
 - This increase in insulin causes the glands to produce more oils in the skin. Have your client skip foods with added sugar, instead opt for the healthy natural sugars found in fruit and dark chocolate (70% cocoa or higher).
- **Alcohol:** Alcohol severely dehydrates the skin, which in turn signals the brain to create excess oils in the skin. The more dehydrated the body becomes, the greasier the face becomes.

Research has shown that a diet rich in the omega-3 fatty acids helps to fight inflammation, a common problem for people with oily, acne prone skin. Some foods that score high in these vital healthy fats are:

- Fatty fish such as salmon.

Healthy food for problem skin

Eczema, psoriasis, and rosacea are three of the most common skin problems that plague the general public. People with these conditions should be encouraged to see a dermatologist, to continue receiving facial treatments from the esthetician, and to improve their diet. Research has shown that avoiding some foods and eating others has a positive effect in helping to both clear up and to slow down the occurrence of these itchy, painful conditions.

Let's start with the first skin condition, eczema. Eczema is an inflammatory skin condition, and most people with eczema are also diagnosed as having food allergies. Good foods for people with this condition to **avoid** are:

- Dairy.
- Gluten.
- Processed and refined flour.
- Soy products.
- Spicy foods.
- Foods high in sugar.

- **Lentils:** Lentils are rich in polyphenols that prevent oxidative stress. They are also a rich source for protein, fiber, B vitamins, and minerals such as copper and iron.
- **Bell peppers:** Peppers are packed with collagen-producing vitamin C. Each of the different colored peppers boast more vitamin C than an orange.

Sticking to a diet loaded with foods containing vitamins, minerals, the omega-3 fatty acids, antioxidants, proteins and fiber guarantee healthier, stronger, more hydrated, younger looking skin.

- Eggs.
- Soybeans and soy products.
- Spinach and kale.
- Navy beans.
- Grass-fed beef.
- Nuts.
- Flaxseeds.
- Mustard seeds.
- Wild rice.

There is also some evidence that foods high in antioxidants and dietary fiber are also helpful in fighting acne and oily skin. Some good sources are:

- **Whole grains:** Whole grains, and foods that are high in fiber, such as oats and brown rice, help to eliminate the toxins that cause clogged pores and acne from the body.
- **Bananas:** Bananas are amazing detoxifiers, and also contain vitamin E, phosphates, and potassium, which enhance skin health.
- **Green vegetables:** Green vegetables, such as spinach, kale, and broccoli, are rich in fiber and water, which flush toxins from the body. Their water content also helps the skin to feel hydrated, which prevents the body from producing excess oil.
- **Citrus fruits:** Citrus fruits, such as oranges and lemons, contain high levels of vitamin C, which encourages healthy skin and healthy collagen formation. They are packed with antioxidants, which fight the free radicals that irritate the skin and trigger breakouts. They also contain citric acid, which helps to dry out the acne without dehydrating the skin.
- **Dark chocolate:** While the old adage to avoid chocolate is true with milk chocolate and other chocolates containing high doses of processed sugar, the opposite is true for dark chocolate that's 70% or higher cocoa content. Dark chocolate contains flavonoids, which fight inflammation and help control oil production in the skin.
- **Coconut water:** Coconut water does an amazing job at fighting dehydration. It also has the added benefits of containing vitamin C, riboflavin, calcium, and minerals like magnesium, potassium, and manganese – all healthy skin nutrients.

Eating a healthy diet rich in anti-inflammatory foods can help to prevent flare-ups, as well as help to heal eczema while it's occurring. Some **great** foods to eat are:

- **Fatty fish:** Fatty fish contain omega-3 fatty acids, which are anti-inflammatory and help combat the breakouts.
- **Foods high in Quercetin:** Quercetin is a plant-based flavonoid. It's also a powerful antioxidant and antihistamine, so it can reduce both inflammation and the histamines in the body. Foods that contain Quercetin are: apples; blueberries; cherries; broccoli; spinach; and kale.
- **Foods containing probiotics:** Probiotics promote a strong immune system, which in turn helps to fight against flare-ups. Some foods that are great sources of probiotics are: Miso soup; sourdough bread; pickles; sauerkraut; kefir; tempeh; and Greek yogurt.

Psoriasis, like eczema, is an inflammatory condition. Similar to the eczema diet, psoriasis sufferers need to avoid inflammatory

foods and eat a diet rich in anti-inflammatory nutrients. Some of the worst foods for psoriasis sufferers include:

- **Dairy:** Dairy sufferers reported improvements after cutting dairy products.
- **Gluten:** Gluten has proven to have bad effects on many sufferers.
- **Fried foods:** These cause inflammation.
- **Alcohol:** Alcohol interferes with psoriasis medication, and also causes inflammation.
- **Tomatoes:** Patients have reported increased flare-ups after eating tomatoes.

Psoriasis patients have overactive immune systems that cause inflammation. The best foods for psoriasis sufferers are anti-inflammatory foods and foods that promote healthy immune systems. The following are some of the best:

- **Seafood:** Salmon, tuna, trout, any of the fatty fish that contain healthy servings of the omega-3 fatty acids. These healthy fats promote a healthy immune system and are anti-inflammatory.
- **Avocados and nuts:** Loaded with the healthy oils that fight inflammation.
- **Blueberries:** Blueberries are anti-inflammatory and chock-full of healthy antioxidants.
- **Fruits, vegetables, and whole grains:** Antioxidant and nutrient rich, foods from these categories help to build a healthy immune system and fight inflammation and flare-ups.

Rosacea is another common skin condition. It can resemble sunburn and typically affects the center of the face. Symptoms of rosacea include: Redness; bumps; dryness; flaking; flushing; enlarged blood vessels; and pimples. Rosacea is thought to be caused by ongoing inflammation in the body, immune system changes, and imbalance in the gut bacteria. There are foods that can help, and foods to avoid. The foods to avoid are:

- Refined sugars.
- Sugary food.
- White and refined flours.
- Processed vegetable oils.

- Fried foods.
- Processed meats, and processed foods.
- Artificial sweeteners.
- Additives and preservatives in food.
- Alcohol.
- Caffeinated beverages.
- Spicy foods.

The best diet to combat rosacea is one that helps to balance the gut bacteria, help the immune system, and is anti-inflammatory. The best foods to combat rosacea are:

- **Probiotic foods:** These foods help to balance the gut bacteria and strengthen the immune system. Some great probiotic foods are: yogurt; pickles; sauerkraut; kefir; kombucha; unsweetened grape juice; beet juice; unsweetened pineapple juice; and tempeh.
- **Probiotic foods with fiber:** The fiber helps to keep the entire system healthy. Some great sources are: bananas; onions; kale; lentils; lean poultry; and raw garlic.
- **Anti-inflammatory foods:** Some terrific sources are: asparagus; berries; cauliflower; celery; cucumber; leafy greens; nuts; pumpkin; sweet potatoes; melons; and zucchini.
- **Anti-inflammatory foods high in Omega-3s:** These are vital for a healthy system and to fight inflammation. Sources include: fatty fish; ghee; and flax seeds.
- **Turmeric:** Turmeric is well known for its anti-inflammatory properties. An active compound in turmeric called curcumin contributes to its healing qualities.
- **Fresh fruits and vegetables:** Fresh fruits have high levels of antioxidants and anti-inflammatory properties. Fresh vegetables also are anti-inflammatory, and both contribute to overall gut health.

Clients suffering from any of these conditions should be encouraged to see their dermatologists about possible medications. Proper skin care combined with the right nutrition plan can not only produce amazing results, it can also help to prevent recurring flare-ups.

HOW MEDICATIONS AFFECT THE SKIN

Side effects from medications often show up on the skin. If your client is having persistent issues such as:

- Rashes.
- Pustules that resemble measles.
- Hives.
- Single lesions.
- Burning, blistering, or peeling.

it's important to find out what medications they are taking. Side effects are common and can range from mild to severe.

The client should be encouraged to let their doctor know about the side effects, and to ask their doctor or pharmacist which foods are counter indicative to the medications they are on. Many common foods that are otherwise healthy can work against certain medications, causing allergies, and even worse symptoms.

Typically, diets rich in anti-inflammatory, antihistamine, and antioxidants are helpful in combating side effects, but this is something that should be discussed with their doctor.

BEAUTY INSIDE AND OUT

By now you know that a healthy diet is vital for clear, glowing skin. Great skin is best achieved when treated from both the outside and inside. Some natural foods also work great when applied topically. Here are some of the best:

- **Honey:** Honey is moisturizing and works as a humectant to help the skin absorb and lock in moisture.
- **Oats:** Oats are a natural anti-inflammatory. Ground and mixed with honey, oats make a soothing mask.
- **Coconut oil:** This oil is super hydrating and is also antifungal. Just slather it on!
- **Cocoa:** Cocoa contains caffeine, which works to firm up the skin. Mixed with oils or sugar it makes a terrific scrub.
- **Apple cider vinegar:** This can be used as a natural toner to shrink pores and help whisk away dead skin cells.
- **Avocado:** A powerhouse both inside and out! Mashed and applied to the skin it is moisturizing and helps soothe dry, sun-damaged, and sensitive skins.
- **Plain yogurt:** Can be used as a mask for its moisturizing properties.
- **Strawberries:** Mashed and mixed into a mask, these work to exfoliate dry, dead skin, and brighten the complexion.

- **Cucumber:** Cucumber is super hydrating and anti-inflammatory. Simply blend with your favorite oil to make a soothing face mask.

That's it! Enjoy helping your clients achieve beautiful, strong, glowing skin by nourishing the skin from both the inside and out! By taking a comprehensive, holistic approach to skincare you will be able to produce amazing results that will thrill your clients and grow your clientele.

Creating a nutrition plan is simple with this handy guide and is a bonus you can offer to help your clientele achieve the very best results.

Chapter 2: Our Body's Chemistry: Hair, Skin, and Nails

(Satisfies Chemical Makeup Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- List several of the major functions of the Integumentary System.
- Recognize the six elements that account for over 99% of the human body.
- Define pH and discuss levels of acidity and alkalinity.
- Explain why high pH products may have a drying effect on hair, skin and nails.
- Recall tips for keeping clients and staff safe from chemical exposure in the salon setting.
- Relate knowledge of chemical makeup and pH to product selection.

INTRODUCTION

Cosmetology is the professional practice of beautifying the skin, hair, and nails: all components of the body's largest organ system, the Integumentary System. The cosmetology industry survives on human services focusing on the Integumentary System, and therefore in order to provide quality cosmetic services, it is essential that licensed cosmetologists have a working understanding of the functions, chemical makeup, and proper treatment of the organs within the Integumentary System: skin, hair, and nails.

The Integumentary System serves to protect the human body from outside elements. It functions to keep our internal organs free from damage, but also serves many other purposes such as waterproofing and insulating the deeper tissues, regulating temperature, and removing wastes. It serves in the detection of pressure, pain, and sensation and provides for vitamin D synthesis.

The chart below shows some of the major functions of the Integumentary System:

Waste removal (excretion) through sweat.	Interfaces with the environment as the first line of defense from external factors.	Protects against pathogens and excessive water loss and controls evaporation.
Langerhans cells in the skin are part of the adaptive immune system.	Sensory functions from nerve endings indicate touch, pressure, vibration, and tissue injury, etc.	Thermoregulation and temperature detection.
Acts as a water-resistant barrier to hold essential nutrients in the body.	Absorbs oxygen, nitrogen, and carbon dioxide - the cells comprising the outermost .25-.20 mm of skin are almost exclusively supplied by external oxygen!	Guards the underlying muscles, bones, ligaments, and internal organs.
Stores lipids and water.	Insulates and cushions.	Produces Vitamin D Foliates.

For all of the above reasons and more, the Integumentary System is essential to the effective functioning of the entire human body. As a licensed cosmetologist, your job entails not only beautifying the skin, hair, and nails, but also recommending appropriate home-care products to promote and prolong health and keep hair, skin, and nails maintained in the best possible

condition. Mastering an understanding of the chemical makeup of the skin, hair, and nails is an important part of being able to provide these services. This course will provide you with the need-to-know information regarding chemical makeup relevant to the salon industry.

CHEMICAL MAKEUP

It is impossible to determine the exact chemical composition of the human body, as each cell is a mixture of thousands of different chemicals. However, scientific speculation proposes that the average chemical makeup of the adult human body would be similar to the following formula:

$H_{375,000,000}O_{132,000,000}C_{85,700,000}N_{6,430,000}Ca_{1,500,000}P_{1,020,000}S_{206,000}Na_{183,000}K_{177,000}Cl_{127,000}Mg_{40,000}Si_{38,600}Fe_{2,680}Zn_{2,110}Cu_{7614}Mn_{13}F_{13}Cr_7Se_4Mo_3Co_1$

While this is not an exact representation for any one individual, it gives an idea of the many different chemical components coexisting and interacting within the human body. **Six elements, oxygen, carbon, hydrogen, nitrogen, calcium, and phosphorus account for over 99% of the human body.** The most abundant chemical in every human body is water (H_2O), which composes between 65-90% of every living cell, closely followed by carbon (C). Because differentiated cells don't vary hugely by chemical composition, the formula provided above should be reasonably accurate for human skin, hair, and nails with the exception of calcium and phosphorus, which would be significantly lower due to their concentration in bone.

To truly understand the chemical makeup of the skin, hair, and nails, it helps to understand the composition of each organ. Organs are made of tissues, which are groups of similar cells that work together to perform a certain function. Each of these cells is composed of organelles, or very tiny structures that perform certain tasks within the cells. Organelles are then made up of various materials including proteins. These proteins are made up of various amino acids. The chemical formula of an amino acid is easily definable, experimentally quantifiable, and tells with exactitude what the amino acid is and what it does. It is only at this miniscule level that we are able to cleanly identify the various different chemical components working within the human body.

This shows the extreme complexity of the chemical makeup of the human body and highlights the uncertainty that remains when trying to determine the chemical formula for particular components (such as skin, hair, and nails) within the body. What we do know with certainty is that hydrogen, oxygen, nitrogen, carbon, sulfur, and phosphorus normally makeup more than 99% of the mass of living cells. Therefore, an understanding of how different chemical compounds interact with each of these elements can provide insight into how chemical compounds will

interact with and affect the cells in the human body. The best and most straightforward way to do this is to learn about pH

levels within the body, which provides applicable insight into how our bodies interact with different chemical components.

THE PH BALANCE

What is pH?

We have discussed several different chemical elements, such as oxygen (O), Carbon (C), and Hydrogen (O), but the acronym "pH" is much different. Rather than a symbol used for an element (no, pH does not stand for phosphorous, which is denoted as "P"), pH is actually an abbreviation for "power of hydrogen," where "p" is short for "potenz" or the German word for power, and H is the element symbol for hydrogen.

pH can be defined as the negative log of hydrogen ion concentration in a water-based solution. Based on a logarithmic scale that runs from 0 to 14, pH levels indicate the acidity or basicity (alkalinity) of a substance compared to that of pure water (which has a pH level of 7). Any substance with a pH value below 7 is ten times more acidic than the higher value, and each whole pH value above 7 is ten times less acidic than the one below it. A pH of 7 is neutral (pH of pure water).

Acidic and basic are two extremes that describe chemicals, just like hot and cold are two extremes that describe temperature. Mixing acids and bases can cancel out their extreme effects, much like mixing hot and cold water can even out the water temperature. A substance that is neither acidic nor basic is neutral. When chemicals are mixed with water, the mixture can become either acidic or basic. Vinegar and lemon juice are acidic substances, while laundry detergents and ammonia are basic.

pH Value	Acidity or alkalinity compared with pure water
Acidic 0	10,000,000
1	1,000,000
2	100,000
3	10,000
4	1,000
5	100
6	10
Neutral 7 (pure water)	1
8	10
9	100
10	1,000
11	10,000
12	100,000
13	1,000,000
Alkaline 14	10,000,000

- The average hair, skin, and nails have a pH level of 5, falling between 4.5 and 6.
- Products with a pH of 4.5 to 5.5 are compatible with the natural biology of the skin, hair, and nails.

Chemicals that are very basic or very acidic are called "reactive." These chemicals can cause severe burns. For example, automobile battery acid is an acidic chemical that is reactive and a stronger form of some of the same acid that is in acid rain.

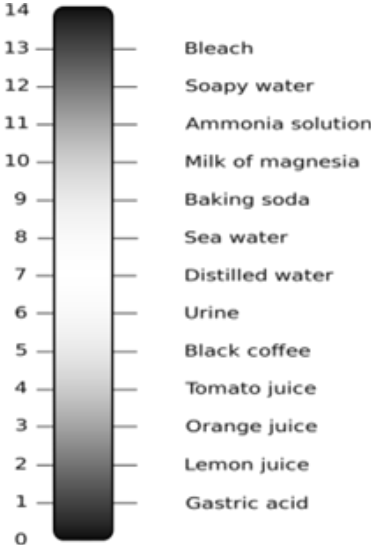
Household drain cleaners are also reactive due to the presence of lye, an extremely alkaline chemical. Obviously, these reactive chemicals are harmful to the human body and can cause damage to the skin, hair, and nails. Those chemicals that are neutral, such as pure water, have little if any negative impact.

The average hair, skin, and nails have a pH level of 5, generally falling between 4.5 and 6. However, this is not a true indicator of pH for these components of the Integumentary System due to a protective film of oily acidic secretion that coats and lubricates the surface of the skin and scalp. This combination of oils and water-soluble materials is referred to as our acid mantle. The acid mantle is produced by the skin and protects the hair, skin, and nails from outside elements and chemicals.

The pH level of the acid mantle in various parts of the body tells a great deal about the health of our Integumentary System and gives insight into the cosmetic procedures that would be helpful for a particular individual. For example, the average pH on the surface of the scalp is 4.8; yet, as we measure the pH on the hair at further distances from the scalp, the pH value increases. This shows that less of the acid mantle reaches the ends of longer hair, meaning the ends of the hair are less protected than hair closer to the roots. The scalp's oils keep the hair lubricated and shiny, while its acidity keeps the fiber compact and strong. This is why it is necessary to apply increased products to the ends of the hair, in order to maintain the shine and strength. For weak or damaged hair, it may be appropriate to use products with higher acidity and increased moisture. Finding products with a pH that is compatible with a person's natural biology is essential to proper cosmetic care.

Due to the bodies' natural chemistry, products with a pH of 4.5 to 5.5 are compatible with the natural biology of the skin and scalp, whereas higher pH levels are incompatible and can have a drying effect. These products maintain a mildly acidic environment that closely resembles the environment of our acid mantle. We call these products "acid balanced." This is important to note because when high pH (basic) products come in contact with the hair, the solution is absorbed through the cuticle layer into the cortex layer of the hair. This imbalance of pH causes the hair to swell, which forces the cuticle layers to be stretched. This puts the hair into an unnatural state and, more often than not, causes breakage. For example, washing a person's hair with baking soda may clean it thoroughly, but the high pH level (8.1) indicates it is very alkaline and will have a drying effect on the hair.

At the same time apple cider vinegar has a much more acidic pH, somewhere between 2.8 and 3.0, making it more potent in maintaining a healthy pH in the body by restoring alkaline acid balance. Therefore, it is often used as a conditioner for extremely dry, alkaline hair. The most effective cosmetic products (i.e., shampoos, conditioners, hair colors, tints, etc.) will have the right level of pH (4.5 to 5.5). Chemists have found that most ingredients work best at a specific pH balance. There are some chemical services used in cosmetology that require a high pH to work properly.



If you encounter a product that does not have the pH number listed on the label, you can use pH test paper or nitrazine paper to determine the correct pH. Just dip the paper into the solution you are testing. A product with 4.5 pH or below will not

The Significance of pH

The acid mantle contains lactic acid and various amino acids from sweat, free fatty acids from sebum (an oily substance that makes the skin and hair waterproof and protects them from drying out) and amino acids (the building blocks of protein).

If the acid mantle becomes disrupted or damaged or loses its acidity, the skin becomes more prone to damage and infection. The surface pH of damaged skin has been shown to be increased over the average level, creating susceptibility to bacterial skin infections, fungal infections, or further skin damage and disease.

Washing skin with soaps or detergents can cause the loss of acid mantle. A single washing can shift pH to the alkaline region, which typically reverts back to normal within a few hours.

However, repetitive washing can alter the natural pH level in of the skin, nails, and hair to the point where it is not able to recover for up to 14 hours. With an altered pH level, the skin, hair, and nails can become damaged; and by the time it takes to restore natural pH levels, it is generally time to wash again. This creates a cycle of damage that is hard to break without the proper treatments, and this is why using conditioners and treatments with higher acidity levels can help to protect and maintain the skin, hair, and nails. It is possible to buy pH balanced cosmetic products such as lotions and shampoos. These products have pH levels that are closest to the body's natural pH and effectively keep the skin, hair, and nails from either drying out or becoming too oily.

There are various skin conditions that can cause an increase in skin pH, including eczema, contact dermatitis, atopic dermatitis, and dry skin. Treatment for these conditions most often includes very acidic topical creams because individuals

Maintaining healthy pH levels

Knowing which products to use - from cleansers to conditioners and other treatments - can help maintain healthy pH levels for your clients' skin, hair, and nails. Cosmetologists must receive appropriate training in the safe and effective use of each system for care of the skin, hair, and nails. In addition, all products should be used in accordance with the manufacturers' recommendations. Knowing your products will help you make the best decisions for the care of your clients.

For example, there are three main types of cleaning agents: soaps, synthetic detergents, and lipid-free cleansing agents.

Soaps typically make the skin more alkaline than synthetic detergents. Acidic cleaners are less irritating than neutral or alkaline ones, and people prone to dry skin are typically advised to use acidic cleansers. Agents with slightly acidic or neutral pH (nonionic) may be preferable for individuals who are at increased risk for irritating skin reactions. You may recommend to individuals with skin conditions that they choose a mild cleaning

change the paper from its original yellow shade. A higher pH will change the color to dark blue (4.6 to 7.4), and any product with a pH over 7.5 will turn the paper purple.

with skin problems typically have skin pH values above 6. More alkaline environments also tend to support acne. Unfortunately for acne sufferers, most commercially available soaps are very alkaline, with pH values ranging from 9 to 11. This only compounds the problem, altering the skin's pH to a more alkaline value, and creating an environment even more conducive to acne. Acute eczema with erosion can also cause skin surface pH to shift from normal to 7.3 or 7.4 (this is a 1,000-fold increase in the pH shift; remember, pH is measure in logarithmic function). The entire skin surface pH is increased on skin of people with atopic dermatitis. Furthermore, an increased skin pH contributes to staphylococcus aureus colonization, which can play a role in the formation of atopic dermatitis, discoid eczema, and infective dermatitis.

Diseases that can cause an increase in skin surface pH include diabetes, chronic renal failure, and cerebrovascular disease. Studies show individuals with diabetes have a decreased level of skin lactic acid. An increase in skin surface pH encourages bacterial growth, making individuals with diabetes more prone to certain skin infections. Furthermore, the use of skin occlusive products, such as dressings and diapers, are known to raise skin pH and may be associated with skin infections.

Skin Conditions that Increase pH

- Eczema
- Contact Dermatitis
- Atopic Dermatitis
- Dry Skin
- Etc.

Diseases that Can Increase Skin pH

- Diabetes
- Chronic Renal Failure
- Cerebrovascular Disease
- Etc.

agent with a low pH. Even minor differences in the pH of skin cleaning preparations can cause irritation to the skin's surface. The United States carries very low-pH soaps and cleansers and formulas that have a neutral pH (called "syndet" – chemically, they are not soaps, but rather synthetic detergent in a bar form). Other countries have a pH of 9.5 to 10.5, which is inherent to a sodium soap composed of fatty acids.

Knowing about pH can also assist in regard to proper exfoliation techniques. One of the risks of exfoliant use is related to the pH of the product. pH values lower than 3.5 tend to strip the barrier function of the skin, removing protective lipids between the cells and leaving the skin dehydrated, red, and inflamed. In general, do not use products with a pH of less than 3.5. Learn to analyze the skin properly, and make sure the product is in the right base vehicle for the client's skin. Do not use more than one exfoliant product at a time on a client, and make sure the plan of treatment proceeds at a steady, slow pace

CHEMICALS AND THE BODY

How our body chemistry interacts with outside chemicals

Our environment and habits can also affect our chemical makeup. For example, although our skin naturally changes as we age, increasing time and exposure to sunlight can cause rapid aging and other damage to the hair, skin, and nails.

In addition, introducing chemicals through the form of smoking can also take a toll on the body and increase wrinkling of the skin after prolonged use. In the case of sun or smoke damaged skin, the Food and Drug Administration has only approved a few products that are proven to revitalize the skin. There are various products on the market today that can soothe dry skin and

reduce age spots. Learning more about these products can help you and your clients to combat the signs of aging.

Modifications that people make to their skin (such as piercings, tattoos, and permanent makeup) can also change the chemical makeup of the skin. **These changes can create health risks that a cosmetologist should be aware of, including allergic reactions, keloids (a type of scar that forms during healing), and infections (such as hepatitis).** Allergic reactions to the inks used in tattooing and permanent makeup can also cause skin problems, such as rashes, that were never present before.

These reactions are often immediate but can occur even years later. There have also been reports of itchy or inflamed skin surrounding tattoos during summer months after tattooed individuals have spent time in the sun. This irritation can be compounded when chemical products are introduced to that area, so cosmetologists must use caution when working with tattooed skin.

Henna and hair dyes can also be used to stain the skin temporarily. Tattoo ink, henna, and hair dye have not been approved by the FDA for injection or topical use on the skin, and some people have reported serious skin problems resulting from the use of both henna and black henna. **Some people will develop serious allergies to hair dyes and other chemical products, even if they have dyed their hair with no allergic reaction in the past.**



Dermatitis due to a temporary tattoo (dolphin) made with black henna.

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Furthermore, some people will attempt to remove tattoos using removal ointments and creams or do-it-yourself tattoo removal kits. These too can cause serious chemical damage to the skin resulting in skin rashes, burns, or scars. Anytime a cosmetologist works with the skin, it is important to survey the skin for any breaks or signs of allergic reactions or rashes. This can affect that client's ability to receive a skin treatment or other cosmetic services. Always be on the lookout for any sign of distress before beginning a treatment and stay on the lookout for any adverse reactions after using chemicals on your clients.

Due to an influx of permanent makeup tattooing, the FDA has begun laboratory research through the National Center for Toxicological Research to find out more about the chemical composition of tattoo inks, how they metabolize in the body, short-term and long-term safety effects, and more information on how the body interacts with the ink and light. These are the first systematic studies on the safety of tattoo inks to date and are teaching scientists more about how our bodies' chemistry

reacts to ink and more about safe removal of tattoos using laser light. In terms of removal, they are seeking to answer the question of what happens to the tattoo ink when exposed to laser lights. One theory supports that the body cells digest and destroy the ink, similar to the process of fighting bacterial and other infections. Some inks, such as Pigment Yellow 74, may actually be broken down by enzymes. It is thought that the body is able to metabolize small amounts of the tattoo ink, making it more water soluble, and excrete it out of the body.

Another theory suggests that sunlight can cause ink to break down, as many tattoos will fade out when repeatedly exposed to sunlight. The same pigment - Pigment Yellow 74 - thought to be broken down by enzymes, also breaks down in sunlight, decomposing into components that are colorless. This theory suggests that the components of the pigment break down but remain in the body, which could also raise concerns about the chemical composition of the body following a tattoo removal. Another possibility is that the skin cells containing the ink are killed by the removal process and the products resulting from the breakdown are then dispersed throughout the body. It has been proven that some of the pigment actually moves through the body and settles in the body's lymph nodes (fluid-carrying vessels in the body that filter out disease-causing organisms).

There are also internal chemical changes that can affect our bodies, skin, nails, and hair. **For example, as a woman's body progresses through puberty, pregnancy, and menopause, there are fluctuations in her bodies' chemistry that can affect the chemical composition of her hair, nails, and skin.** These physiological changes affect the woman in many different ways and should also affect the way that her hair, skin, and nails are treated in the salon. For example, during puberty, she may experience hypertrichosis, or an abnormal growth of hair in certain areas of her body. After this point, she may need additional waxing and/or other maintenance that she did not need prior to this phase in her life. A pregnant woman will need special consideration as well. During this period, she also experiences an influx of hormones. These changes can cause her skin to break out and her hair and nails to grow faster. At the same time, she must be protected from certain chemicals as well, such as those found in hair dye or other chemical treatments.

Working safely with chemicals

Because maintaining a chemical balance in our bodies is so important, cosmetologists must also protect their clients (and themselves) from excessive chemical exposure. Working with chemicals in the salon requires special safety measures that vary according to the particular chemical or combination of chemicals. All substances are toxic, or poisonous, at a certain dose or exposure level. Protecting your client and your own body from contact with certain chemical substances or processes is absolutely necessary to maintain good health and safety in the workplace.

Chemicals are able to enter the body in three main ways:

- As inhaled vapors.
- Absorbed through the skin.
- Ingested (eaten).

Fortunately, blocking these routes lowers the risk of exposure to toxic chemicals. In the salon setting, all chemical products are required to come with product and hazard information on Safety Data Sheets. These provide warnings regarding chemicals and hazardous materials and information including possible routes of entry for each product, short-term (acute) and long-term (chronic) effects of overexposure, and warning signs or symptoms to be concerned about. These symptoms may include sleepiness or fatigue, headaches, nausea, nosebleeds, tingling of the extremities, scratchiness, or swelling, among other symptoms. Lower your risk of injury by knowing which products emit toxic fumes that are dangerous to breathe, or which should not come in contact with the skin. Wear gloves when mixing

or preparing formulas, and when recommended by Safety Data Sheets.

In most cases, the dosage is the most critical factor determining whether a chemical will be an acute or a chronic toxicant. Almost all chemicals can be acute toxicants if taken in sufficiently large doses. The way the toxicity is expressed, as well as the organs it targets, is often different for acute and chronic toxicity.

The toxicity of a substance depends on many factors, including:

- Type and form of chemical.
- Dosage and length of time over which dosage occurred.
- Exposure route (type of exposure).
- Amount of absorption.
- Individual differences.
- Presence of other chemicals.

A range of toxic effects may occur, which are typically categorized according to the location or locations of the toxic effect. If it occurs in only one location, the site is referred to as the target organ. When toxic effects occur at multiple sites, it is referred to as systemic toxicity.

Systemic toxicities include:

- **Acute toxicity** occurs almost immediately (hours/days) after an exposure.
- **Subchronic toxicity** results from repeated exposure for several weeks or months.

- **Chronic toxicity** represents cumulative damage to specific organ systems and takes many months or years before the damage is recognized.
- **Carcinogenicity**, a complex multistage process of abnormal cell growth and differentiation that can lead to cancer.
- **Developmental toxicity** pertains to adverse toxic effects to the developing embryo or fetus (results from exposure to parent).
- **Genetic toxicity (somatic cells)** results from damage to DNA (known as mutagenesis).

Many salon chemicals are xenobiotics (chemicals foreign to the body), which can cause toxicity by multiple mechanisms. Some compounds are toxic on their own; others must be metabolized (changed chemically within the body) before they cause harm to the body. Many xenobiotics harm specific target organs. Other chemicals damage any tissue with which they come into contact. The target organs affected vary depending on dosage and type of exposure.

The form of a chemical is closely associated with its toxicity. Exposure route is also important in determining toxicity. Some chemicals are highly toxic by one route but not by another, varying due to differences in absorption and distribution throughout the body. Additionally, some chemicals are easily absorbed and others are not. A major factor determining whether a toxicant will damage cells is its degree of lipid solubility. Lipid-soluble chemicals easily penetrate cell membranes.

Once toxicants enter the body, they may be stored in the body or distributed throughout the body through the circulatory system. Two types of metabolism (also known as "biotransformation"), called "detoxification" and "bioactivation," also influence toxicity. In detoxification, a xenobiotic is converted to a less toxic form, but may damage an organ in the process; in bioactivation, a xenobiotic is converted to a more toxic form. The location of the toxic chemicals and the process of metabolism determine where toxicity occurs in the body. Xenobiotics may target organs, blood, or other body tissues, damaging them and affecting their function.

The following chart provides several tips for keeping clients and staff safe from chemical exposure in the salon setting:

Keep product containers closed so they cannot release vapors into the air you're breathing.	Use covered wastebaskets or garbage cans and avoid mixing waste materials. Empty the waste container frequently.
Keep areas well ventilated and avoid inhaling dangerous fumes. Odors do not indicate degree of safety or danger of a vapor but can help alert you to the existence of a vapor. Hazardous chemicals do not always smell bad.	Dust masks are unable to protect against vapor molecules, which are many times smaller than dust particles. Some masks can protect against mists. Dust masks lose effectiveness with increased time used, and should be thrown away at the end of the day.
Eating and drinking in the workplace too often leads to the ingestion of salon chemicals. Drinks in cups easily attract dust and powdery substances. Hot liquids will even absorb vapors from the air. Always keep food and drinks away from salon products and wash hands between work periods and breaks.	Protect the eyes. Many common salon chemicals can cause severe and permanent eye damage. Wear safety glasses and provide them for your client when there is any possibility that a chemical may get in the eyes. Protect your client's eyes during facial treatments and scalp treatments.
Wearing contact lenses in a salon can be dangerous because vapors collect on the surface of soft contact lenses, which can injure the eye.	Spraying chemicals from aerosol containers produces a fine mist – tiny droplets of the chemical that evaporate into the air and can be inhaled. The longer mists stay in the air, the more likely they are to be hazardous. Pump sprayers produce larger droplets, which cannot be inhaled as easily.

VITAMIN SUPPLEMENTS FOR SKIN, HAIR, AND NAILS

Another way to help protect the skin, hair, and nails is to fortify them from the inside out. Today, taking vitamins or supplements to improve skin, hair, and nails has become very popular. There are many over-the-counter products that boast stronger and healthier skin, hair, and nails. These can be found as both ingestible products and as topical treatments. Many of these products contain varying levels of biotin, a vitamin that is found in small amounts in a variety of foods. Biotin, also known as Vitamin B7 or Vitamin H, is a component of our bodies' enzymes that metabolizes certain substances like fats and carbohydrates.

While we take in this vitamin naturally, it can be difficult to consume the level that is thought to be needed for healthy hair, skin, and nails, and the result is that many people are biotin deficient. This can affect a person's overall health and is often the result of or associated with pregnancy, long-term tube feeding, malnutrition, and rapid weight loss. Studies have even shown that consuming two or more uncooked egg whites daily for several months can also lead to biotin deficiency. Symptoms of biotin deficiency can include thinning or discolored hair, the presence of a red, scaly rash around the eyes, nose, and mouth, and even in some cases severe depression, hallucinations, listlessness, and tingling in the arms and legs. Some cases of

biotin deficiency have also been linked to cigarette smoking. There is currently no laboratory test to determine biotin deficiency, which is diagnosed based on its symptoms.

Biotin is also known to treat conditions of the skin, hair, and nails such as hair loss, brittle nails, seborrheic dermatitis (skin rash in infants), diabetes, and mild depression. Preliminary evidence shows that biotin can be effective for treating hair loss when taken orally along with zinc and a topical cream containing the chemical compound clobetasol propionate. In some cases where a diabetic patient has trouble controlling their blood sugar, biotin was shown to be effective in combination with chromium to lower blood sugar, balance good and bad cholesterol, and relieve diabetic nerve pain.

In addition, consuming the proper level of biotin has shown positive effects for some people in strengthening fingernails and toenails. For people with brittle nails, taking biotin supplements may increase the thickness of their nails, while also strengthening their hair against breakage. Additional studies are still needed to prove the efficacy of biotin. Biotin can interact with some medication; so, just as with any chemical or medication, always consult with a healthcare professional before using and recommend your clients do the same.

Conclusion

Working with the skin, hair, and nails requires careful observation skills and many contact hours with clients in need of cosmetic services. Therefore, knowing and understanding the chemical makeup of the body can help you to identify problems that require product adjustment or even recommendations for

doctor's care. If you have a concern, be sure to make your client aware and suggest that they seek qualified medical help prior to providing cosmetic services.

Chapter 3: An Overview of the Workers' Compensation System in Florida

(Satisfies Workers' Compensation Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- Identify the primary responsibilities of the Florida Division of Workers' Compensation.
- Identify the departments of the Division of Workers' Compensation and their duties.
- Identify the Bureau tasked with the responsibility of assisting, educating, and informing injured workers.
- Discuss the benefit rights of the injured worker.
- Summarize the process of how to file a claim and how to resolve a dispute regarding a workers' compensation claim.

INTRODUCTION

Many people in the U.S. have heard the term "workers' comp," and many understand it's foundational principle: it protects the worker when injured or ill as a result of working on the job or being in their work environment. However, only some people understand what it truly is, what it does, and how the system works. Unless an individual has had previous experience with a claim or knows someone who has, little is known about the rights of workers within this system, the benefit delivery process, and the necessary time requirements when filing a claim. Workers' compensation (WC) sometimes referred to as "workman's compensation" or "workers' comp", is the name given to a system of laws meant to protect injured workers.

These WC laws are designed to ensure that employees who are injured or disabled on the job are provided with fixed

monetary awards, eliminating the need for litigation. These laws also provide benefits for dependents of those workers who are killed because of work-related accidents or illnesses. Some laws also protect employers and fellow workers by limiting the amount an injured employee can recover from an employer and by eliminating the liability of co-workers in most accidents. State statutes establish this framework for most employment. Federal statutes are limited to federal employees or those workers employed in some significant aspect of interstate commerce.

The WC system is administered on a state-by-state basis, with a state governing board overseeing varying public/private combinations of WC systems. The names of such governing boards, or "quasi-judicial agencies," vary from state to state, many being designated as "WC commissions."

FLORIDA'S WC

Each state legislature enacts statutes and laws to regulate the process, the employers, workers, health care providers, insurance agencies, and other stakeholders involved in WC. In Florida, the entity responsible is the Division of Workers' Compensation located in Tallahassee. The Division is accountable for the execution of the WC delivery system, educating all stakeholders of their rights and responsibilities, and analyzing data obtained to deliver timely services and benefits. The Florida Division of Workers' Compensation has a specific mission statement:

"To actively ensure the self-execution of the workers' compensation system through education and informing all stakeholders of their rights and responsibilities, leveraging data to deliver exceptional value to our customers and stakeholders, and holding parties accountable for meeting their obligations."

In order to effectively achieve this mission, the Division created six departments, each with their respective duties and obligations. These are categorized as follows:

- 1) **Bureau of Compliance** – investigates employers to determine civil compliance along with other responsibilities.
- 2) **Bureau of Data Quality and Collection** – collect and analyze data and reporting of medical data provided under WC; also establish and implement rules, requirements, and processes for electronic reporting of first report of injury, along with subsequent reports as well as other duties.
- 3) **Bureau of Employee Assistance and Ombudsman Office** – assist, educate and inform system participants, investigate disputes and facilitate resolutions. Reviews claims if injured workers benefits are denied or stopped; advises workers and provides re-employment services.
- 4) **Bureau of Financial Accountability** – accountable for WC assessment rate calculations, assessments collection unit, financial accountability section, among other tasks.
- 5) **Bureau of Monitoring and Audit** – regulate individual self-insurers to ensure financial resources are available to pay

employee's claims; monitor and audit carrier performance, benefit payment accuracy, assess penalties for late reporting benefit payments or medical payments; provide technical assistance to customers through telephone contacts, training, and audit workshops.

- 6) **Medical Services Section** – Expert Medical Advisor certification and database management; reimbursement dispute resolution; investigate and determine healthcare provider utilization patterns, billing practices, or violations of law or rules that may require penalties.

Later in the chapter, we will review the Employee Assistance and Ombudsmen Office responsibilities as they pertain to employees/workers. This bureau was created by the Florida legislature to inform and educate injured workers and help resolve any issues or disputes that may arise between any of the parties involved. For now, the big picture is needed to understand each of the parts of the complete WC delivery system model in Florida.

The WC law in Florida can be found in Chapter 440, Florida Statutes and the Workers' Compensation Rules in Florida's Administrative Code, under Department of Financial Services, Division 69L. Florida also provides a [Workers' Compensation Guide \(Guide\)](#) with guidelines and resources to assist workers, employers, healthcare providers, and insurance companies involved in the process of a claim. **Employers are required by law to report a worker's injury to the insurance company within 7 days of when the accident or injury was first reported.** The Florida statutes, laws, and resources protect all entities involved in the WC system. The goal of the Division of Worker's Compensation is to ensure that anyone interested or involved in the Florida WC system has the tools and resources needed to participate in the process, while following the rules and laws. The Division is not responsible for adjusting claims and/or reimbursement; they are a resource to help ensure the appropriate responsibilities are completed by each party.

Requirements to provide WC coverage

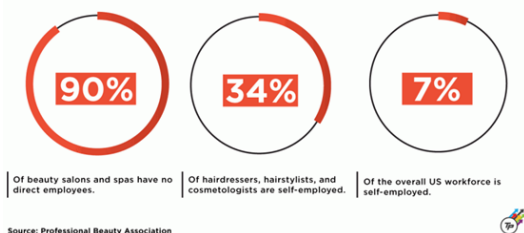
In Florida, any employer in an industry, other than construction, and who has four (4) or more employees, full-time or part-time, is required to carry WC coverage. **For the construction industry, if the employer has one or more employees, including themselves, they have to carry WC coverage and if the employer is a state or local government, they are required to**

carry the coverage, also. Farmers have other requirements. An employee can find out if their employer has WC coverage by contact the Employee Assistance and Ombudsman Office or email wceao@myfloridafo.com.

CLASSIFICATION OF SALON WORKERS

In many businesses including the salon industry, there exist unscrupulous salon owners who will exploit workers in the cosmetology field by not classifying them correctly with the Internal Revenue Service (IRS). The worker may indeed be an employee, and fit the IRS definitions of an employee, but to save on WC costs, employee taxes, etc., the owners categorize the worker as an independent contractor/booth renter. By classifying a worker this way, the worker is actually "self-employed" and responsible for their own taxes and insurance, relieving the salon owner of any WC expenditures. The IRS and many states have adopted common law principles to define an independent contractor. These rules focus primarily on the level of control an employer has over a service or product, meaning, whether or not the employer actually defines what is being done and how it will be accomplished.

MOST SALONS RELY ON INDEPENDENT CONTRACTORS, NOT DIRECT EMPLOYEES



If any questions arise as to whether a worker is an employee or self-employed, go to the IRS webpage, Small Business and Self-Employed Individuals @ <https://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Independent-Contractor-Self-Employed>.

Employed-or-Employee. There is an abundance of information on the topic.

The Professional Beauty Association (PBA) states that most salon owners rely on independent contractors to work in their salon. Today, more than 90% of all salons have no direct employees, meaning they either have just one person cutting hair or rely completely on independent contractors. Meanwhile, more than a third of all hairdressers, stylists, and cosmetologists are self-employed, compared to just 7% of the overall workforce (thinkprogress.org).

It is Critical to understand the Classification of salon workers because much is based on this categorization.

If an individual is an employee, they need to ensure their employer is paying their employment tax, as well as WC for the individual. At this time, this individual (employee) has little freedom to run his business as he wishes, but also has less financial costs. If the individual is a booth renter in a salon, they are self-employed and categorized as an independent contractor. The salon owner has very limited control over the worker, but does not have to pay employment tax, insurance, and WC. Many salon owners may have a lack of knowledge when it comes to employee labor laws, so it is the responsibility of the worker, as well as the salon owner to know their tax responsibilities. The independent contractor has quite a few freedoms but must be diligent in paying their own self-employment taxes, income tax, medical insurance, etc. The IRS provides information for both the owner and worker of a salon on how to classify a worker. This information is easy to understand, unlike the complicated tax forms. Go to IRS at <https://www.irs.gov/Individuals/Self-Employed>.

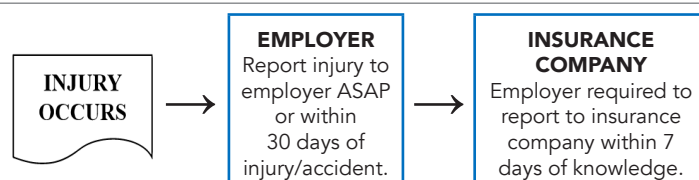
THE PROCESS OF A WC CLAIM IN FLORIDA

Understanding the process of how a claim is filed and what the injured worker's, employer's, medical doctor's, and insurance companies' responsibilities are empowers all stakeholders. Knowledge is power. The injured worker has certain duties to complete after an injury or occupational illness occurs. The first duty is to tell the employer as soon as possible about the injury. **The law requires the worker to report the accident or knowledge of a job-related injury within 30 days of their own knowledge of the accident or injury.**



The injured worker must ask the employer what doctor they can see. The doctor must be authorized by the employer or the insurance company. If the employer is not available, and the injury is an emergency, then the worker must be transported to the nearest emergency room and inform the employer as soon as possible.

The employer is required by law to report the injury to the insurance company within seven (7) days of when the report or accident was reported to them. They may tell the injured worker to call the insurance company handling the claim. If the employer does not give a phone number to the insurance company and does not report the injury to the insurance company, the worker needs to call the WC hotline for assistance at (800) 342-1741.



After the report is filed with the insurance company, most will have an insurance adjuster call the injured worker within 24 hours to explain the worker's rights and obligations.

If a message is left on voicemail, they will expect the injured worker to call as soon as possible so the injured worker knows where to go for medical treatment. Within 3-5 business days after the employer or the injured worker has reported the accident, an informational brochure is sent to the injured worker and a Notification Letter explaining the services provided by the Employee Assistance Office of the Division of Workers' Compensation. Some forms may be sent as well.

These forms may include the following:

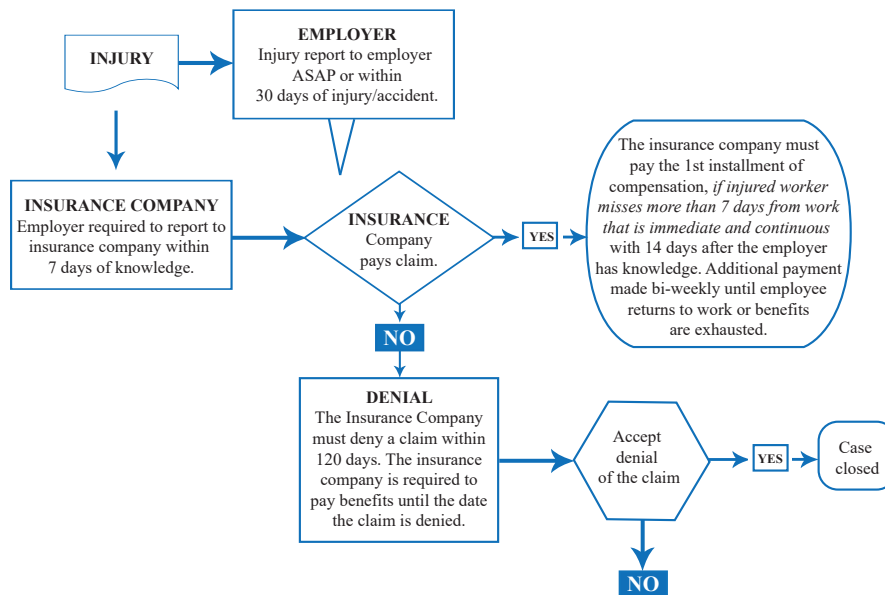
- Copy of the accident report or First Report of Injury or Illness.
- A fraud statement which must be read, signed, and returned so benefits are not withheld.
- Release of medical records for the injured worker to sign and return.
- Medical mileage reimbursement forms to complete after seeking medical treatment and send to the claims adjuster for reimbursement.

Once the injured worker has seen the medical doctor authorized to treat them, they will need to give the doctor's note to the employer to inform them of the worker's status.

At this time, the authorized doctor will be able to inform the worker if they can return to work, and if so, if they have a full release to return to original job responsibilities. If the release is limited, the employer will either find a job the injured worker is capable of performing or release the employee if they do not have another position available.

It is important that the injured worker contact the insurance company to let them know what the doctor said about the injury or illness and inform them of their work status. If the injured worker is unable to work for more than seven (7) days, they should receive money to partly replace what they were not able to earn after the accident. There are several types of disability benefits related to the status of the injured worker. The next section will discuss this further. The following graphic illustrates the claim process from the point of injury through acceptance or denial. The complete process will appear later in this chapter.

WORKER'S COMPENSATION BENEFIT RIGHTS



Employers are required to pay for medical treatment necessary to treat the condition related to the workplace injury or illness. This includes doctors' visits, physical therapy, hospital visits, prescription medication, and diagnostic tests.

The Florida WC law entitles the injured worker to receive certain benefits (money) to replace their lost time while recovering. These benefits usually do not reimburse the worker for lost wages; the amount received depends on past earnings and work restrictions placed on the worker by the physician authorized to treat them. Under Florida law, an injured worker is not paid for the first seven (7) days of the injury unless the injury results in a disability for more than 21 days.

In that case, the worker will be paid back for the first seven (7) days after the injury. The money (benefit) received is tax-free and a check is usually paid 21 days after the accident or injury.

Amount of money

The amount of money to be paid to the worker will be based on their average weekly wage. This is calculated by using the wages earned in the 13 weeks before the date of injury, not counting the week the worker was hurt. If a WC claim is allowed, the worker will be eligible for WC benefits. These benefits include medical benefits, compensation for lost wages, and compensation for permanent partial or total disability.

Total temporary disability benefits

If the authorized doctor places the injured worker on a "no work" status while they recover, the worker is entitled to a check for 66-2/3% of their weekly wage which is paid:

- 1) The worker reaches overall maximum medical improvement (MMI). The authorized doctor determines that there are no other treatment options that will improve the condition.
- 2) Under Florida law, the worker is entitled to a maximum of 104 weeks of temporary benefits; when the 104th week is reached, the benefits are cut off, regardless of the medical condition.

Temporary partial disability benefits

If the authorized doctor states the injured worker can return to work with some physical restrictions, the worker is entitled to receive temporary partial disability benefits (TPD). Restrictions may include not lifting more than 15 lbs., no prolonged standing or walking, etc. The amount of benefits received depends upon the work status of the employee. If an injured worker returns to work but earns less than 80% of their average weekly wage, they are entitled to receive benefits equal to 80% of the difference between 80% of their average weekly wage and the weekly salary they earn when going back to work.

Example: If you are on a restricted work status and your average weekly wage is \$500 and your employer has a job for you licking stamps that pays \$200 per week, your TPD would be calculated this way:

- \$400 (80% of \$500) - \$200 (amount earned licking stamps) = \$200
- 80% of \$200 = \$160
- Weekly TPD benefit = \$160

It is important to note that these benefits can be terminated from post-injury employment for misconduct or if found to be voluntarily limiting your income.

Permanent and partial disability benefits

Permanent partial disability benefits, also known as impairment income benefits (IBs), are based on the percentage of the injured worker's total body that is impaired, as determined by the authorized doctor. When their doctor determines that they have reached MMI, he will assign them a permanent impairment rating. This impairment rating is determined by using established medical guidelines. The injured worker will receive money benefits for a certain number of weeks based on the percentage of their impairment. In certain instances, the on-the-job injury may be so severe that the worker is unable to return to the work force. If this occurs, the worker is entitled to permanent total disability benefits. There are criteria to meet under Florida's WC law. These injuries are labeled catastrophic.

Medical treatment

With WC claims, the employer is responsible for providing medical treatment. The injured worker should not delay in getting a doctor's appointment from the employer or insurance company. The injured worker cannot just go to their private doctor or a doctor of their choice; instead, the insurance company must authorize the doctor who is to treat the injured worker.

The Employee Assistance and Ombudsman Office

The *Employee Assistance and Ombudsman Office* (EAO) will assist the injured worker, at no cost, with questions or concerns they may have about their WC claim. EAO relies on a team structure to successfully accomplish its mission. Each team focuses on a specific area of statutory responsibility in order to effectively assist injured workers. **The EAO distributes WC information; proactively contacts injured worker's to inform them of their rights and responsibilities and educates them about its services; and works to resolve disputes between injured workers and carriers to avoid unnecessary expenses, costly litigation or delay in the provision of benefits.**

The First Report of Injury Team identifies, and contacts injured workers with more than seven (7) days of work lost due to the job injury. This contact takes place within two (2) business days of the Division's receipt of a First Report of Injury. This team will advise the injured worker of their responsibilities and inform them of EAO's various services. The Ombudsman Team is responsible for assisting injured workers to resolve complex disputes. The team conducts fact finding reviews, analyzes claim files, researches case law, promotes open communication between

parties, and generally helps parties to understand their statutory responsibilities.

In the Fiscal Year of 2014-2015, the First Report of Injury Team contacted 29,116 injured workers by telephone and 3,511 employers/carriers when the team was unable to reach injured workers. In the same fiscal year, out of the 373 disputes received, 94% were resolved by the Team. During the same Fiscal Year 2014-2015, the Ombudsman Team was involved in resolving 91% of the 754 disputes received. The medical bill disputes totaled \$22,995 in previously unpaid medical bills. These statistics illustrate the commitment of the department to help injured workers and resolve disputes between parties. Several offices are located around the state and EAO's website is <http://www.myfloridacfo.com/division/WC/employee/default.htm>.

Re-Employment Assistance

If an injured worker on WC is unable to return to work because of permanent work restrictions resulting from on-the-job injury, they may obtain information or assistance from the Bureau of Employee Assistance and Ombudsman Office/Reemployment Services Section at the following website, by phone, or by email.

Bureau of Employee Assistance and Ombudsman Office/ Reemployment Services Section

Website: <http://www.myfloridacfo.com/division/WC/employee/reemployment.htm>

Telephone: (800) 342-1741 - option 4

Email: wcrest@myfloridacfo.com

For assistance on how benefits are calculated, call the WC hotline at 1-800-342-1741.

Disputes between parties

If a dispute arises with the insurance company it is wise to talk about the problem with the adjuster or their supervisor. If the dispute is not resolved, the WC hotline can be contacted. If the insurance company still will not agree to pay the benefits that the worker believes they are entitled to, they can file a *Petition for Benefits* with the Office of the Judges of

Compensation Claims. The injured worker may wish to hire an attorney to represent them in this action. The following graphic depicts the flow of a WC claim in Figure 1. The second flowchart describes the process of dispute resolution, Figure 2. These charts were both obtained from Florida's WC System Guide issued in July of 2014.

Figure 1: Flow of Workers' Compensation Claim

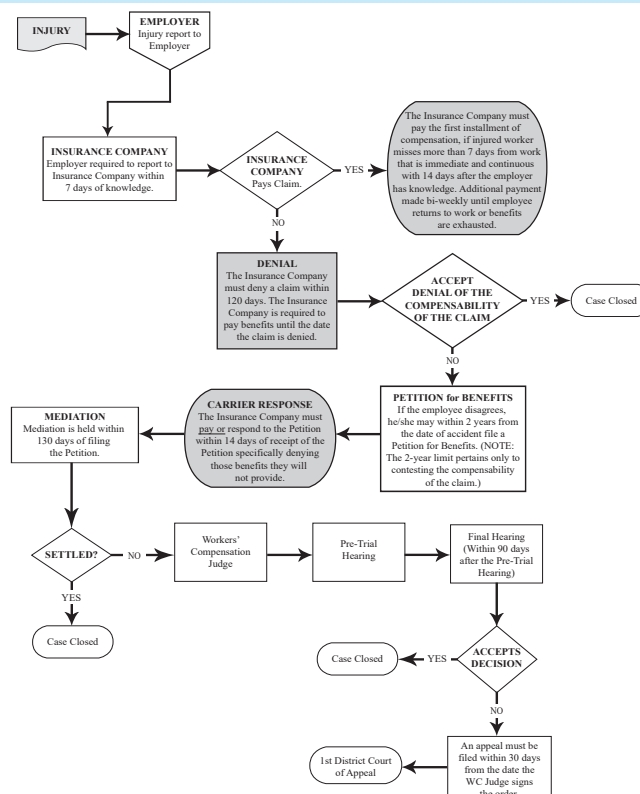
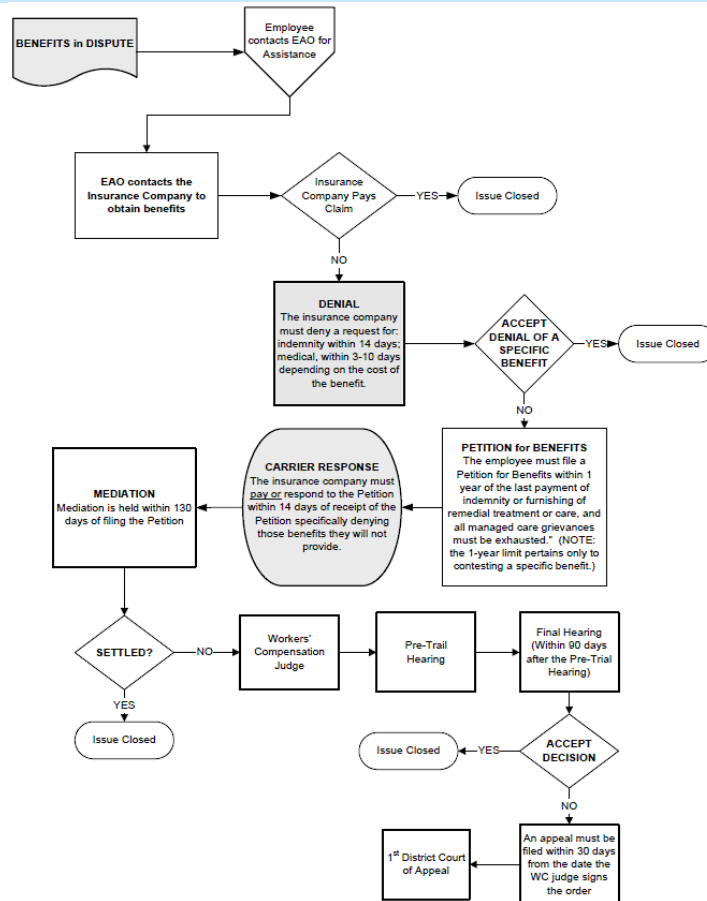


Figure 2: Flow of Benefit Dispute Resolution



Violations and fraud in Florida

The following are criminal violations of s. 440.105, Florida Statute (FS) that constitute a felony of the first, second, or third degree depending on the monetary value of the fraud as provided in s. 775.082, s. 775.083, and s. 775.084 F.S.

Filing a false claim of on-the-job injuries or exaggerating injuries

An injured employee or any party making a claim of an on-the-job injury will be required to provide his or her personal signature attesting that he or she has reviewed, understands, and acknowledges the following statement:

"Any person who, knowingly and with intent to injure, defraud, or deceive any employer or employee, insurance company, or self-insured program, files a statement of claim containing any false or misleading information, commits insurance fraud, punishable as provided in s. 817.234."

If the injured employee or party refuses to sign the document, benefits or payments shall be suspended until such signature is obtained.

Conclusion

In the industry of cosmetology, accidents can and do happen in the workplace. Fortunately, WC laws are in place to protect both employees and employers in the event of these on-the-job injuries. It is of high importance for every worker and employer to familiarize themselves with their rights responsibilities in regard to WC. If you are injured on the job, contact Florida's Division of Workers' Compensation to find out more information.

There is much to be said regarding "fraud" and the WC system. The most recent news is below told by Insurancejournal.com and written by Amy O'Conner based on the Florida Office of Insurance Regulation's (OIR) 2015 Workers' Compensation Annual Report.

"WC fraud continued to plague the state, the report says, but the Bureau of Workers' Compensation Fraud, within the Division of Insurance Fraud made 540 workers' comp fraud-related arrests for fiscal year 2014-2015, an increase of 14%. In excess of \$4.3 million in restitution was requested as a result of the Bureau's investigations of shell companies, labor brokers and check cashing stores."

These numbers definitely express the prevalence of fraud in Florida originating from employees, employers, businesses, and labor brokers. When it comes to WC fraud, employees and employers both contribute to the problem. Employees file unsubstantiated claims and employers find avenues to reduce their WC payments and/or misrepresent themselves in order to pay lower WC rates.

Chapter 4: HIV/AIDS and Cosmetology: Protecting Your Clients and Yourself

(Satisfies HIV/AIDS Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- Define and compare HIV and AIDS.
- Describe how HIV is transmitted.
- Recognize popular misconceptions and stigma surrounding HIV/AIDS.
- Identify standard precautions that can be taken to prevent spreading HIV/AIDS within your workplace.
- Recall rules and regulations regarding HIV/AIDS status disclosure relevant to cosmetology professionals and clients.
- Paraphrase protections afforded to HIV positive cosmetologists under the Americans with Disabilities Act (ADA).

INTRODUCTION

Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) are commonly recognized terms. However, while many have heard of these terms, **the stigmatization of HIV positive individuals paired with commonly believed myths and misconceptions surrounding the HIV/AIDS epidemic can influence behaviors when working with HIV positive persons.** Cosmetologist must be comfortable working around all types of people, and misinformation can interfere with their ability to provide quality, non-discriminatory services to all clients.

Receiving an HIV positive diagnosis can be devastating and hard to accept for anyone. Those who are able to best cope with the realities of the disease are those who are able to establish a strong support system within their families, friends, communities, and service providers. For anyone diagnosed with HIV, the need for compassion, sensitivity, and fair treatment is greatly needed. Yet too often the stigma associated with the disease can stand in the way of ensuring an HIV positive person is treated fairly and with respect. It can also create situations in which unnecessary steps are taken and exorbitant costs are expended when working with HIV positive clients. This has an impact not only on the client's comfortability, but also on the bottom line for the salon.

According to the World AIDS Campaign on Eliminating Stigma & Discrimination, "Stigma and discrimination are the top hindrances to effective HIV/AIDS prevention and care."

Due to the stigmatization of the disease, many HIV positive persons are not willing to inform others of their status. This can prevent them from seeking treatment, sustaining treatment programs, seeking support structures, and even informing sexual partners. As a result, HIV positive individuals often remain silent due to their fear of social isolation, judgement from their families, friends, and other peers, and other social constructs (such as religious groups, co-workers, and even service providers). The effects of stigmatization prevent them from becoming more informed, seeking out information, and sharing important information with others, making it increasing difficult to promote understanding and reduce discrimination.

Learning about HIV/AIDS and recognizing commonly believed myths and misconceptions about the disease is important to professional cosmetology and the salon industry, as business is built upon customer relationships and the provision of quality

and fair services to all customers. Acknowledging the stigma and arming themselves with facts about the HIV virus can assist cosmetology professionals in working with all clients in the salon setting and recognizing and implementing safety and precautionary measures to keep themselves and their clients protected. This course outlines the need-to-know information surrounding HIV/AIDS to keep cosmetology professionals and clients informed and protected in terms of identification, contraction, prevention, disclosure, and legal ramifications.

HIV

/,āCH,ī 'vē/

Human immunodeficiency virus, a retrovirus that causes AIDS. HIV is transmitted by sexual intercourse, through infected blood and blood products, and through the placenta.

H – Human: The HIV virus attacks human beings through their bloodstream. No other animals are susceptible to HIV.

I – Immunodeficiency: HIV weakens your immune system by destroying important cells that fight disease and infection.

V – Virus: HIV is a virus that hijacks cells in the body in order to replicate itself. There is no cure for the HIV virus.

AIDS

[eydz]

A disease of the immune system characterized by increased susceptibility to opportunistic infections, certain cancers, and neurological disorders; a condition, caused by the HIV virus resulting in loss of the body's ability to protect itself against disease.

A – Acquired: A person has to "catch" the HIV virus in order to develop AIDS. It doesn't just spontaneously occur.

I – "Immuno": AIDS is caused by the immune system being depleted of its cells by HIV.

D – Deficiency: Once enough white blood cells have been destroyed by HIV, the immune system becomes weak and is not capable of fighting off other bacteria and viruses easily.

S – Syndrome: AIDS is characterized by a group of symptoms including rapid weight loss; extreme fatigue; recurring fever; susceptibility to illness; sores of the mouth, anus, or genitals; pneumonia; blotches under the skin; memory loss, etc.

MYTHS AND MISCONCEPTIONS

First recognized as a new disease in 1981, today science has made great strides in research and trends that have changed the way we look at and work with HIV/AIDS. **Unfortunately, just as our knowledge of the disease has increased, the number of people living with HIV/AIDS has increased over the last decade, with over 1.2 million reported cases living in the United States (U.S.) alone.** In 2013 (most recent data availability), an estimated 47,352 new cases of HIV infection and

26,688 cases of AIDS were diagnosed. It is estimated that almost one in seven (12.8%) of those living with the disease remain undiagnosed to date. While the numbers may be startling, they underscore the importance of obtaining and communicating factual information and prevention tips to slow the spreading and progression of HIV/AIDS.

Having accurate information is the key to understanding and preventing HIV transmission and working safely and respectfully with HIV positive clients. The following provides commonly

believed myths and misconceptions paired with the true facts about HIV/AIDS

Myth #1 - There is a cure for HIV/AIDS.

Despite advances in treatments, there is currently no cure readily available for HIV positive individuals today. There have been rare cases publicized through research findings and clinical trials in which extreme treatments have been thought to cure HIV. The most famous of these has been dubbed as the "Berlin Patient." In these cases, treatment included a bone marrow transplant resulting in a new immune system which eradicated the HIV virus. The infected patients had to be readied for their transplants with a modified protocol to ensure decreased intensity. This affords them the strength to maintain antiretroviral drug treatments. These treatments are generally too toxic for HIV positive cancer patients to tolerate.

To date, it appears that the patients' new immune systems have remained HIV-free, yet more study is necessary to ensure the bloodstream continues to remain free of any HIV genetic material throughout the duration of the patient's life. Scientists continue to monitor these patients to determine if the virus was in fact cured, rather than simply in a sustained remission. Nevertheless, this type of treatment is risky, expensive, and not

feasible for the millions of people currently living with the virus. An effective cure that could be made available to the public is still far in the horizon.

Fortunately, increased and ever evolving understanding of the virus and resulting illness has led to advances in medicine that are effectively treating the disease for those who take it regularly. When sustaining this type of treatment, an HIV positive person can reduce their viral load (or amount of HIV in the blood) to the point that it is undetectable, or unable to be seen in laboratory tests. Maintaining an undetectable viral load helps prevent the progression of the virus and prevent HIV from developing into AIDS and other infections. Currently, research is still being done to identify new treatments and improve existing regimens to further ease the burden for HIV carriers and their health providers. Every day, more is being learned to identify new ways of preventing HIV infection. Even without a cure, people can live full, happy, and healthy lives despite their HIV positive diagnosis.

Myth #2 - HIV and AIDS are the same thing.

HIV and AIDS are commonly mistaken as interchangeable terms for the same disease. However, in truth, they are distinct terms that are not transposable. HIV is a virus that attacks a person's immune system. If left untreated, it can evolve into AIDS. AIDS is an immunodeficiency syndrome. It is the third and most advanced stage of infection caused by HIV. **Most people who are living with HIV do not have AIDS and will never progress into the AIDS phase of the disease.** HIV progresses into AIDS

when a person's immune system is diminished to the point of not being able to combat certain kinds of infections and cancers. To determine the stage of infection caused by HIV, a lab test is conducted to identify the number of CDR cells a person has, otherwise known as their "viral load." A viral load under 200 in an HIV-infected person indicates an AIDS diagnosis. Without medication, it can take between two to 10 years or longer for an HIV-positive person to develop AIDS.

Myth #3 - HIV diagnosis is a death sentence.

Revolutions in medications and treatments make it possible for HIV carriers to live long, healthy lives. In the Western world, where resources are available for treatment, HIV has been downgraded from a fatal virus to a chronic life-threatening illness. The virus becomes life-threatening once it progresses to the third and most severe stage of HIV: AIDS. However, in many cases, individuals diagnosed with AIDS can be reverted to HIV status after starting anti-HIV drug "cocktails," regaining their health and returning to a normal life.

There are many treatments that can now help people with HIV, each attacking the virus in their own way. As a result, many HIV positive people are living much longer and healthier lives than ever before. Medicines today can slow the growth of the virus or stop it from making copies of itself. These

treatment therapies cannot fully eradicate the virus from the bloodstream, but are able to keep the amount of virus in the blood low or undetectable. Currently, there are many clinical and research trails that continue to bring insight into the virus and its treatments and the potential pathway to a cure.

Today's treatment and prevention interventions were made through scientific advances funded through federal and private investments in basic, biomedical, behavioral, and social science research. **All findings point to the fact that starting treatment for HIV early (as soon as possible after diagnosis) significantly improves the patient's health and reduces the risk of illness and death, decreasing the risk of onward transmission by 96%.**

Myth #4 - You can contract HIV through tears, sweat, feces, and urine.

HIV can only be contracted through specific bodily fluids. These include semen, vaginal fluid, rectal fluids, blood, and breast milk. A person can get infected from sexual contact with someone who is infected with HIV through vaginal, anal, or oral sex; however, unprotected sex with someone who is infected doesn't mean a person will automatically contract the disease. Using a latex condom or other latex barrier greatly reduces the risk. Furthermore, HIV is not spread by hugging or massage, dry kissing, or daily contact with someone who has HIV.

HIV can be transmitted from mother to her child, either in the womb, during vaginal childbirth, or through breastfeeding.

There are treatments today that can reduce the risk of this type of transmission, keeping the baby safe and virus free. They are most effective if started as soon as possible during the pregnancy. Even with treatment, breastfeeding is not recommended for HIV positive mothers.

Finally, people who inject drugs, hormones, steroids, or silicone can get HIV by sharing needles or syringes and other injection equipment. Anytime a needle penetrates a person's skin it is important that a new needle is used. Keeping the penetration area clean and unexposed can greatly reduce the risk of infection.

Myth #5 - You can tell someone has HIV by looking at them.

It is true that as the HIV virus progresses and begins affecting the immune system there can be physical symptoms of the disease. Also, when a person is taking HIV medicines, there may be changes in body shape and appearance, including fat accumulation (increased deposits of fat in the abdomen, neck, shoulders, breasts, or face or fatty bumps on the body) and

lipoatrophy (loss of fat, particularly in the face, legs, or arms). However, all of these symptoms can also be linked to many other conditions as well, so it is never possible to tell if someone has HIV just by looking at them.

The HIV virus can actually live in the body asymptomatic for up to 10 years during the latency period. Yet, during this time, it is still possible to transmit the virus to others. This is why it is so important to use condoms correctly and every time. Doing so can reduce the risk of contracting or passing HIV by up to 80%.

In addition, thanks to new drug therapies, many people who are aware of their HIV positive status are living symptom free and have no outward sign of carrying the virus. Medications and treatments can keep them at a healthy body weight and prevent them from progressing to symptomatic stages of HIV.

As previously noted, many are able to maintain the status of undetectable, meaning that there are so few copies of the

Myth #6 - If someone is HIV positive, they will eventually develop AIDS.

When people get HIV and don't receive treatment, they will typically progress through three stages of disease, the last and most severe stage being AIDS. Yet, if properly treated, an HIV positive person may never acquire AIDS. Medicine to treat HIV, known as antiretroviral therapy (ART), helps at all stages of the

virus in their blood stream they can no longer be detected by a laboratory test. However, even if undetectable, there is still a possibility (though greatly diminished) of transmitting the disease.

The only way to know for sure whether a person has HIV is for them to get tested. Knowing your status is important because it helps you make healthy decisions to prevent contracting or transmitting HIV. To find places near you that offer confidential HIV testing, visit <https://gettested.cdc.gov/>, text your ZIP code to KNOW IT (566948), or call 1-800-CDC-INFO (1-800-232-4636). You can also use a home testing kit, available for purchase in most pharmacies and online.

disease if taken the right way, every day. This treatment can slow or prevent progression from one stage to the next. It can also dramatically reduce the chance of transmitting HIV to someone else.

STAGES OF HIV INFECTION

HIV is a virus spread through certain body fluids. It attacks the body's immune system, specifically the CD4 cells (white blood cells), often called T cells. These special cells help the immune system fight off infections. **Over time, if left untreated, HIV can destroy so many of these cells that the body can't fight off infections and disease, allowing opportunistic infection or cancers to take advantage of a very weak immune system.**

While no safe and effective cure currently exists, with proper medical care, HIV can be controlled. Developed in the 1990's, ART therapy can dramatically prolong the lives of many people infected with HIV and lower their chance of infecting others. Today, someone diagnosed with HIV and treated can have a nearly normal life expectancy. Without ART treatments, however, HIV will continue to duplicate itself within the body, moving through the three stages of HIV infection.

Stage 1: Acute HIV infection

Within 2 to 4 weeks after infection with HIV, people may experience a flu-like illness, which may last for a few weeks. This is the body's natural response to infection. During this time, the body produces an influx of white blood cells in an attempt to eradicate the virus. As the body is unable to eliminate the virus, it readjusts and proceeds into the second stage of the disease.

Stage 2: Clinical latency (HIV inactivity or dormancy)

This period is sometimes called asymptomatic HIV infection or chronic HIV infection. During this phase, HIV is still active but reproduces at very low levels. People may not have any symptoms or get sick during this time. For people who aren't taking medicine to treat HIV, this period can last a decade or longer, but some progress through this phase much faster. People who are taking medicine to treat HIV (ART) the right way, every day may be in this stage for several decades or throughout

their lifespan. It's important to remember that people can still transmit HIV to others during this phase, although people who are on ART and stay virally suppressed (having a very low level of virus in their blood) are much less likely to transmit HIV than those who are not virally suppressed. At the end of this phase, a person's viral load starts to go up and the CD4 cell count begins to go down. As this happens, the person may begin to have symptoms as the virus levels increase in the body and the person moves into Stage 3.

Stage 3: Acquired Immunodeficiency Syndrome (AIDS) – AIDS is the most severe phase of HIV infection

People with AIDS have such badly damaged immune systems that they get an increasing number of severe illnesses, called opportunistic illnesses. Without treatment, people with AIDS typically survive about 3 years. Common symptoms of AIDS include chills, fever, sweats, swollen lymph glands, weakness, skin lesions, and weight loss. People are diagnosed with AIDS when their CD4 cell count drops below 200 cells/mm or if they develop certain opportunistic illnesses. People with AIDS can have a high viral load and be very infectious. An estimated 658,507 people in the United States with an AIDS diagnosis have died since its discovery, with tens of thousands of deaths each year.

There are about 1.2 million reported cases of HIV in the United States (U.S.) alone.

1 in 6 people who have HIV in the United States are unaware they are infected.

WHO IS AT RISK?

Anyone that engages in behaviors that place them in contact with blood, semen, rectal fluids, vaginal fluids, and breast milk may be at risk for getting HIV. Even if you are in a long-term, monogamous relationship with one person, it is important to confirm your HIV status to be sure that you and your partner remain healthy and HIV negative. **According to the CDC, everyone aged 13 to 64 should include HIV testing as part of their health care routine, even if they do not feel they are at risk.**

The following are risk factors that can affect anyone, at any age or status in their life:

- Having sex with someone without being 100% sure of their HIV status. Remember, 1 in 6 people are unaware of their infection.

- Injecting drugs or sharing needles. This can include steroids, hormones, insulin, or even getting tattoos.
- Acquiring any sexually transmitted disease, hepatitis, or tuberculosis. HIV often travels with other infectious diseases, so if you have contracted another virus, there is a heightened chance you could have also contracted HIV.
- Having sex with someone who has any of the above risk factors. Don't forget, when you put yourself at risk, you put all of your future partners at risk as well.

High risk groups

In the US, HIV is most commonly spread through sexual intercourse, be it anal or vaginal, and by sharing drug-use equipment (or works) with someone who is carrying the virus. While these risks are the same for everyone, HIV continues to devastate some risk groups more than others. Certain populations are at greater risk based on the fact that there are higher rates of HIV infection existing within their communities or population groups. This means that with each sexual or drug use encounter, they are placing themselves at heightened risk of contracting the virus. Furthermore, the different demographic, social, and economic factors of each distinct community can further attribute to the level of risk. These factors can include income, education, geographic region, or even prevalence of stigma and discrimination.

High risk ethnic and racial groups:

African Americans

- At the end of 2016, an estimated 476,100 African Americans had HIV.
- In 2017, there were 7,053 deaths among adult and adolescent African Americans with diagnosed HIV in the US.
- In 2018, African Americans accounted for 13% of the US population but 42% of the 37,832 new HIV diagnoses in the United States and dependent areas.
- Of the 37,832 new HIV diagnoses in the US in 2018, 31% were African American men and 11% were African American women.

American Indians/Alaska Natives

- At the end of 2016, an estimated 1.1 million people had HIV. Of those, 3,600 were American Indian/Alaska Natives.

Hispanics/Latinos

- At the end of 2016, an estimated 254,600 Hispanic/Latinos had HIV.

- From 2010 - 2016, HIV diagnoses increased 6% among Hispanics/Latinos overall in 50 states and the District of Columbia.
- In 2017, adult and adolescent Hispanics/Latinos made up 26% of the new HIV diagnosis in the US and dependent areas.

Other HIV risk demographics

Gender

- At the end of 2016, 882,300 men had HIV.
- Of the 38,739 new HIV diagnoses in the US and dependent areas in 2017, 81% were men. Most (86%) new diagnoses among men were among gay and bisexual men.

Sexual preference

- Certain members of the Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) community are at the highest risk for contracting the HIV virus. **Gay, bisexual, and other men who have sex with men of all races and ethnicities remain the population most affected by HIV, accounting for 57% of all persons living with HIV.**

Injection drug users

- Of the 38,739 HIV diagnoses in the US and dependent areas in 2017, 1 in 10 were among people who inject drugs. The new HIV diagnoses among people who inject drugs consisted of 72% men and 28% women.

Despite the level of risk based on ethnicity, gender, and lifestyle, everyone can take precautions to help reduce their risk and maintain a HIV negative status. By learning about the prevention strategies and standard precautions, we can reduce the prevalence of HIV/AIDS and lessen the devastation resulting from the HIV/AIDS epidemic.

PREVENTION AND PRECAUTIONS

National HIV/AIDS strategy

As of July 2015, the Federal government has developed a National HIV/AIDS Strategy for the United States. Their vision is for the US to become a place free from new HIV infections, where all currently infected have free and equal access to high quality, life-extending care. In order to accomplish this goal, efforts must be taken in:

- Intensifying and expanding prevention efforts.
- Increasing education regarding risks, prevention, and transmission.
- Implementing systems to connect people with care providers immediately following diagnosis.
- Supporting comprehensive coordinated patient-centered care for people living with HIV.
- Reducing HIV-Related disparities and health inequities.

- Reducing stigma and eliminating discrimination associated with HIV status.
- Achieving a more coordinated national response to the HIV epidemic.

The strategy acknowledges that HIV is still an epidemic and major health issue in the US, despite the fact that most people can live long and healthy lives once diagnosed and treated. It recognizes that everyone across the nation deserves access to prevention tools and education and immediate access to treatment and care. It will require a collaborative national response to address the HIV/AIDS epidemic and achieve the strategic goals provided. This includes all health and human service providers, including cosmetology professionals. Fulfilling this national strategy starts with each individual, and should begin with you and your salon.

Protecting yourself in the workplace: HIV and salons

Salons have come under intense scrutiny in the past decade because of various outbreaks of infectious diseases that were traced to improperly cleaned equipment. State licensing boards have set strict rules for salon procedures and the exact steps for proper sanitation and sterilization of equipment to make sure disease transmission can't happen in salons. It is important that all licensed cosmetologists are familiar with and consistently practice these safety rules and guidelines. Among the most important is the simplest: workers must wash their hands frequently, between clients and sometimes more often, when there is a chance of any kind of disease transmission. Not only will this (and other mandated safety precautions) significantly reduce the likelihood of transmitting HIV/AIDS, it will also provide protection against the transmission of staph infection and other harmful bacteria and germs that are statistically much more likely to be transmitted within the salon setting.

Only 58 cases of confirmed occupational transmission of HIV to health care workers have been documented in the United States (while extremely rare, in a very few cases, HIV transmission has occurred in a household setting due to unprotected contact between infected blood and broken skin or mucous membranes). **To date, there are no documented cases of HIV transmission through blood contact that have occurred in a salon setting.** Therefore, while transmission of HIV in the salon is highly unlikely (and likely a direct result of the strict regulations in sanitization and operations), it is still essential that salon professionals stay up-to-date on HIV/AIDS specific prevention techniques and protocols to stop transmission.

Seasoned cosmetologists know that the presence of blood during various cosmetic procedures is not that usual. For example, it is not unheard of to draw blood during a manicure or pedicure, close shave, or facial procedure. When/if this happens, if the blood is infected with the HIV virus and comes in contact with a cut or an open wound, there is potential to transmit the virus. It is important to note that while risk of exposure due to direct splashes with body fluids is minimal,

Prevention and standard precautions

To prevent transmission of HIV in the workplace, cosmetologists and other health and human service providers must assume that blood and other body fluids from all patients are potentially infectious. To stay safe, when working

there is increased danger if infected blood enters the body via a scratch or open wound. Nail clippers, acrylic nail drills, cuticle scissors, callus paring blades, and reusable razors and blades all have the potential to transmit infectious diseases if they are not properly sterilized. Following proper sanitation rules and standard precautions will greatly decrease the potential of HIV transmission and protect both professionals and clients from transmitting the disease.

with any client, standard precautions must be taken to avoid contact with bodily fluids. The following table provides standard precautions that should be taken when providing cosmetic services:

Standard Precautions for Preventing HIV Transmission
If there is a possibility of contact with blood or other bodily fluids that could potentially contain visible blood (such as urine, feces, or vomit), always wear gloves and/or other protective equipment.
Cover cuts, sores, or breaks in the skin with bandages (for both clients and cosmetologist).
Anytime contact is made with blood or other bodily fluids, immediately wash hands and/or other body parts that have been in contact.
Carefully handle all sharp instruments and tools, taking caution during use and disposal.
Sanitize or dispose of any tools/materials that may have come into contact with blood or other bodily fluids, and properly clean and sanitize the surrounding workstation.
Avoid any practices that can increase the probability of contact with blood or bodily fluids (e.g., sharing razors, toothbrushes, or any equipment that could come in contact with the virus).

Research indicates that the use of standard precautions by healthcare and human service providers when dealing with HIV/AIDS positive clients is inconsistent. This impacts both stigmatization and the reporting of discriminatory practices. Therefore, it is important that standard precautions are employed universally with every client, not just those that have disclosed HIV positive status. For everyone’s safety and health, human service providers must keep up to date on current research and findings surrounding transmission and stay knowledgeable regarding misconceptions around transmission

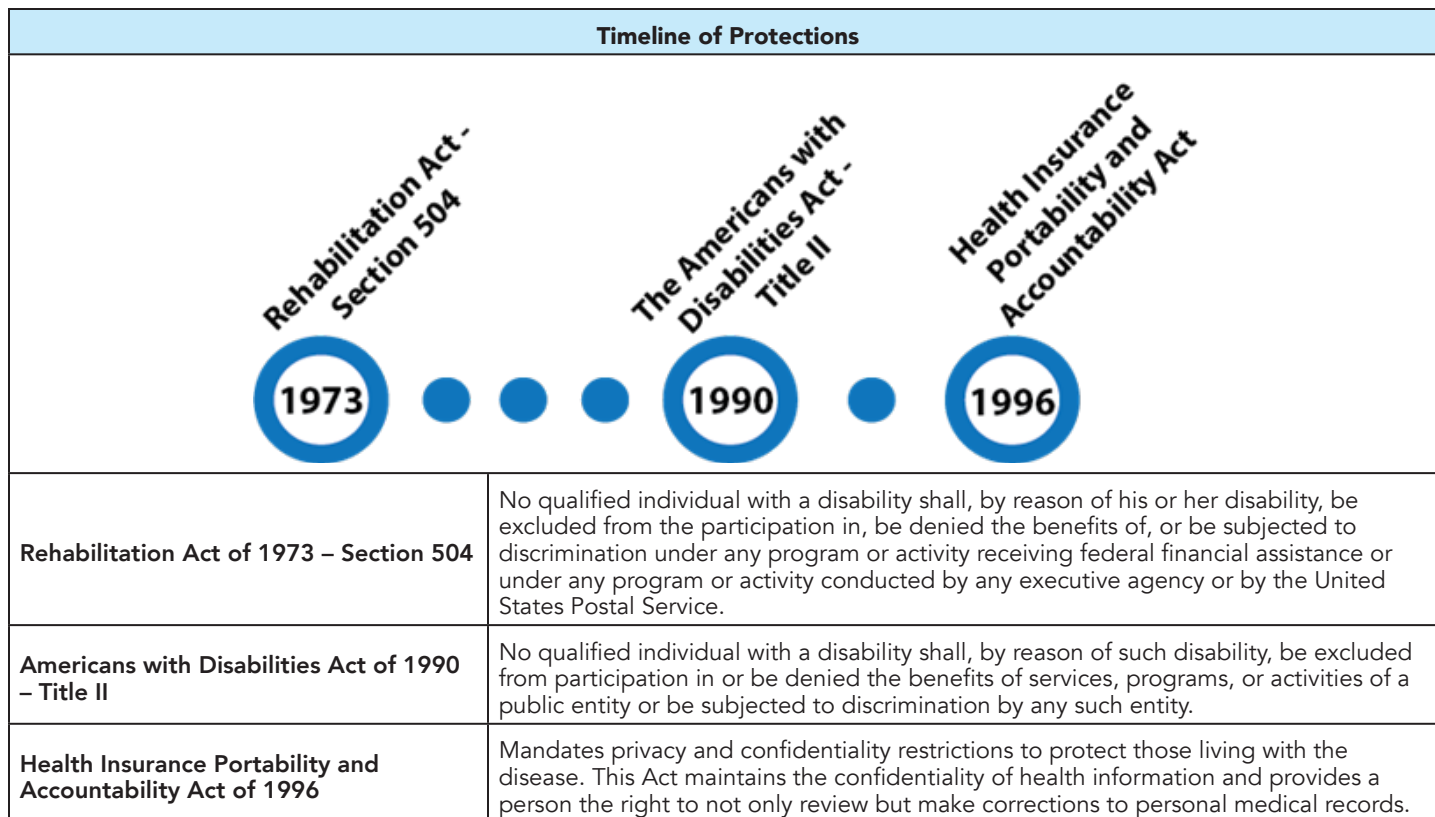
and assumptions about patient lifestyle and risk. It is also helpful to have a plan in place for post exposure management should direct contact with known HIV infected blood takes place. The impact of HIV/AIDS on the workplace continues to grow as the population of those most affected by the disease (those aged 20-44) make up over 50% of the 143 million people employed in the United States. It is important that while taking precautions against the spreading and/or contraction of HIV/AIDS, licensed professionals in no way infringe upon a person’s (be it a client, co-worker, or self) civil rights.

KNOW YOUR RIGHTS: PROTECTIONS

It is unlawful to prohibit a person living with HIV/AIDS from participating in services offered to others, and it is illegal to deny them a benefit because of their HIV status. Section 504 of the Rehabilitation Act of 1973, Title II of the Americans with Disabilities Act of 1990, and the Health Insurance Portability and Accountability Act of 1996 (HIPA) protect those living with HIV/AIDS and their friends and family from this type of discrimination.

The Rehabilitation Act of 1973 ensures that every person is given equal opportunity to participate in and receive benefits from any program or activity that receives federal funding, and every person in the United States is afforded equal opportunity in employment under the Americans with Disabilities Act (ADA), despite disabilities (including positive HIV status). The ADA maintains that people with HIV, whether or not it is symptomatic, are physically impaired to the point that it substantially limits the life activities, and are therefore covered under the Act. In this, the ADA protects against discrimination against HIV-positive persons and specifically those who are denied an occupational license or admission to a school on the basis of their HIV status. Title II of the ADA prohibits both state licensing agencies and occupational training schools (including cosmetology schools) from discriminating against individuals with HIV or AIDS. A licensing entity, trade school, or training program cannot exclude a person with HIV/AIDS because of their status.

A person infected with HIV may be excluded, however, from activities or services of a private or public entity only if there is a health concern in which they pose a significant risk to the health or safety of others or a “direct threat” that cannot be eliminated or reduced to an acceptable level by reasonable modification. Evidence of the direct threat must be based on an individualized assessment of the person with the disability and based on current medical evidence. However, transmission of HIV will rarely raise a legitimate direct threat issue as HIV cannot be transmitted by casual contact. Therefore, circumstances do not exist for the transmission of HIV in a school or workplace setting, including those involving cosmetology. If a licensing entity or trade school requires an applicant to provide a doctor’s certification that he or she is free of infectious, communicable, or contagious disease, this must exclude diseases, such as HIV, not transmitted through casual contact or usual practice of the occupation for which a license is required. Furthermore, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) mandates privacy and confidentiality restrictions to further protect those living with the disease. This Act maintains the confidentiality of health information and provides a person the right to not only review but make corrections to personal medical records.



HIV and the right to obtain occupational training and state licensing service providers are not required to disclose personal HIV status in the workplace, as this is a personal choice that can have both a positive and/or negative impact.

Disclosing to co-workers can be of benefit in cultivating a support system amongst colleagues; or it can unnecessarily create stigma causing coworkers to behave differently. When making this decision, it is important to carefully consider which individuals to tell. Best practice would be to have a specific plan for disclosure which takes into consideration who to inform, how to inform them, expectations for third-party disclosure, etc. Many employers offer an Employee Assistance Program (EAP) which will help employees handle disclosure at work and navigate personal issues that may affect performance, health,

or well-being. Information share with EAPs is protected by confidentiality from your employer. Workplace discrimination based on HIV status is illegal and there are regulations in place to assist anyone experiencing discrimination after disclosing status.

Even though it is not required to disclose status in the workplace, those living with HIV/AIDS do have the responsibility to disclose their status to healthcare providers (doctors, clinical workers, dentists, etc.) and sex or needle-sharing partners under penalty of law. However, they are not obligated to disclose to all service providers, and therefore may keep this information private when securing cosmetology services. Again, all services should be provided using standard precautions, making disclosure from clients irrelevant to safety and prevention.

Conclusion

While tremendous progress has been made, we have yet to win the victory over the HIV/AIDS epidemic, evidenced by the fact that by 2012, 658,507 people with an AIDS diagnosis have died in the US, with an estimated 13,712 people dying that year. We must each play our part in increasing prevention efforts in order to save lives and improve the quality of life for those living with HIV. Despite the advances in treatment and therapies, today the world faces a heightened risk of contracting and transmitting HIV. To conquer the disease and reign in the next era of HIV prevention, we must be informed and consistent in our prevention and education efforts. At the same time, we must keep in mind that although this is a serious disease, it is also a preventable disease, and the extra care that we take in our lives and in our salons can be the difference between life and death – for not only our clients, but also yourself.

Chapter 5: Florida Laws and Rules (Satisfies Laws and Rules Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- ♦ List and describe your legal responsibilities according to the Florida Cosmetology Practice Act and Florida Administrative Code.

- ♦ Define and recall your duties and responsibilities under Florida Statutes.

INTRODUCTION

Two primary areas of law pertaining to the practice of cosmetology in the State of Florida are:

- The Florida Cosmetology Practice Act: Chapter 477 of the Florida Statutes.
- Chapter 61G5 of the Florida Administrative Code.

The following pages simplify excerpts of these documents, clarifying the regulations that address you as a cosmetologist, and explaining your legal responsibilities and obligations.

Other sections or chapters of the Florida Statutes [FS] and Florida Administrative Code [FAC] that apply to the practice of cosmetology (such as Chapter 456: Health Professions and Occupations; or Chapter 120: Administrative Procedure Act; among others) are not addressed in this chapter.

Text in full for the Laws of Florida may be found at <http://www.leg.state.fl.us>. Please refer directly to the Laws of Florida to determine the effective date of a creating act or a particular amendment.

CHAPTER 477 COSMETOLOGY

477.11 Short title. This act shall be known and may be cited as the "Florida Cosmetology Act."

477.12 Purpose. The Legislature deems it necessary in the interest of public health to regulate the practice of cosmetology in this state. However, restrictions shall be imposed only to the extent necessary to protect the public from significant and discernible danger to health and not in a manner which will unreasonably affect the competitive market. Further, consumer protection for both health and economic matters shall be afforded the public through legal remedies provided for in this act.

477.13 Definitions. As used in this chapter:

- (1) "Board" means the Board of Cosmetology.
- (2) "Department" means the Department of Business and Professional Regulation.
- (3) "Cosmetologist" means a person who is licensed to engage in the practice of cosmetology in this state under the authority of this chapter.
- (4) "Cosmetology" means the mechanical or chemical treatment of the head, face, and scalp for aesthetic rather than medical purposes, including, but not limited to, hair shampooing, hair cutting, hair arranging, hair coloring, permanent waving, and hair relaxing for compensation. This term also includes performing hair removal, including wax treatments, manicures, pedicures, and skin care services.
- (5) "Specialist" means any person holding a specialty registration in one or more of the specialties registered under this chapter.
- (6) "Specialty" means the practice of one or more of the following:
 - (a) Manicuring, or the cutting, polishing, tinting, coloring, cleansing, adding, or extending of the nails, and massaging of the hands. This term includes any procedure or process for the affixing of artificial nails, except those nails which may be applied solely by use of a simple adhesive.
 - (b) Pedicuring, or the shaping, polishing, tinting, or cleansing of the nails of the feet, and massaging or beautifying of the feet.
 - (c) Facials, or the massaging or treating of the face or scalp with oils, creams, lotions, or other preparations, and skin care services.
- (7) "Shampooing" means the washing of the hair with soap and water or with a special preparation, or applying hair tonics.
- (8) "Specialty salon" means any place of business wherein the practice of one or all of the specialties as defined in subsection (6) are engaged in or carried on.
- (9) "Hair braiding" means the weaving or interweaving of natural human hair or commercial hair, including the use of hair extensions or wefts, for compensation without cutting, coloring, permanent waving, relaxing, removing, or chemical treatment.
- (10) "Hair wrapping" means the wrapping of manufactured materials around a strand or strands of human hair, for compensation, without cutting, coloring, permanent waving, relaxing, removing,

weaving, chemically treating, braiding, using hair extensions, or performing any other service defined as cosmetology.

- (11) "Photography studio salon" means an establishment where the hair-arranging services and the application of cosmetic products are performed solely for the purpose of preparing the model or client for the photographic session without shampooing, cutting, coloring, permanent waving, relaxing, or removing of hair or performing any other service defined as cosmetology.
- (12) "Body wrapping" means a treatment program that uses herbal wraps for the purposes of cleansing and beautifying the skin of the body, but does not include:
 - (a) The application of oils, lotions, or other fluids to the body, except fluids contained in presoaked materials used in the wraps; or
 - (b) Manipulation of the body's superficial tissue, other than that arising from compression emanating from the wrap materials.
- (13) "Skin care services" means the treatment of the skin of the body, other than the head, face, and scalp, by the use of a sponge, brush, cloth, or similar device to apply or remove a chemical preparation or other substance, except that chemical peels may be removed by peeling an applied preparation from the skin by hand. Skin care services must be performed by a licensed cosmetologist or facial specialist within a licensed cosmetology or specialty salon, and such services may not involve massage, as defined in s. 480.033(3), through manipulation of the superficial tissue.

477.0135 Exemptions.

- (1) This chapter does not apply to the following persons when practicing pursuant to their professional or occupational responsibilities and duties:
 - (a) Persons authorized under the laws of this state to practice medicine, surgery, osteopathic medicine, chiropractic medicine, massage, naturopathy, or podiatric medicine.
 - (b) Commissioned medical or surgical officers of the United States Armed Forces hospital services.
 - (c) Registered nurses under the laws of this state.
 - (d) Persons practicing barbering under the laws of this state.
 - (e) Persons employed in federal, state, or local institutions, hospitals, or military bases as cosmetologists whose practices are limited to the inmates, patients, or authorized military personnel of such institutions, hospitals, or bases.
 - (f) Persons whose practice is limited to the application of cosmetic products to another person in connection with the sale, or attempted sale, of such products at retail without compensation from such other person other than the regular retail price of such merchandise.
- (2) A license is not required of any person whose occupation or practice is confined solely to shampooing.
- (3) A license or registration is not required of any person whose occupation or practice is confined solely to cutting, trimming, polishing, or cleansing the fingernails of any person when said

cutting, trimming, polishing, or cleansing is done in a barbershop licensed pursuant to chapter 476 which is carrying on a regular and customary business of barbering, and such individual has been practicing the activities set forth in this subsection prior to October 1, 1985.

- (4) A photography studio salon is exempt from the licensure provisions of this chapter. However, the hair-arranging services of such salon must be performed under the supervision of a licensed cosmetologist employed by the salon. The salon must use disposable hair-arranging implements or use a wet or dry sanitizing system approved by the federal Environmental Protection Agency.
- (5) A license is not required of any individual providing makeup, special effects, or cosmetology services to an actor, stunt person, musician, extra, or other talent during a production recognized by the Office of Film and Entertainment as a qualified production as defined in s. 288.1254(1). Such services are not required to be performed in a licensed salon. Individuals exempt under this subsection may not provide such services to the general public.
- (6) A license is not required of any individual providing makeup or special effects services in a theme park or entertainment complex to an actor, stunt person, musician, extra, or other talent, or providing makeup or special effects services to the general public. The term "theme park or entertainment complex" has the same meaning as in s. 509.013(9).
- (7) A license or registration is not required for a person whose occupation or practice is confined solely to hair braiding as defined in s. 477.013(9).
- (8) A license or registration is not required for a person whose occupation or practice is confined solely to hair wrapping as defined in s. 477.013(10).
- (9) A license or registration is not required for a person whose occupation or practice is confined solely to body wrapping as defined in s. 477.013(12).
- (10) A license or registration is not required for a person whose occupation or practice is confined solely to applying polish to fingernails and toenails.
- (11) A license or registration is not required for a person whose occupation or practice is confined solely to makeup application, which includes, but is not limited to, application of makeup primer, face paint, lipstick, eyeliner, eye shadow, foundation, rouge or cheek color, mascara, strip lashes, individual lashes, face powder, corrective stick, and makeup remover; but does not include manual or chemical exfoliation, semipermanent lash application, lash or brow tinting, permanent makeup application, microblading, or hair removal.

477.15 Board of Cosmetology.

- (1) There is created within the department the Board of Cosmetology consisting of seven members, who shall be appointed by the Governor, subject to confirmation by the Senate, and whose function it shall be to carry out the provisions of this act.
- (2) Five members of the board shall be licensed cosmetologists and shall have been engaged in the practice of cosmetology in this state for not less than 5 years. Two members of the board shall be laypersons. Each board member shall be a resident of this state and shall have been a resident of this state for not less than 5 continuous years.
- (3) The Governor may at any time fill vacancies on the board for the remainder of unexpired terms. Each member of the board shall hold over after the expiration of his or her term until a successor is duly appointed and qualified. No board member shall serve more than two consecutive terms, whether full or partial.
- (4) Before assuming his or her duties as a board member, each appointee shall take the constitutional oath of office and shall file it with the Department of State, which shall then issue to such member a certificate of his or her appointment.
- (5) The board shall, in the month of January, elect from its number a chair and a vicechair.
- (6) The board shall hold such meetings during the year as it may determine to be necessary, one of which shall be the annual meeting. The chair of the board shall have the authority to call other meetings at his or her discretion. A quorum of the board shall consist of not less than four members.
- (7) Each member of the board shall receive \$50 for each day spent in the performance of official board business, with the total annual compensation per member not to exceed \$2,000. Additionally, board members shall receive per diem and mileage as provided in s. 112.061, from place of residence to place of meeting and return.
- (8) Each board member shall be held accountable to the Governor for the proper performance of all his or her duties and obligations. The

Governor shall investigate any complaints or unfavorable reports received concerning the actions of the board, or its members, and shall take appropriate action thereon, which action may include removal of any board member. The Governor may remove from office any board member for neglect of duty, incompetence, or unprofessional or dishonorable conduct.

477.16 Rulemaking.

- (1) The board may adopt rules pursuant to ss. 120.536(1) and 120.54 to implement the provisions of this chapter conferring duties upon it.
- (2) The board may by rule adopt any restriction established by a regulation of the United States Food and Drug Administration related to the use of a cosmetic product or any substance used in the practice of cosmetology if the board finds that the product or substance poses a risk to the health, safety, and welfare of clients or persons providing cosmetology services.

477.18 Investigative services. The department shall provide all investigative services required by the board or the department in carrying out the provisions of this act.

477.19 Cosmetologists; qualifications; licensure; supervised practice; license renewal; endorsement; continuing education.

- (1) A person desiring to be licensed as a cosmetologist shall apply to the department for licensure.
- (2) An applicant shall be eligible for licensure by examination to practice cosmetology if the applicant:
 - (a) Is at least 16 years of age or has received a high school diploma;
 - (b) Pays the required application fee, which is not refundable, and the required examination fee, which is refundable if the applicant is determined to not be eligible for licensure for any reason other than failure to successfully complete the licensure examination; and
 - (c)
 1. Is authorized to practice cosmetology in another state or country, has been so authorized for at least 1 year, and does not qualify for licensure by endorsement as provided for in subsection (5); or
 2. Has received a minimum of 1,200 hours of training as established by the board, which shall include, but shall not be limited to, the equivalent of completion of services directly related to the practice of cosmetology at one of the following:
 - a. A school of cosmetology licensed pursuant to chapter 1005.
 - b. A cosmetology program within the public school system.
 - c. The Cosmetology Division of the Florida School for the Deaf and the Blind, provided the division meets the standards of this chapter.
 - d. A government-operated cosmetology program in this state.

The board shall establish by rule procedures whereby the school or program may certify that a person is qualified to take the required examination after the completion of a minimum of 1,000 actual school hours. If the person then passes the examination, he or she shall have satisfied this requirement; but if the person fails the examination, he or she shall not be qualified to take the examination again until the completion of the full requirements provided by this section.

- (3) Upon an applicant receiving a passing grade, as established by board rule, on the examination and paying the initial licensing fee, the department shall issue a license to practice cosmetology.
- (4) If an applicant passes all parts of the examination for licensure as a cosmetologist, he or she may practice in the time between passing the examination and receiving a physical copy of his or her license if he or she practices under the supervision of a licensed cosmetologist in a licensed salon. An applicant who fails any part of the examination may not practice as a cosmetologist and may immediately apply for reexamination.
- (5) Renewal of license registration shall be accomplished pursuant to rules adopted by the board.
- (6) The board shall certify as qualified for licensure by endorsement as a cosmetologist in this state an applicant who holds a current active license to practice cosmetology in another state.
- (7)
 - (a) The board shall prescribe by rule continuing education requirements intended to ensure protection of the public through updated training of licensees and registered specialists, not to exceed 10 hours biennially, as a condition for renewal of a license or registration as a specialist under

this chapter. Continuing education courses shall include, but not be limited to, the following subjects as they relate to the practice of cosmetology: human immunodeficiency virus and acquired immune deficiency syndrome; Occupational Safety and Health Administration regulations; workers' compensation issues; state and federal laws and rules as they pertain to cosmetologists, cosmetology, salons, specialists, specialty salons, and booth renters; chemical makeup as it pertains to hair, skin, and nails; and environmental issues. Courses given at cosmetology conferences may be counted toward the number of continuing education hours required if approved by the board.

- (b) The board may, by rule, require any licensee in violation of a continuing education requirement to take a refresher course or refresher course and examination in addition to any other penalty. The number of hours for the refresher course may not exceed 48 hours.

477.0201 Specialty registration; qualifications; registration renewal; endorsement.

- (1) Any person is qualified for registration as a specialist in any specialty practice within the practice of cosmetology under this chapter who:
 - (a) Is at least 16 years of age or has received a high school diploma.
 - (b) Has received a certificate of completion for:
 - 1. One hundred and eighty hours of training, as established by the board, which shall focus primarily on sanitation and safety, to practice specialties as defined in s. 477.013(6)(a) and (b);
 - 2. Two hundred and twenty hours of training, as established by the board, which shall focus primarily on sanitation and safety, to practice the specialty as defined in s. 477.013(6)(c); or
 - 3. Four hundred hours of training or the number of hours of training required to maintain minimum Pell Grant requirements, as established by the board, which shall focus primarily on sanitation and safety, to practice the specialties as defined in s. 477.013(6)(a)-(c).
 - (c) The certificate of completion specified in paragraph (b) must be from one of the following:
 - 1. A school licensed pursuant to s. 477.023.
 - 2. A school licensed pursuant to chapter 1005 or the equivalent licensing authority of another state.
 - 3. A specialty program within the public school system.
 - 4. A specialty division within the Cosmetology Division of the Florida School for the Deaf and the Blind, provided the training programs comply with minimum curriculum requirements established by the board.
- (2) A person desiring to be registered as a specialist shall apply to the department in writing upon forms prepared and furnished by the department.
- (3) Upon paying the initial registration fee, the department shall register the applicant to practice one or more of the specialty practices within the practice of cosmetology.
- (4) Renewal of registration shall be accomplished pursuant to rules adopted by the board.
- (5) The board shall adopt rules specifying procedures for the registration of specialty practitioners desiring to be registered in this state who have been registered or licensed and are practicing in states which have registering or licensing standards substantially similar to, equivalent to, or more stringent than the standards of this state.
- (6) Pending issuance of registration, a person is eligible to practice as a specialist upon submission of a registration application that includes proof of successful completion of the education requirements and payment of the applicable fees required by this chapter, provided such practice is under the supervision of a registered specialist in a licensed specialty or cosmetology salon.

477.0212 Inactive status.

- (1) A cosmetologist's license that has become inactive may be reactivated under s. 477.019 upon application to the department.
- (2) The board shall adopt rules relating to licenses that become inactive and for the renewal of inactive licenses. The rules may not require more than one renewal cycle of continuing education to reactivate a license. The board shall prescribe by rule a fee not to exceed \$50 for the reactivation of an inactive license and a fee not to exceed \$50 for the renewal of an inactive license.

477.023 Schools of cosmetology; licensure. No private school of cosmetology shall be permitted to operate without a license issued by

the Commission for Independent Education pursuant to chapter 1005. However, nothing herein shall be construed to prevent certification by the Department of Education of cosmetology training programs within the public school system or to prevent government operation of any other program of cosmetology in this state.

477.25 Cosmetology salons; specialty salons; requisites; licensure; inspection; mobile cosmetology salons.

- (1) No cosmetology salon or specialty salon shall be permitted to operate without a license issued by the department except as provided in subsection (11).
- (2) The board shall adopt rules governing the licensure and operation of salons and specialty salons and their facilities, personnel, safety and sanitary requirements, and the license application and granting process.
- (3) Any person, firm, or corporation desiring to operate a cosmetology salon or specialty salon in the state shall submit to the department an application upon forms provided by the department and accompanied by any relevant information requested by the department and by an application fee.
- (4) Upon receiving the application, the department may cause an investigation to be made of the proposed cosmetology salon or specialty salon.
- (5) When an applicant fails to meet all the requirements provided herein, the department shall deny the application in writing and shall list the specific requirements not met. No applicant denied licensure because of failure to meet the requirements herein shall be precluded from reapplying for licensure.
- (6) When the department determines that the proposed cosmetology salon or specialty salon may reasonably be expected to meet the requirements set forth herein, the department shall grant the license upon such conditions as it shall deem proper under the circumstances and upon payment of the original licensing fee.
- (7) No license for operation of a cosmetology salon or specialty salon may be transferred from the name of the original licensee to another. It may be transferred from one location to another only upon approval by the department, which approval shall not be unreasonably withheld.
- (8) Renewal of license registration for cosmetology salons or specialty salons shall be accomplished pursuant to rules adopted by the board. The board is further authorized to adopt rules governing delinquent renewal of licenses and may impose penalty fees for delinquent renewal.
- (9) The board is authorized to adopt rules governing the periodic inspection of cosmetology salons and specialty salons licensed under this chapter.
- (10)
 - (a) The board shall adopt rules governing the licensure, operation, and inspection of mobile cosmetology salons, including their facilities, personnel, and safety and sanitary requirements.
 - (b) Each mobile salon must comply with all licensure and operating requirements specified in this chapter or chapter 455 or rules of the board or department that apply to cosmetology salons at fixed locations, except to the extent that such requirements conflict with this subsection or rules adopted pursuant to this subsection.
 - (c) A mobile cosmetology salon must maintain a permanent business address, located in the inspection area of the local department office, at which records of appointments, itineraries, license numbers of employees, and vehicle identification numbers of the license holder's mobile salon shall be kept and made available for verification purposes by department personnel, and at which correspondence from the department can be received.
 - (d) To facilitate periodic inspections of mobile cosmetology salons, prior to the beginning of each month each mobile salon license holder must file with the board a written monthly itinerary listing the locations where and the dates and hours when the mobile salon will be operating.
 - (e) The board shall establish fees for mobile cosmetology salons, not to exceed the fees for cosmetology salons at fixed locations.
 - (f) The operation of mobile cosmetology salons must be in compliance with all local laws and ordinances regulating business establishments, with all applicable requirements of the Americans with Disabilities Act relating to accommodations for persons with disabilities, and with all applicable OSHA requirements.
- (11) Facilities licensed under part II of chapter 400 or under part I of chapter 429 are exempt from this section, and a cosmetologist

licensed pursuant to s. 477.019 may provide salon services exclusively for facility residents.

477.0263 Cosmetology services to be performed in licensed salon; exceptions.

- (1) Cosmetology services shall be performed only by licensed cosmetologists in licensed salons, except as otherwise provided in this section.
- (2) Pursuant to rules established by the board, cosmetology services may be performed by a licensed cosmetologist in a location other than a licensed salon, including, but not limited to, a nursing home, hospital, or residence, when a client for reasons of ill health is unable to go to a licensed salon. Arrangements for the performance of such cosmetology services in a location other than a licensed salon shall be made only through a licensed salon.
- (3) Any person who holds a valid cosmetology license in any state or who is authorized to practice cosmetology in any country, territory, or jurisdiction of the United States may perform cosmetology services in a location other than a licensed salon when such services are performed in connection with the motion picture, fashion photography, theatrical, or television industry; a photography studio salon; a manufacturer trade show demonstration; or an educational seminar.
- (4) Pursuant to rules adopted by the board, any cosmetology or specialty service may be performed in a location other than a licensed salon when the service is performed in connection with a special event and is performed by a person who holds the proper license or specialty registration.
- (5) Hair shampooing, hair cutting, hair arranging, nail polish removal, nail filing, nail buffing, and nail cleansing may be performed in a location other than a licensed salon when the service is performed by a person who holds the proper license.

477.0265 Prohibited acts.

- (1) It is unlawful for any person to:
 - (a) Engage in the practice of cosmetology or a specialty without an active license as a cosmetologist or registration as a specialist issued by the department pursuant to the provisions of this chapter.
 - (b) Own, operate, maintain, open, establish, conduct, or have charge of, either alone or with another person or persons, a cosmetology salon or specialty salon:
 1. Which is not licensed under the provisions of this chapter; or
 2. In which a person not licensed or registered as a cosmetologist or a specialist is permitted to perform cosmetology services or any specialty.
 - (c) Permit an employed person to engage in the practice of cosmetology or of a specialty unless such person holds a valid, active license as a cosmetologist or registration as a specialist.
 - (d) Obtain or attempt to obtain a license or registration for money, other than the required fee, or any other thing of value or by fraudulent misrepresentations.
 - (e) Use or attempt to use a license to practice cosmetology or a registration to practice a specialty, which license or registration is suspended or revoked.
 - (f) Advertise or imply that skin care services or body wrapping, as performed under this chapter, have any relationship to the practice of massage therapy as defined in s. 480.033(3), except those practices or activities defined in s. 477.013.
 - (g) In the practice of cosmetology, use or possess a cosmetic product containing a liquid nail monomer containing any trace of methyl methacrylate (MMA).
- (2) Any person who violates any provision of this section commits a misdemeanor of the second degree, punishable as provided in s. 775.082 or s. 775.083.

477.28 Disciplinary proceedings.

- (1) The board shall have the power to revoke or suspend the license of a cosmetologist licensed under this chapter, or the registration of a

specialist registered under this chapter, and to reprimand, censure, deny subsequent licensure or registration of, or otherwise discipline a cosmetologist or a specialist licensed or registered under this chapter in any of the following cases:

- (a) Upon proof that a license or registration has been obtained by fraud or misrepresentation.
 - (b) Upon proof that the holder of a license or registration is guilty of fraud or deceit or of gross negligence, incompetency, or misconduct in the practice or instruction of cosmetology or a specialty.
 - (c) Upon proof that the holder of a license or registration is guilty of aiding, assisting, procuring, or advising any unlicensed person to practice as a cosmetologist.
- (2) The board shall have the power to revoke or suspend the license of a cosmetology salon or a specialty salon licensed under this chapter, to deny subsequent licensure of such salon, or to reprimand, censure, or otherwise discipline the owner of such salon in either of the following cases:
 - (a) Upon proof that a license has been obtained by fraud or misrepresentation.
 - (b) Upon proof that the holder of a license is guilty of fraud or deceit or of gross negligence, incompetency, or misconduct in the operation of the salon so licensed.
 - (3) Disciplinary proceedings shall be conducted pursuant to the provisions of chapter 120.
 - (4) The department shall not issue or renew a license or certificate of registration under this chapter to any person against whom or salon against which the board has assessed a fine, interest, or costs associated with investigation and prosecution until the person or salon has paid in full such fine, interest, or costs associated with investigation and prosecution or until the person or salon complies with or satisfies all terms and conditions of the final order.

477.29 Penalty.

- (1) It is unlawful for any person to:
 - (a) Hold himself or herself out as a cosmetologist or specialist unless duly licensed or registered, or otherwise authorized, as provided in this chapter.
 - (b) Operate any cosmetology salon unless it has been duly licensed as provided in this chapter.
 - (c) Permit an employed person to practice cosmetology or a specialty unless duly licensed or registered, or otherwise authorized, as provided in this chapter.
 - (d) Present as his or her own the license of another.
 - (e) Give false or forged evidence to the department in obtaining any license provided for in this chapter.
 - (f) Impersonate any other licensee of like or different name.
 - (g) Use or attempt to use a license that has been revoked.
 - (h) Violate any provision of s. 455.227(1), s. 477.0265, or s. 477.028.
 - (i) Violate or refuse to comply with any provision of this chapter or chapter 455 or a rule or final order of the board or the department.
- (2) Any person who violates the provisions of this section shall be subject to one or more of the following penalties, as determined by the board:
 - (a) Revocation or suspension of any license or registration issued pursuant to this chapter.
 - (b) Issuance of a reprimand or censure.
 - (c) Imposition of an administrative fine not to exceed \$500 for each count or separate offense.
 - (d) Placement on probation for a period of time and subject to such reasonable conditions as the board may specify.
 - (e) Refusal to certify to the department an applicant for licensure.

477.31 Civil proceedings. As cumulative of any other remedy or criminal prosecution, the department may file a proceeding in the name of the state seeking issuance of a restraining order, injunction, or writ of mandamus against any person who is or has been violating any of the provisions of this chapter or the lawful rules or orders of the department.

CHAPTER 61G5 COSMETOLOGIST

61G5-18.00015 Cosmetologist and Compensation Defined.

A cosmetologist is a person who is licensed to perform the mechanical or chemical treatment of the head, face, and scalp for aesthetic rather than medical purposes, including, but not limited to, hair shampooing, hair cutting, hair arranging, hair braiding, hair coloring, permanent waving, and hair relaxing, for compensation. A cosmetologist may also perform non-invasive hair removals, including wax treatments but not including electrolysis as that term is defined in Chapter 478, F.S.,

manicures, pedicures, and skin care services. For the purposes of this act "compensation" is defined as the payment of money or its equivalent, the receipt or delivery of property, or the performance of a service, or the receipt or delivery of anything of value in exchange for cosmetology services. For the purposes of this act "medical purposes" is defined as any form of bodily intrusion into the orifices, skin, muscles, or any other tissues of the body.

Chapter 61G5-20 Cosmetology Salons

61G5-20.001 Salon Defined.

Salon means any establishment or place of business wherein cosmetology as defined in Section 477.013(4), F.S., or any specialty as defined in Section 477.013(6), F.S., is practiced for compensation, however this does not prevent the practice of cosmetology in a licensed barbershop, or the practice of barbering in a licensed cosmetology salon, provided the salon employs a licensed cosmetologist. Except as provided in Rule 61G5-20.010, F.A.C., a salon must be at a fixed location.

61G5-20.0015 Performance of Cosmetology or Specialty Services

Outside a Licensed Salon.

- (1) "Special events" are weddings, fashion shows, and other organized public or private events with a duration of no more than three consecutive days, and where cosmetology services are essential to the event, and the cosmetologist does not provide services to the general public.
- (2) Cosmetology or specialty services may be performed by a licensed cosmetologist or specialist in a location other than a licensed salon, including a hospital, nursing home, residence, or similar facility, when a client for reasons of ill health is unable to go to a licensed salon. Such services are not to be performed upon employees or person who do not reside in the facility, or any other non-qualified persons. Arrangements for the performance of cosmetology services pursuant to this subsection shall be made only through a licensed salon.
- (3) Cosmetology services may only be performed in a photography studio salon subject to the following requirements:
 - (a) Only hair-arranging services and the application of cosmetic products may be performed in a photography studio salon, and only for the purpose of preparing a model or client of the photography studio for a photographic session. Shampooing the hair, hair cutting, hair coloring, permanent waving of the hair, hair relaxing, hair removal, manicuring, pedicuring, and the performance of any other service defined as cosmetology may not be performed in a photography studio salon.
 - (b) All hair-arranging services and applications of cosmetic products to be performed in the photography studio salon shall be performed by a licensed Florida cosmetologist or under the supervision of a licensed cosmetologist employed by the salon. "Under the supervision of a licensed cosmetologist" shall mean that an individual who then holds a current, active Florida license as a cosmetologist shall be physically present at the photography studio salon at all times when hair-arranging services or applications of cosmetic products are being performed.
 - (c) When performing hair-arranging services, the photography studio salon shall use either disposable hair-arranging implements or shall use a wet or dry sanitizing system approved by the federal Environmental Protection Agency.
- (4) Hair shampooing, hair cutting, hair arranging, nail polish removal, nail filing, nail buffing, and nail cleansing may be performed in a location other than a licensed salon when the service is performed by a person who holds the proper license.
- (5) The following procedures shall be followed when performing cosmetology services outside of a licensed salon:
 - (a) Information as to the name and contact information of the client and the address at which the services are to be performed shall be recorded in an appointment book.
 - (b) For services required to be scheduled through a salon, the appointment book shall remain at the salon and be made available upon request to any investigator or inspector of the Department.
 - (c) For services in subsection (4) that have been scheduled directly with the licensed cosmetologist or specialist, the appointment book shall remain with the provider.

61G5-20.002 Salon Requirements.

- (1) Definitions: For the purposes of this rule, the following definitions apply:
 - (a) "Clean" means the removal of visible debris from a surface such as washing with soap/water.
 - (b) "Disinfect" means the use of a chemical to destroy potential pathogens.
 - (c) "Sterilize" means the complete destruction of all microbial life, commonly achieved through the use of heat and/or pressure.
 - (d) "Wet disinfection container" means a tub or jar with a lid, filled with disinfectant and large enough for all items to be completely immersed.

- (e) "Infection control" means the process for reducing the risk of spreading disease causing pathogens.
- (2) Prior to opening a salon, the owner shall:
 - (a) Submit an application on forms prescribed by the Department of Business and Professional Regulation; and,
 - (b) Pay the required registration fee as outlined in the fee schedule in Rule 61G5-24.005, F.A.C.; and,
 - (c) Meet the safety and sanitary requirements as listed below and these requirements shall continue in full force and effect for the life of the salon:
 1. Ventilation and Cleanliness: Each salon shall be kept well ventilated. The walls, ceilings, furniture and equipment shall be kept clean and free from dust. Hair must not be allowed to accumulate on the floor of the salon. Hair must be deposited in a covered waste receptacle. Each salon which provides services for the extending or sculpturing of nails shall provide such services in a separate area which is adequately ventilated for the safe dispersion of all fumes resulting from the services.
 2. Toilet and Lavatory Facilities: Each salon shall provide – on the premises or in the same building as, and within 300 feet of, the salon – adequate toilet and lavatory facilities. To be adequate, such facilities shall have at least one toilet and one sink with running water. Such facilities shall be equipped with toilet tissue, soap dispenser with soap or other hand cleaning material, sanitary towels or other hand-drying device such as a wall-mounted electric blow dryer, and waste receptacle. Such facilities and all of the foregoing fixtures and components shall be kept clean, in good repair, well-lighted, and adequately ventilated to remove objectionable odors.
 3. A salon, or specialty salon may be located at a place of residence. Salon facilities must be separated from the living quarters by a permanent wall construction. A separate entrance shall be provided to allow entry to the salon other than from the living quarters. Toilet and lavatory facilities shall comply with subparagraph (c)2. above and shall have an entrance from the salon other than the living quarters.
 4. Animals: No animals or pets shall be allowed in a salon, with the exception of service animals and fish kept in closed aquariums.
 5. Shampoo Bowls: Each salon shall have shampoo bowls equipped with hot and cold running water. The shampoo bowls shall be located in the area where cosmetology services are being performed. A specialty salon that exclusively provides specialty services, as defined in Section 477.013(6), F.S., need not have a shampoo bowl, but must have a sink or lavatory equipped with hot and cold running water on the premises of the salon.
- (d) Comply with all local building and fire codes. These requirements shall continue in full force and effect for the life of the salon.
 3. Each salon shall comply with the following:
 - (a) Linens: Each salon shall keep clean linens in a closed, dustproof cabinet. All soiled linens must be kept in a closed receptacle. Soiled linens may be kept in open containers if entirely separated from the area in which cosmetology services are rendered to the public. A sanitary towel or neck strip shall be placed around the patron's neck to avoid direct contact of the shampoo cape with a patron's skin.
 - (b) Containers: Salons must use containers for waving lotions and other preparations of such type as will prevent contamination of the unused portion. All creams shall be removed from containers by spatulas.
 - (c) Disinfection: The use of a brush, comb or other article on more than one patron without being disinfected is prohibited. Each salon is required to have sufficient combs, brushes, and implements to allow for adequate disinfecting practices. Combs or other instruments shall not be carried in pockets.
 - (d) Disinfectants: All salons shall be equipped with and utilize disinfecting solutions with hospital level disinfectant or EPA approved disinfectant, sufficient to allow for disinfecting practices.

1. A wet disinfection container is any receptacle containing a disinfectant solution and large enough to allow for a complete immersion of the articles. A cover shall be provided.
 2. Disinfecting methods which are effective and approved for salons: First, clean articles with soap and water, completely immerse in a chemical solution that is hospital level or EPA approved disinfectant as follows:
 - a. Combs and brushes, remove hair first and immerse in hospital level or EPA approved disinfectant;
 - b. Metallic instrument, immerse in hospital level for EPA approved disinfectant;
 - c. Instruments with cutting edge, wipe with a hospital level or EPA approved disinfectant; or
 - d. Implements may be immersed in a hospital level or EPA approved disinfectant solution.
 - e. Shampoo bowls, facial beds, and neck rests, clean and disinfect between each use.
 3. For purposes of this rule, a "hospital level disinfectant or EPA approved disinfectant" shall mean the following:
 - a. For all combs, brushes, metallic instruments, instruments with a cutting edge, and implements that have not come into contact with blood or body fluids, a disinfectant that indicates on its label that it has been registered with the EPA as a hospital grade bacterial, virucidal and fungicidal disinfectant;
 - b. For all combs, brushes, metallic instruments with a cutting edge, and implements that have come into contact with blood or body fluids, a disinfectant that indicates on its label that it has been registered with the EPA as a disinfectant, in accordance with 29 C.F.R.1910.1030.
 4. All disinfectants shall be mixed and used according to the manufacturer's directions.
- (e) After cleaning and disinfecting, articles shall be stored in a clean, closed cabinet or container until used. Undisinfected articles such as pens, pencils, money, paper, mail, etc., shall not be kept in the same container or cabinet. For the purpose of recharging, rechargeable clippers may be stored in an area other than in a closed cabinet or container, provided such area is clean and provided the cutting edges of such clippers have been disinfected.
- (f) Ultra Violet Irradiation may be used to store articles and instruments after they have been cleansed and disinfected.
- (g) Pedicure Equipment Disinfection: The following cleaning and disinfection procedures must be used for any pedicure equipment that holds water, including sinks, bowls, basins, pipe-less spas, and whirlpool spas:
1. After each client, all pedicure units must be cleaned with a low-foaming soap or detergent with water to remove all visible debris, then disinfected with an EPA registered hospital grade bactericidal, fungicidal, virucidal, and pseudomonacidal disinfectant used according to manufacturers' instructions for at least ten (10) minutes. If the pipe-free foot spa has a foot plate, it should be removed and the area beneath it cleaned, rinsed, and wiped dry.
 2. At the end of each day of use, the following procedures shall be used:
 - a. All filter screens in whirlpool pedicure spas or basins for all types of foot spas must be disinfected. All visible debris in the screen and the inlet must be removed and cleaned with a low-foaming soap or detergent and water. For pipe-free systems, the jet components or foot plate must be removed and cleaned and any debris removed. The screen, jet, or foot plate must be completely immersed in an EPA registered, hospital grade bactericidal, fungicidal, virucidal, and pseudomonacidal disinfectant that is used according to manufacturer's instructions. The screen, jet, or foot plate must be replaced after disinfection is completed and the system is flushed with warm water and low-foaming soap for 5 minutes, rinsed, and drained.
 - b. After the above procedures are completed, the basin should be filled with clean water and the correct amount of EPA registered disinfectant. The solution must be circulated through foot spa system for 10 minutes and the unit then turned off. The solution should remain in the basin for at least 6 to 10 hours. Before using the equipment again, the basin system must be drained and flushed with clean water.
3. Once each week, subsequent to completing the required end-of-day cleaning procedures, the basin must be filled with a solution of water containing one teaspoon of 5.25% bleach for each gallon of water. The solution must be circulated through the spa system for 5 to 10 minutes and then the solution must sit in the basin for at least 6 hours. Before use, the system must be drained and flushed.
 4. A record or log book containing the dates and times of all pedicure cleaning and disinfection procedures must be documented and kept in the pedicure area by the salon and made available for review upon request by a consumer or a Department inspector.
- (3) No cosmetology or specialty salon shall be operated in the same licensed space allocation with any other business which adversely affects the sanitation of the salon, or in the same licensed space allocation with a school teaching cosmetology or a specialty licensed under Chapter 477, F.S., or in any other location, space, or environment which adversely affects the sanitation of the salon. In order to control the required space and maintain proper sanitation, where a salon adjoins such other business or school, or such other location, space or environment, there must be permanent walls separating the salon from the other business, school, location, space, or environment and there must be separate and distinctly marked entrances for each.
- (4) Evidence that the full or specialty salon contains a minimum of 100 square feet of floor space. No more than one (1) cosmetologist or specialist may be employed in a salon which has only the minimum floor space. An additional 50 square feet will be required for each additional specialist or cosmetologist employed.
- (5) Full and specialty salons, regardless of size and number of operators, shall meet all the sanitation requirements stated in this section.
- (6) For purposes of this rule, "permanent wall" means a vertical continuous structure of wood, plaster, masonry, or other similar building material, which is physically connected to a salon's floor and ceiling, and which serves to delineate and protect the salon.
- 61G5-20.004 Display of Documents.**
- (1) All holders of a cosmetology or specialty salon license shall display within their salons in a conspicuous place which is clearly visible to the general public upon entering the salon the following documents:
 - (a) The current salon license,
 - (b) A legible copy of the most recent inspection sheet for the salon.
 - (2) All holders of a cosmetology or specialty salon license shall require and ensure that all individuals engaged in the practice of cosmetology or specialty display at the individual's work station their current license or registration at all times when the individual is performing cosmetology or a specialty. The license or registration certificate on display shall be current and shall have attached a 2" by 2" photograph taken within the previous two years of the individual whose name appears on the certificate. The certificate with photograph attached shall be permanently laminated.
 - (3) All holders of a cosmetology or specialty salon license shall display at each footbath a copy of the Consumer Protection Notice regarding footbaths, sanitation, and safety. Copies of this notice, revised 10/15/07, and incorporated herein by reference, may be obtained from the Department of Business and Professional Regulation, 2601 Blair Stone Road, Tallahassee, FL 32399-0790, and the Call Center by calling (850)487-1395, or at http://www.myfloridalicense.com/dbpr/pro/cosmo/documents/cosmo_consumer_protection_flier_thepriceofbeauty.pdf.
- 61G5-20.007 Communicable Disease.**
- (1) No person engaged in the practice of cosmetology or a specialty in a salon shall proceed with any service to a person having a visible disease, pediculosis, or open sores suggesting a communicable disease, until such person furnishes a statement signed by a physician licensed to practice in the State of Florida stating that the disease or condition is not in an infectious, contagious or communicable stage.
 - (2) No cosmetologist or person registered to practice any specialty in Florida, who has a visible disease, pediculosis, or open sores suggesting a communicable disease, shall engage in the practice of cosmetology or any specialty, until such cosmetologist or registrant obtains a statement signed by a physician licensed to practice in

the State of Florida stating that the disease or condition is not in an infectious, contagious, or communicable stage.

61G5-20.008 Employment of Applicants for Licensure as a Cosmetologist Prior to Licensure; Employment of Applicants for Registration as a Specialist Prior to Registration.

- (1) Holders of a cosmetology salon license who wish to permit an applicant for licensure as a cosmetologist by examination to perform cosmetology services in their salon shall:
 - (a) Prior to permitting an applicant to perform cosmetology services in their salon, obtain from the applicant proof that they have passed all parts of the examination for licensure as a cosmetologist within the two years as provided by Rule 61G5-18.004, F.A.C.;
 - (b) Display in a conspicuous place at the cosmetology salon in which the applicant performs cosmetology services a copy of the cosmetology examination passing certificate(s).
- (2) Holders of a cosmetology or specialty salon license who wish to permit an applicant for registration as a specialist to perform specialty services in their salon pursuant to Rule 61G5-29.004, F.A.C., shall:
 - (a) Prior to permitting an applicant to perform any specialty services in their salon, obtain from the applicant a copy of the completed application for registration that includes proof of successful completion of the education requirements and payment of the applicable fees submitted to the Department by the applicant;
 - (b) Upon learning or in any way becoming aware that an applicant who is performing specialty services in their salon pursuant to Rule 61G5-29.004, F.A.C., has been notified that his or her application is incomplete, or has been determined by the Board to be not qualified for registration as a specialist, shall immediately cease to permit the applicant to further perform specialty services;
 - (c) Display in a conspicuous place at the cosmetology or specialty salon in which the applicant performs specialty services pursuant to Rule 61G5-29.004, F.A.C., a copy of the completed application for registration as a specialist submitted to the Department by the applicant.

61G5-20.010 Mobile Salons.

- (1) The operation of all mobile cosmetology salons shall meet and at all times remain in compliance with all local laws and ordinances regulating business establishments in all areas in which the mobile salon operates, with all applicable requirements of the Americans with Disabilities Act relating to accommodations for persons with disabilities, and with all applicable OSHA requirements.
- (2) Each mobile salon shall meet and at all times remain in compliance with the requirements of this rule, all licensure and operating requirements specified in Chapters 455 and 477, F.S., and all other rules of the Board and the Department which apply to cosmetology salons at fixed locations except to the extent those rules of the Board conflict with this rule.
- (3) To facilitate inspections by the Department:
 - (a) Prior to the beginning of each month, each mobile salon license holder shall file with the Board a written monthly itinerary which lists the locations where and the dates and hours when the mobile salon will be operating.

- (b) The salon name and salon license number shall be in lettering at least five inches in height and shall be visibly displayed and clearly legible on at least two exterior sides of each mobile salon.
 - (c) If a mobile salon is in a motor vehicle, the vehicle's identification number shall be included on the mobile salon's application for licensure and shall also be listed on the mobile salon's monthly itinerary required in paragraph (a) of this subsection.
 - (d) Each mobile salon shall have a telephone or other means of telecommunication by which it can be contacted by the Department personnel. The salon's telephone number shall be included on the mobile salon's application for licensure and shall also be listed on the mobile salon's monthly itinerary required in paragraph (a) of this subsection.
 - (e) Each salon shall be operated only at the times and places specified in its monthly itinerary.
 - (f) Each mobile salon license holder shall maintain a permanent business address in the inspection area of the local district office at which records of appointments, itineraries, license numbers of employees, and vehicle identification numbers of the license holder's mobile salon shall be kept and made available for verification purposes by Department personnel, and at which correspondence from the Department can be received. Post Office box or private mailbox addresses may not be used for these purposes.
- (4) Due to the inherent problems of providing water and sewage service to mobile salons, the following requirements shall apply:
 - (a) Each mobile salon shall be equipped with a functional restroom which includes a self-contained, flush chemical toilet with a holding tank. The restroom, shall also be in substantial compliance with the toilet and lavatory requirements specified in Rule 61G5-20.002, F.A.C.
 - (b) Each mobile salon shall have storage capacity for at least 35 gallons of clean water for each cosmetologist working in the mobile salon and a total storage capacity for waste water equal to or greater than the mobile salon's total capacity for clean water.
 - (c) Operation of a mobile salon shall promptly cease:
 1. When the mobile salon's clean water supply is depleted or so diminished that further cosmetology service cannot be completed;
 2. When the mobile salon's waste water storage capacity is reached;
 3. When the mobile salon's restroom is in need of servicing.
 - (d) No mobile salon shall operate or resume operation unless it has a sufficient amount of clean water as well as waste water capacity necessary for completing all cosmetology services undertaken and its restroom is functional.
 - (e) In disposing of sewage and waste water, each mobile salon shall comply with applicable state and local environmental and sanitation regulations.
 - (5) No cosmetology services shall be performed and no patrons shall remain within a mobile salon while it is in motion.
 - (6) Applicants for licensure of a mobile salon shall be subject to and shall pay the same fees which licensed salons at fixed locations are subject to.

Chapter 61G5-25 Licensure Status and Notice of Address Change

61G5-25.001 Active Status.

- (1) The department shall renew an active cosmetology license or specialty registration upon timely receipt of the completed application for status, the biennial renewal fee, and certification that the licensee or registrant has demonstrated participation in the continuing education required by Rule 61G5-32.001, F.A.C.
- (2) The term "completed application" for purposes of active status or inactive status shall mean either a completed renewal notice or a written request from the licensee or registrant accompanied by a statement affirming compliance with the applicable requirements for renewal.

61G5-25.002 Inactive Status; Reactivation.

- (1) Any licensee or registrant may elect at the time of license renewal to place the license or registration into inactive status by filing with the Board a completed application for inactive status as defined by Rule 61G5-25.001(2), F.A.C., and by paying the inactive status fee.
- (2) An inactive status licensee or registrant may change to active status at any time provided the licensee or registrant meets the continuing education requirements of Rule 61G5-32.001, F.A.C., pays the reactivation fee, and if the request to change licensure

status is made at any time other than at the beginning of a licensure cycle, pays the additional processing fee. However, a licensee or registrant whose license or registration has been in inactive status for more than two consecutive biennial licensure cycles shall be required to submit a statement affirming that the licensee or registrant has read within the last thirty (30) days and is familiar with the laws and rules for the practice of cosmetology in the State of Florida before the license or registration can be placed into active status.

- (3) Any inactive licensee or registrant who elects active status is not eligible to elect to return to inactive status until the next licensure renewal period.
- (4) A cosmetologist or specialist may not work with an inactive or delinquent license or registration.

61G5-25.005 Notice to the Department of Mailing Address and Place of Practice of Licensee.

- (1) It shall be the duty of each licensee or registrant to provide written notification to the Department of the licensee's or registrant's current mailing address and place of practice. For purposes of this rule, "place of practice" means the address of the physical

- location where the licensee or registrant practices cosmetology or a specialty.
- (2) Any time that the current mailing address or place of practice of any licensee or registrant changes, written notification of the change shall be provided to the Department within ninety (90) days of the change. Written notice shall be sent to the following address: Florida Board of Cosmetology, Department of Business and

Professional Regulation, 2601 Blair Stone Road, Tallahassee, Florida 32399-0790.

- (3) It shall be a violation of this rule for a licensee or registrant to fail to advise the Department within ninety (90) days of a change of mailing address. It shall not be a violation of this rule to fail to advise the Department of a change of one's place of practice within ninety (90) days.

Chapter 61G5-29 Specialty Licensing

61G5-29.001 Definitions.

- (1) "Specialty Registration" means a registration to practice one or more of the following specialties: manicuring/pedicuring/ nail extension, facials (skin care and hair removal).
- (2) "Certificate of Completion" means a certificate from one of the following:
- (a) A school licensed pursuant to Chapter 1005, F.S., or the equivalent licensing authority of another state.
 - (b) A specialty program within the public school system.
 - (c) A specialty division within the Cosmetology Division of the Florida School for the Deaf and the Blind, provided the training programs comply with minimum curriculum requirements established by the board.
- (3) "Facials" means:
- (a) The massaging or treating of the face, neck or scalp with or without the use of mechanical devices using oils, creams, lotions or other cosmetic products which are used to cleanse and condition the skin, to prevent or correct problems or conditions of the face, neck, and scalp and to color and beautify the face, neck and scalp or enhance their features; and,
 - (b) Skin care services for the body as defined in Section 477.013(13), F.S.; and, Facials shall be performed only by individuals licensed pursuant to Sections 477.019 and 477.0201, F.S., and performed in schools licensed pursuant to Chapter 1005, F.S., or salons licensed pursuant to Section 477.025, F.S.; and,
 - (c) Facial and skin care services consistent with those permitted to be performed by cosmetologists and full and facial specialists by Chapter 477, F.S., and the rules adopted by the board, and as further defined and set forth with specificity in Rule 61G5-18.00015, F.A.C.
- (4) "Cosmetic Demonstration" means the application or removal of cosmetic products for the purposes of demonstration of the cosmetic products as part of a sales or promotion program rendered without compensation for the service from the individual or individuals who are the recipients or audience of the demonstration.
- (5) "Cosmetic products" means any external preparation which is intended to cleanse, tone, color or beautify the face or neck, including but not limited to skin cleansers, astringents, skin fresheners, lipstick, eyeliner, eye shadow, foundation, rouge or cheek color, mascara, face powder or corrective stick.
- (6) "Simple Adhesive" as used in Section 477.013(6)(a), F.S., means a substance by which artificial nails (such as "press on nails") can be attached to and then easily detached from a patron with slight pressure only, without the application of any nail primer or solvents of any kind, and without removing the natural oils from or roughing of such patron's nails.

61G5-29.004 Supervised Specialty Practice Exception.

- (1) Following the submission of a complete application for registration as a specialist which included proof of the successful completion of all educational requirements for the specialty applied for and the payment of all applicable application and registration fees, and pending the issuance by the Department of a registration as

a specialist under Chapter 477, F.S., an applicant for registration as a specialist shall be eligible to perform specialty services in the specialty for which the applicant has applied for registration subject to the following conditions:

- (a) All specialty services to be performed by the applicant under this exception shall be performed under the supervision of a registered specialist. "Under the supervision of a registered specialist" shall mean that an individual who then holds a current, active Florida registration as a specialist in the same specialty for which the applicant has applied, or an individual who then holds a current, active Florida license as a cosmetologist shall be physically present at all times when the applicant is performing specialty services.
 - (b) All specialty services performed by the applicant under this exception shall be performed in a licensed cosmetology or specialty salon. All times during which the applicant is performing specialty services in the salon, the license for the cosmetology or specialty salon shall be in a current and active status.
- (2) Prior to beginning the performance of specialty services under this exception, all applicants shall provide to the cosmetology or specialty salon license holder or his or her representative a copy of the completed application for registration as a specialist submitted to the Department by the applicant.
- (3) Upon being notified by the Department that his or her application is incomplete, or that he or she has been determined to be not qualified for registration as a specialist, an applicant shall immediately inform the cosmetology or specialty salon license holder or his or her representative of the notification; and shall immediately cease performing specialty services under this exception until the applicant shall have corrected any deficiencies in their earlier application as noted by the Department, or shall have submitted a new application which demonstrates that the applicant is qualified for registration as a specialist, and shall have paid all applicable application and registration fees.

61G5-29.013 Registration Renewal Procedures.

- (1) All specialty registrations shall be valid for a period of two years or until the end of the biennial licensure renewal cycle in which they are first issued, whichever occurs first. The biennial licensure renewal cycle for all specialty registrations shall coincide with the biennial licensure renewal cycle used for the renewal of cosmetology licenses.
- (2) At the time of registration renewal, all specialty registrants shall pay all applicable renewal fees and charges as provided in Chapter 61G5-24, F.A.C. Prior to the expiration of their specialty registration, all specialty registrants shall complete all continuing education requirements as set forth in Rule 61G5- 32.001, F.A.C., including a Board approved HIV/AIDS training course as provided in Section 455.2228, F.S. All HIV/AIDS training courses shall comply with the requirements as set forth in Rule 61G5-18.011, F.A.C.
- (3) Spouses of members of the Armed Forces of the United States are exempted from all registration renewal provisions, but only in cases of absence from the state because of their spouses' duties with the Armed Forces.

Chapter 61G5-30 Disciplinary Guidelines

61G5-30.001 Disciplinary Guidelines.

- (1)) The Board shall act in accordance with the following guidelines when it finds the enumerated violations in disciplinary cases. The Board shall impose a penalty within the range of each applicable disciplinary violation set forth below unless the Board finds one or more aggravating or mitigating circumstances, in which case the Board may deviate from the guideline penalty. A penalty shall be imposed for each separate violation and/or offense. The penalty

range indicated is for a single offense. A second or subsequent offense refers to a violation in which prior action has been taken by the Department either in the form of a citation, as set forth in Section 455.224, F.S., and Rule 61G5-30.004, F.A.C., or as prior discipline before the Board. Refer to the statutory and rule citations for a full description of each violation.

(2) VIOLATION	PENALTY RANGE For first and subsequent offenses unless otherwise indicated.
<p>(a) A person without an active license or registration who engages in the practice of, or holds oneself out to practice, cosmetology or a specialty. (Section 477.0265(1)(a) or 477.029(1)(a), F.S.)</p>	<ol style="list-style-type: none"> 1. For a person who was never licensed or otherwise authorized to practice, or whose license or registration has been revoked, a fine of \$500. 2. For a licensee or registrant who fails to properly renew and continues to provide services, a fine of \$100 for every month or partial month during which the individual was delinquent, unlicensed, or unregistered, up to a maximum of \$500. A second delinquent offense shall include suspension for 60 days upon renewal, and a third offense shall include suspension for 90 days upon renewal, revocation, or denial of license. 3. For a person who provides services with a suspended license or registration, a fine of \$500. A second offense shall include a consecutive suspension for up to 90 days. A third offense shall include a consecutive suspension for up to one year and/or revocation.
<p>(b) Operating an unlicensed salon or a salon otherwise not duly licensed; salon operating without a license. (Section 477.0265(1)(b)1., 477.029(1)(b), or 477.025(1), F.S.)</p>	<ol style="list-style-type: none"> 1. For a salon that has never been licensed, or for which the salon license has been suspended or revoked, a fine of \$500. 2. For a salon in which the license which has become delinquent, a fine of \$100 for every month or partial month of delinquency during which the salon has operated, up to a maximum of \$500. 3. For a salon operating on a suspended license, a fine of \$500 and/or a consecutive suspension for up to 60 days. A second or subsequent violation shall include suspension for up to one year or revocation. 4. For a salon operating on a revoked license: A fine of \$500 and/or refusal to certify to the department an application for licensure.
<p>(c) A licensed salon or a person operating a salon that permits a person without a license or registration, unless exempt, to perform cosmetology or specialty services in the salon. (Section 477.0265(1)(b)2., F.S., or Rule 61G5-20.001, F.A.C.)</p>	<ol style="list-style-type: none"> 1. For a violation involving a person providing services who was never licensed or registered in Florida, or whose license or registration has been suspended or revoked, a fine of \$500. The second and subsequent offenses shall include salon suspension for up to 60 days or revocation. 2. For a violation involving a person providing services who failed to properly renew or whose exemption has terminated, a fine of \$100 for every month or partial month during which the violation took place, up to a maximum of \$500.
<p>(d) A salon that permits an employee without a valid, active license or registration to practice cosmetology or a specialty. (Section 477.0265(1)(c) or 477.029(1)(c), F.S.)</p>	<ol style="list-style-type: none"> 1. For employing a person who was never licensed or registered in Florida, whose license is suspended or revoked, or who is not exempt, a fine of \$500. A second offense shall include suspension for up to 60 days. A third offense shall include suspension for up to one year or revocation. 2. For employing a person who failed to properly renew or whose exemption has terminated, a fine of \$100 for every month or partial month during which the person was employed, up to a maximum of \$500. A second offense shall include suspension for up to 60 days. A third offense shall include suspension for up to one year or revocation.
<p>(e) A person or salon who obtains or attempts to obtain a license or registration for money, other than the required fee, or any other thing of value or by fraud, fraudulent misrepresentation, or the use of false or forged information. (Section 477.0265(1)(d), 477.028(1), 477.028(2), or 477.029(1)(e), F.S.)</p>	<p>A fine of \$500 and revocation of, or refusal to certify to the department an application for, a salon or cosmetology license or specialty registration.</p>
<p>(f) A person who uses or attempts to use a suspended or revoked cosmetology license or specialty registration to practice cosmetology or a specialty. (Section 477.0265(1)(e) or 477.029(1)(g), F.S.)</p>	<ol style="list-style-type: none"> 1. Suspended license: A fine of \$500 and/or a consecutive suspension for up to one additional year of a cosmetology license or specialty registration, and/or revocation for a third or subsequent offense. 2. Revoked license: A fine of \$500 and/or refusal to certify to the department an application for licensure to practice the same profession.
<p>(g) A person who advertises or implies that skin care services are related to massage therapy, except as allowed by statute. (Section 477.0265(1)(f), F.S.)</p>	<p>A fine of \$250 for the first offense; a fine of \$500 for subsequent offenses.</p>
<p>(h) Use or possess a product containing a liquid nail monomer containing any trace of methyl methacrylate (MMA). (Section 477.0265(1)(g), F.S.)</p>	<ol style="list-style-type: none"> 1. A fine of \$500 for the first salon offense and reinspection of the premises within two weeks of the issuance of the Final Order. For a second salon offenses, a fine of \$500 and suspension for up to 60 days with a reinspection of the premises prior to reinstatement of the license. For a third or subsequent salon offense, a fine of \$500 and suspension for up to 90 days with a reinspection of the premises prior to reinstatement of the license, and/or revocation. 2. A fine of \$500 for an individual offense.
<p>(i) Violate or refuse to comply with an Order of the Board or the Department. (Section 477.029(1)(i), F.S.)</p>	<p>A fine of \$500 and compliance within 30 days or within a time set by the Board.</p>

(2) VIOLATION	PENALTY RANGE For first and subsequent offenses unless otherwise indicated.
(j) A person or salon guilty of fraud, deceit, gross negligence, incompetency, or misconduct in the practice or instruction of cosmetology or a specialty, or in operation of the salon. (Section 477.028(1)(b) or 477.028(2)(b), F.S.)	<ol style="list-style-type: none"> 1. For Fraud or Deceit – A fine of \$500 and suspension for up to two years and/or revocation of the salon or cosmetology license or specialty registration, or refusal to certify to the department an application for licensure to practice the same profession. 2. For Gross Negligence – A fine of \$500 and suspension followed by supervised probation as determined by the Board, or revocation of the salon or cosmetology license, or specialty registration, or refusal to certify to the department an application for licensure to practice the same profession. 3. For Incompetency or Misconduct – For the first offense, a fine of \$250 to \$500 for the holder of a cosmetology license or specialty registration, and/or the owner of the salon, and the Board shall specify up to 6 hours of continuing education in addition to any other continuing education requirement. <p>For subsequent offenses, a fine of \$500 and suspension or revocation and/or refusal to certify to the department an application for licensure to practice the same profession.</p>
(k) A cosmetology or salon license or specialty registration holder is guilty of aiding, assisting, procuring, or advising any unlicensed person to practice as a cosmetologist. (Section 477.028(1)(c), F.S.)	A fine of \$500 for the first offense. A fine of \$500 and/or suspension for up to one year or revocation of salon license, cosmetology license, or specialty registration for a subsequent offense.
(l) Person who presents the license of another as his or her own license. (Section 477.029(1)(d), F.S.)	A fine of \$500 and a reprimand for the first offense. A fine of \$500 for subsequent offenses and/or suspension or revocation, or refusal to certify to the department an application for licensure.
(m) A person who impersonates any other licenseholder of like or different name. (Section 477.029(1)(f), F.S.)	A fine of \$500 and a six month suspension of any other license or registration held pursuant to Chapter 477, F.S., and/or refusal to certify to the department an application for licensure to practice the same profession.
(n) Failure to meet or maintain salon facility safety, sanitary, building code, or fire code requirements. (Paragraphs 61G5-20.002(2)(c), (d), F.A.C.)	A fine of \$100 to \$500 and compliance within 60 days with reinspection; suspension of salon license upon failure to timely comply with facility requirements.
(o) Failure to meet minimum salon requirements for cleanliness, disinfection procedures, and log book. (Subsections 61G5-20.002(3), (6) F.A.C.)	A fine of \$100 per violation for up to three violations. A fine of \$500 for four or more violations and suspension of the license pending successful reinspection prior to reinstatement of the license.
(p) Salon operated in the same licensed space allocation with any other business; lack of permanent wall separating salon. (Subsection 61G5-20.002(4), F.A.C.)	Suspension of salon license until compliant as evidenced by successful reinspection prior to reinstatement of the license.
(q) Failure of a full or specialty salon to provide adequate floor space for services. (Subsection 61G5-20.002(5), F.A.C.)	A fine of \$100 for each individual noncompliant service area up to a maximum of \$500 per inspection, with reinspection in two weeks; suspension until compliant after reinspection if not timely compliant.
(r) Person or salon violation of required display of licenses, inspection sheets, and/or consumer notices. (Rule 61G5-20.004, F.A.C.)	A fine of \$100 for each violation for the first offense; for subsequent offenses, a fine of \$250 for each violation up to a maximum of \$500.
(s) Practicing beyond the scope of a cosmetology license or specialty registration as set forth in Chapter 477, F.S. or the rules adopted thereto. (Section 455.227(1)(o), F.S.)	A fine of \$500 and/or suspension for up to six months for the first offense. For the second offense, a fine of \$500 and/or suspension for up to one year. For a third or subsequent offense, a fine of \$500 and suspension for one year and/or revocation of the license or registration under which the violation occurred.
(t) Being convicted or found guilty of, or entering a plea of guilty or nolo contendere to, regardless of adjudication, a crime in any jurisdiction which relates to the practice of, or the ability to practice, a licensee's profession. (Section 455.227(1)(c), F.S.)	A fine of \$500 and/or revocation for the first or second offense. For a subsequent offense, a fine of \$500 and/or suspension for up to six months of a salon or cosmetology license or specialist registration and/or revocation.
(u) Failing to report in writing to the board within 30 days after the licensee is convicted or found guilty of, or entered a plea of nolo contendere or guilty to, regardless of adjudication, a crime in any jurisdiction. (Section 455.227(1)(t), F.S.)	A fine of \$100 for the first offense. For a second failure to report, a fine of \$300. A fine of \$500 for each subsequent failure to report.
(v) Failing to report to the department any person who the licensee knows is in violation of the laws and rules of the department or the board. (Section 455.227(1)(i), F.S.)	A fine of \$500 for the first failure to report. For a second or subsequent failure to report, a fine of \$500 and/or suspension of a salon, cosmetology, or specialist license or registration for up to six months.

(2) VIOLATION	PENALTY RANGE For first and subsequent offenses unless otherwise indicated.
(w) Improperly interfering with an investigation or inspection authorized by statute, or with any disciplinary proceeding. (Section 455.227(1)(r), F.S.)	A fine of \$500 and/or suspension for up to six months for the first or second offense. For subsequent offenses including up to revocation.
(x) Violate or refuse to comply with any provision of Chapter 455, F.S., except as otherwise provided herein. (Section 477.029(1)(i), F.S.)	A fine of \$500 and/or suspension, revocation, or refusal to certify to the department for licensure.
(y) Violate or refuse to comply with any provision of Chapter 477, F.S., or a rule of the Board except as otherwise provided herein. (Section 477.029(1)(i), F.S.)	A fine of \$300 for the first violation. A fine of \$500 and/or suspension for up to 30 days for any subsequent violation. A fine of \$500 and/or suspension or revocation of license or registration for a third or subsequent violation.

- (3) Based upon consideration of the following factors, the Board may impose disciplinary action other than the penalties recommended above:
 - (a) The danger to the public;
 - (b) The length of time since date of violation;
 - (c) The number of complaints filed against the licensee;
 - (d) The length of time licensee or registrant has practiced;
 - (e) The actual damage, physical or otherwise, caused by the violation;
 - (f) The deterrent effect of the penalty imposed;
 - (g) The effect of the penalty upon the licensee's or registrant's livelihood;
 - (h) Any efforts for rehabilitation;
 - (i) The actual knowledge of the licensee or registrant pertaining to the violation;
 - (j) Attempts by licensee or registrant to correct or stop violations or refusal by licensee or registrant to correct or stop violations;
 - (k) Related violations against a licensee or registrant in another state including findings of guilt or innocence, penalties imposed and penalties served;
 - (l) Actual negligence of the licensee or registrant pertaining to any violations;
 - (m) Penalties imposed for related offenses under subsection (1), above;
 - (4) Penalties imposed by the Board pursuant to Rule 61G5-30.001, F.A.C., may be imposed in combination or individually but may not exceed the limitations enumerated below:
 - (a) Issuance of a reprimand or censure.
 - (b) Imposition of an administrative fine not to exceed \$500 for each count or separate offense.
 - (c) Placement on probation for a period of time and subject to such reasonable conditions as the Board may specify.
 - (d) Revocation or suspension of any license or registration issued pursuant to Chapter 477, F.S.
 - (e) Refusal to certify to the Department an applicant for licensure or registration.
 - (5) The provisions of subsections (1) through (5), above, shall not be construed so as to prohibit civil action or criminal prosecution as provided for in Sections 477.0265(2) or 477.031, F.S., and the provisions of subsections (1) through (5), above, shall not be construed so as to limit the ability of the Board to enter into binding stipulations with accused parties as per Section 120.57(3), F.S.
 - (6) In every case the Board imposes a monetary fine, it shall also suspend the Respondent's license(s). However, to enable the Respondent to pay the fine, the suspension shall be stayed for the time period specified in the Board's final order in accordance with Rule 61G5-17.016, F.A.C. If the fine is paid within that time period, the suspension shall not take effect; if the fine is not paid within that time period, then the stay shall expire and the suspension shall take effect. Thereafter, upon payment of the fine, the suspension shall be lifted.
- 61G5-30.004 Citations.**
- (1) Definitions. As used in this rule;
 - (a) "Citation" means an instrument which meets the requirements set forth in Section 455.224, F.S., and which is served upon a subject for the purpose of assessing a penalty in an amount established by this rule;
 - (b) "Subject" means the licensee, applicant, person, partnership, corporation, or other entity alleged to have committed a violation designated in this rule.
 - (2) In lieu of the disciplinary procedures contained in Section 455.225, F.S., the Department is hereby authorized to dispose of any violation designated herein by issuing a citation to the subject within six months after the filing of the complaint which is the basis for the citation.
 - (3) Citations shall be issued for the first offense violations only.
 - (4) The Board hereby designates the following as citation violations, which shall result in a penalty of fifty dollars (\$50.00):
 - (a) Except as otherwise provided herein, any violation of the safety, sanitary, or other salon requirements specified in Rule 61G5-20.002, F.A.C. – however, if it is an initial offense and there are no other violations, then the subject shall be given a Notice of Noncompliance;
 - (b) Practicing cosmetology or a specialty with an inactive or expired license for one month or part of a month;
 - (c) Operating a salon with a delinquent license for one month or part of a month;
 - (d) Employing a person to practice cosmetology or a specialty with an inactive or expired license for one month or part of a month.
 - (e) Unless otherwise permitted in Chapter 477, F.S., performing cosmetology services in a salon which does not have a license in violation of Section 477.0263(1), F.S.
 - (5) The Board hereby designates the following as citation violations, which shall result in a penalty of one hundred dollars (\$100.00):
 - (a) Transferring ownership or changing location of a salon without the approval of the Department pursuant to Rule 61G5-20.006, F.A.C., provided the transfer of ownership or change of location has not exceeded 90 days and the salon owner can provide proof that a completed application has been filed with the Department;
 - (b) Practicing cosmetology or a specialty with an inactive or expired license for more than one month but not more than two months;
 - (c) Operating a salon with a delinquent license for more than one month but not more than two months;
 - (d) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than one month but not more than two months;
 - (e) Two violations of the safety, sanitary, or other salon requirements specified in Rule 61G5-20.002, F.A.C.
 - (6) The Board hereby designates the following as citation violations, which shall result in a penalty of one hundred and fifty dollars (\$150.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than two months but not more than three months;
 - (b) Operating a salon with a delinquent license for more than two months but not more than three months;
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than two months but not more than three months.
 - (7) The Board hereby designates the following as citation violations, which shall result in a penalty of two hundred dollars (\$200.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than three months but not more than four months;
 - (b) Operating a salon with a delinquent license for more than three months but not more than four months;
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than three months but not more than four months;

- (8) The Board hereby designates the following as citation violations, which shall result in a penalty of two hundred and fifty dollars (\$250.00):
 - (a) Operating a salon without disinfecting solutions as required by paragraph 61G5-20.002(3)(d), F.A.C.;
 - (b) Three violations of the safety, sanitary, or other salon requirements specified in Rule 61G5-20.002, F.A.C.;
 - (c) Practicing cosmetology or a specialty with an inactive or expired license for more than four months but not more than five months;
 - (d) Operating a salon with a delinquent license for more than four months but not more than five months; and
 - (e) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than four months but not more than five months.
- (9) The Board hereby designates the following as citation violations, which shall result in a penalty of three hundred dollars (\$300.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than five months but not more than six months;
 - (b) Operating a salon with a delinquent license for more than five months but not more than six months;
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than five months but not more than six months; and
 - (d) Four violations of the safety, sanitary, or other salon requirements specified in Rule 61G5-20.002, F.A.C.
- (10) The Board hereby designates the following as citation violations, which shall result in a penalty of three hundred and fifty dollars (\$350.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than six months but not more than seven months;
 - (b) Operating a salon with a delinquent license for more than six months but not more than seven months; and
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than six months but not more than seven months.
- (11) The Board hereby designates the following as citation violations, which shall result in a penalty of four hundred dollars (\$400.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than seven months but not more than eight months;
 - (b) Operating a salon with a delinquent license for more than seven months but not more than eight months; and
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than seven months but not more than eight months.
- (12) The Board hereby designates the following as citation violations, which shall result in a penalty of four hundred and fifty dollars (\$450.00):
 - (a) Practicing cosmetology or a specialty with an inactive or expired license for more than eight months but not more than nine months;
 - (b) Operating a salon with a delinquent license for more than eight months but not more than nine months; and
 - (c) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than eight months but not more than nine months.
- (13) The Board hereby designates the following as citation violations, which shall result in a penalty of five hundred dollars (\$500.00):
 - (a) Practicing cosmetology or a specialty without a license;
 - (b) Operating a salon without a license;
 - (c) Employing a person to practice cosmetology or a specialty without a license;
 - (d) Practicing cosmetology or a specialty with an inactive or expired license for more than nine months but not more than twelve months;
 - (e) Operating a salon with a delinquent license for more than nine months but not more than twelve months; and
 - (f) Employing a person to practice cosmetology or a specialty with an inactive or expired license for more than nine months but not more than twelve months.

61G5-30.005 Mediation.

- (1) "Mediation" means a process whereby a mediator appointed by the department acts to encourage and facilitate resolution of a legally sufficient complaint. It is an informal and non adversarial process with the objective of assisting the parties to reach a mutually acceptable agreement.
- (2) The Board finds that mediation is an acceptable method of dispute resolution for the following violations as they are economic in nature or can be remedied by the licensee:
 - (a) Failure of the licensee to timely pay any assessed administrative fines or costs;
 - (b) Failure of the licensee to timely respond to a continuing education audit;
 - (c) Failure to submit change of address for a salon; and
 - (d) Failure to timely notify the department of the licensee's or registrant's change of mailing address or place of practice.
- (3) A "mediator" means a person who is certified in mediation by the Florida Bar, the Florida Supreme Court, or the Division of Administrative Hearings.

61G5-30.006 Notice of Non Compliance.

- (1) In accordance with Section 455.225(3), F.S., when a complaint is received, the agency may provide a licensee with a notice of non compliance for an initial offense of a minor violation. Failure of a licensee to take action in correcting the violation within 15 days after notice may result in the institution of regular disciplinary proceedings. "Minor violations" as used in Section 455.225(3), F.S., are defined as follows:
 - (a) Violations of Rule 61G5-20.004, F.A.C.
 - (b) Violations of subsection 61G5-18.011(1), F.A.C., in failing to maintain a copy of his or her certificate of course completion in instruction on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome.
 - (c) Violations of paragraph 61G5-20.008(2)(a), F.A.C., in failing to retain copies of an employee's high school diploma or G.E.D. equivalency certificate and cosmetology school diploma or certificate of completion.
 - (d) An initial offense and no other violations of Rule 61G5-20.002, F.A.C.
- (2) In accordance with Section 120.695, F.S., the agency shall issue a notice of non compliance as first enforcement action against a licensee for a minor violation of a rule. Pursuant to Section 120.695(2)(b), F.S., the Board designates the following rules for which a violation would be a minor violation of a rule for which a notice of non compliance is issued:
 - (a) Violations of Rule 61G5-20.004, F.A.C.
 - (b) Violations of subsection 61G5-18.011(1), F.A.C., in failing to maintain a copy of his or her certificate of course completion in instruction on Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome.
 - (c) Violations of paragraph 61G5-20.008(2)(a), F.A.C., in failing to retain copies of an employee's high school diploma or GED equivalency certificate and cosmetology school diploma or certificate of completion.
 - (d) An initial offense and no other violations of Rule 61G5-20.002, F.A.C.

Chapter 6: Environmental Safety: Hazardous Chemicals in the Salon Setting

(Satisfies Environmental Issues Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- Identify some of the more common hazardous chemicals found in common salon products and their hazardous effects.
- Locate information about the chemicals found in salon products and how to safely use them.
- Discuss best practices in chemical management with your coworkers.
- List three accident prevention strategies to reduce chemical exposure within the salon.
- Describe how to treat first-degree burns resulting from chemical exposure.

INTRODUCTION

In the salon industry, great efforts are often made to create an ambiance and environment that is pleasant, calming, and peaceful for clients. Many patrons visit salons just as much for the luxury of the "salon experience," as they do for the actual services. These accommodations can include special lighting, music, and other aesthetics designed to enhance the environment within the salon and help clients relax and feel pampered. However, just as much effort, if not more, must also be placed on other environmental factors that are not just pleasing or displeasing to the client, but potentially dangerous for both the clients and the staff.

In the salon setting, one of the most important environmental factors is the presence of chemicals and hazardous materials.

Multiple chemicals can be found within the salon setting, from the everyday products that are used on clients to the cleaning supplies. For example, products that are used in nail salons can contain chemicals that expose salon workers and patrons

to harmful vapors, dusts, or mists. If improperly used, these products can get on the skin or splash into eyes, and potentially be transferred onto food or cigarettes that are later ingested. If any of this happens, it can affect the health and safety of everyone involved.

The environmental impact of the many different chemicals that salon workers are exposed to every day is compounded when several different products are used at the same time or multiple treatments and services are provided, which is the typical scenario for the majority of salons. When these products are used day after day, in sizeable quantities or when there is poor ventilation, everyone within the salon, and especially salon staff, is at risk of exposure and has the potential to become ill. As exposure increases with long working hours that are characteristic of the salon industry, workers have the potential to become very ill, either immediately or as time passes and the environmental threats accumulate.

CONTROLLING CHEMICAL EXPOSURES

Fortunately, it is possible to control the level of chemical exposures for both salon workers and their clients. In order to do so, it is important to first identify and learn about the possible chemical threats within your particular salon environment. Once the chemicals that are present in your salon are identified, it is

then possible to determine conceivable risks along with ways to reduce exposure.

For example, some of the more common hazardous chemicals found in common salon products and their hazardous effects can be seen in the following chart:

Common Hazardous Chemicals in the Salon	
Nail Polish or Glue Remover Acetone, acetonitrile, butyl acetate, isopropyl acetate, etc.	Can cause headaches, dizziness, and irritation to the eyes, skin, nose, and throat; breathing problems; nausea; vomiting; weakness; and exhaustion. High levels of Ethyl Acetate can cause fainting.
Nail Polish Butyl acetate, dibutyl phthalate (DBP), Ethyl acetate; formaldehyde; isopropyl acetate; methacrylic acid, toluene, etc.	Can cause headaches, irritation to eyes, skin, nose, mouth, throat, and stomach; nausea; difficulty breathing (coughing, asthma-like attacks, and wheezing); allergic reactions, skin burns; and numbness. High levels of Ethyl Acetate can cause fainting and long-term exposures to high concentrations of DBP can cause other serious effects. Formaldehyde can cause cancer, and toluene can cause damage to the liver and kidneys and harm to unborn children during pregnancy.
Chemical hair treatments Formaldehyde	Difficulty breathing, including coughing, asthma-like attacks, and wheezing; allergic reactions; irritated eyes, skin, and throat. Formaldehyde can cause cancer.
Disinfectants Quaternary ammonium compounds	Can cause asthma; irritation to the skin and nose.

More information about the chemicals found in salon products and how to safely use them is located on product information, packaging, or printed Safety Data Sheets that are provided when the products are purchased. It is your responsibility to be familiar with the chemicals you are using and the safety precautions that are required, for both your own protection as well as the protection of salon clients and visitors. Thanks to regulations set forth in OSHA's Hazard Communication

Standard, product manufacturers must provide salon owners with Safety Data Sheets for every product used in the salon that may contain a hazardous chemical at 1% or more (or at 0.1% or more for carcinogenic chemicals) or that could be released into the air above limits set by OSHA or the American Conference of Governmental Industrial Hygienists (ACGIH). Each Safety Data Sheet lists both the precautions and health risks for the relevant products including: hazardous ingredients; exposure

One of the most commonly used chemicals in the salon setting is formaldehyde (also called formalin or methylene glycol). **The same chemical that is used in embalming fluid, formaldehyde is a preservation fluid that is recognized by the National Cancer Institute as a cancer causing agent.** It is present in most of the products you use every day, and is the base ingredient in many beauty products, including nail polishes, glues, chemical hair treatments, lotions, shampoos, cosmetics, and more. The majority of salons use - and store - a multitude of products that contain formaldehyde. This poses serious threats to the environment and personal health of everyone at the salon. **Not only can Formaldehyde cause cancer, but recent studies show that many salon products, such as hair straightening products, contain enough of this chemical to be hazardous to workers who use the produce once or more daily.** Most salon workers handle products containing formaldehyde multiple times throughout the day and are in the presence of coworkers doing the same, compounding this threat.

- **Formalin**
- **Methanal**
- Oxymethylene
- Urea
- 1,3-Dioxetane
- Quaternium 15
- Methylaldehyde
- Methylene Oxide
- Formic Aldehyde
- Oxomethane Formalin
- Phenol Formaldehyde

It is critical that every product in the salon is handled with care. Know what you are working with. If you are not sure about the chemical makeup and effects of any product, approach it with the utmost care, taking into consideration all of the safety and precaution tips and tools available to you.

TRIORTHOCRESYL PHOSPHATE			
(C ₆ H ₄) ₃ CH ₂ OPO=O	MW: 368.37	CAS: 78-30-8	RTCS: TD0350000
METHOD: SEST, Issue 1		EVALUATION: PARTIAL	Issue 1: 15 August 1984
		PROPERTIES:	
GBHA : 0.1 mg/ml ^a NOMEX : 0.1 mg/ml ^b (skin) ACCOR : 0.1 mg/ml (skin)		liquid melting point 11 °C; boiling point 410 °C @ 1.0 mm Hg; vapor pressure at 20 °C: upper density 12.7 (gm/l); flash point 210 °C (closed cup)	
SYNOPSIS: phosphoric acid, tri-n-octyl ester; phosphoric acid, tri-n-pentyl ester; phosphoric acid, tri-n-butyl ester; phosphoric acid, tri-isobutyl methyl ether; n-octyl phosphate; isobutyl phosphate; t-butyl phosphate; tri-n-octyl phosphate; tri-n-pentyl phosphate; tri-n-butyl phosphate; triisobutyl methyl ether phosphate; TPOP, TOTP, Phosphoric tri-C			
SAMPLING		MEASUREMENT	
SAMPLER: FILTER (0.3 µm MIXED CELLULOSE ESTER MEMBRANE)		TECHNIQUE: GC, FPD in phosphine mode	
FLOW RATE: 1 to 1 L/min		ANALYTE: inorganic phosphate	
VOL/MIN: 2 L @ 0.1 mg/m ³ ^a ANAL: route		EXTRACTION: 10 mL diethyl ether	
SHIPMENT: routine		INJECTION VOLUME: 5 µL	
SAMPLE STABILITY: not determined		CARRIER GAS: N ₂ , 50 mL/min	
BLANKS: 2 to 10 test blanks per set		DETECTOR: H ₂ , 70 mL/min Air, 150 mL/min	
		TEMPERATURES INJECTION: 250 °C - DETECTOR: 250 °C COLUMN: 250 °C	
ACCURACY		COLUMN: 0.8 x 6-ft ID stainless steel with 3% OV-17 on 100/120 mesh Supelcoport	
RANGE STUDIED: 20 to 100 µg/g ^a (100-L samples)/[°]		CALIBRATION: standard solutions of triorthocresyl phosphates in diethyl ether	
BIAS: - 1.0%		RANGE: 0.1 to 24 µg per sample	
OVERALL PRECISION (R_d): 0.008 [1] ACCURACY: ± 10.0%		ESTIMATED LOD: 0.01 µg per sample [1] PRECISION (R_d): 0.0250 [5]	
APPLICABILITY: The working range of this method is 0.002 to 2 mg/L for a LOD at sample size. This method may be adapted to other phosphates of relatively low volatility with appropriate changes in chromatographic conditions.			
INTERFERENCES: Any phosphine-containing compound that has the same retention time as the analyte is an interference. Triorthocresyl phosphate may be a minor component in a product containing numerous isomers of triorthocresyl phosphates. When dealing with such products, it must be verified that the chromatographic parameters employed result in separation of the triorthocresyl phosphates from the other tri-n-octyl phosphate isomers. A non-polar capillary column may also be used for better resolution.			
OTHER METHODS: This version Method 1259 [2]. The separation of any phosphate sources by capillary column GC has been investigated [1], 4. A GC/FID method has been reported that separates triorthocresyl phosphate, TPOP, in the presence of other various inorganic phosphates (TfPs) in edible oils [3]. GC/MS has been used to determine total TGP in water [5]. Flawors, add CLOVE [1, 4, 7], IMPLICIN [6], and IMPLUCIN (thermosensitive) [8] have been analyzed by gas analytical methods. IMPLUCIN had some reduction in the absence of other phosphorus compounds. Normal-phase (NP)/GC/MS has been used to determine [9] in edible oils [10]. NP/GC has been used to quantify low levels of TPOP in commercial TGP products [11].			

NIOSH Manual of Analytical Methods (MMAP), Fourth Edition, 5-104a

It is important to compile safety information about the chemicals and equipment used in your salon along with safe operating procedures. Ensure that all staff is fully trained on this information and any safety measures that could impact the work. Furthermore, anytime an accident does occur, all salon staff should be informed of the accident, the steps taken leading to the accident, and any lessons learned as a result.

ACCIDENT PREVENTION STRATEGIES

Response plans are important, but just as important are accident prevention strategies. To prevent exposure and protect staff and client health, employers and workers can take standard precautionary steps whenever they use hazardous products and chemicals.

Using safer product alternatives

Whenever feasible, use a safer product alternative instead of a product with known harmful chemical ingredients. You should not only be aware of the levels of hazardous chemicals in the products you use, but also make every attempt to use products with the least amount of hazardous chemicals in them. Today, there are many alternatives, such as “3-free” products: those products that do not use what is referred to as the “toxic trio” (toluene, formaldehyde, and dibutyl phthalate). It is also possible to buy “acid free” products, to ensure that there is no exposure to chemicals such as methacrylic acid. However, even when using products that claim to be less hazardous, be sure to read all manufacturers’ instructions and conduct adequate research on the safety and environmental impact of the product.

The United States Environmental Protection agency has made strides in helping salons and other consumers easily find safer products. They have implemented Safer Choice labels to identify quality performance products with safer chemical ingredients. Previously known as Design for the Environment or “DfE” label, today more than 2,000 products qualify to carry the Safer Choice label. These products range from cleaners to colorants, fragrances, and more and incorporate the Safer Choice Standard and Safe Chemical Ingredients Criteria that address a broad range of potential toxicological effects. Whenever possible, using these products can help to lessen the potential effects of the chemicals that are used in the salon and provide a safer substitution for clients and professionals.

Ensuring proper ventilation

The best way to reduce the level of hazardous materials and chemicals in the air is to ensure proper ventilation. Without proper ventilation, pollutants can accumulate to levels that can pose health and comfort problems. Make sure your salon’s ventilation and exhaust system is always on. In the case that there is no exhaust system, be sure that the heating and air condition is on during all work hours and consider installing exhaust fans near open doors or window to pull in fresh air and push out contaminated air. Ensure enough air is circulating to clear hazardous fumes from the air (six to ten fresh air changes

per hour), and whenever possible, let in fresh air through open doors and windows. For salons that use ventilated tables, it is important to ensure proper upkeep, such as changing out the charcoal filters once a month and cleaning the catch basins once a week. Ventilation can reduce exposure to hazardous chemicals by over 50%, so is well worth any extra effort, noise, or expense.

Identifying and labeling chemicals

Another accident prevention strategy to ensure environmental health within your salon is ensuring all chemicals are properly labelled and sealed. Even discarded products left in trash cans can evaporate and contaminate the air, so it is best to always use metal trash cans with tight, self-closing lids or place chemical-soiled products into a sealed bag before disposing them. Be sure to empty trashcans often and reduce waste by only using the amount of product you need to perform services.

When disposing of used chemicals, never pour them down the sink, toilet, or drains, or pour them onto cotton balls. Instead, follow the proper safety instructions for disposal. This will not only help keep everyone in the salon safe, but also reduces the risk for garbage and sanitation workers after the waste is removed from the salon.

Limiting chemical exposure

One of the most important accident prevent strategies when dealing with any chemical is to frequently wash your hands, especially before eating, drinking, applying cosmetics, and smoking, and never store food or drinks in your work area.

It is important to reduce contact between your hands and your skin and eyes whenever possible. In addition, wearing long-sleeved shirts and other protective clothing and equipment such as safety gloves and goggles can further reduce the risk of coming into contact with chemicals and hazardous materials. Immediately replace any damaged protective equipment and ensure that you cover and cuts, scrapes, or damaged skin. Any breaks or damage to the skin provides for quicker absorption of any chemicals or hazardous materials.

Limiting Chemical Exposure

- Use less toxic, safer, natural products.
- Use pumps instead of aerosol containers.
- Use products with low volatile organic compound content.
- Use non-toxic products for disinfecting and cleaning.

TREATING CHEMICAL BURNS

Despite the best accident prevention strategies, accidents still can and do occur. **In the salon setting, some of the most common accidents, or even skin allergies and sensitivities, can result in chemical burns.** Therefore, it is important to know the steps to take to treat them. It is important to administer first aid within the first few minutes following a chemical burn, as this can make a significant difference in the severity of the injury. Remove any clothing that is contaminated by the chemical. If the clothing adheres to the skin, cut or tear around the burned area. Also, be sure to remove any tight garments or jewelry in contact with the burned area, as these areas will begin to swell immediately and can make it harder to remove items as time passes. Pay close attention to the neck and throat if these areas are affected, as tight or constraining articles of clothing or jewelry can restrict the airways and hinder breathing.

Conclusion

Despite it being a relaxing and calming place, there are perils located in every salon. As a certified cosmetologist, it is your responsibility to educate yourself on these perils and techniques to mitigate dangers and respond appropriately when accidents occur. Your clients have the right to a safe and hazard-free salon environment, and your participation is required to ensure that this right is fulfilled. Your clients depend on you for their

Most chemical burns within the salon setting will be first-degree burns, meaning that they only involve the top layer of skin. These burns will be red, painful to the touch, and will show mild swelling. Applying a cool, wet compress or submerging in cool, clean water until the pain subsides can help to treat first-degree burns. Following this, cover the burned area with a sterile, non-adhesive bandage; but never apply ointments or butter to burns, as these can cause infection and increased damage to the area and overall health of the burned individual. First-degree burns generally heal without further treatment, but over-the-counter pain medication may be useful in relieving pain and inflammation. Seek emergency medical attention for more severe burns or anytime the burn victim is an infant or elderly.

cosmetic needs, be sure they can depend on you for their safety as well. You can play an active role in addressing the environmental issues and reducing environmental risk for both your clients and yourself.

Chapter 7: OSHA Responsibilities for the Salon

(Satisfies OSHA Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- Summarize the OSH Act mandate and discuss the purpose of OSHA laws and regulations.
- Locate and review Code of Federal Regulations (29 CFR) referring to workplace safety and health.
- Identify ergonomic hazards found within your workplace.
- Describe employer responsibilities mandated by OSHA.
- Discuss the OSHA Hazard Communication Standard.

OSHA



The Occupational Safety and Health Administration (OSHA) sets laws and regulations to guide workplace health and safety standards. Their mission is to assure safe and healthful workplaces by setting and enforcing standards and providing training, outreach, education, and assistance.

All employers are required to comply with OSHA standards that are applicable to their industry and comply with the General Duty Clause of the Occupational Safety Health (OSH) Act.

The OSH Act mandates that employers must maintain a workplace that is free of serious recognized hazards.

OSHA was created by Congress under the Occupational Safety and Health Act, signed by President Richard M. Nixon, on December 29, 1970. Since its establishment in 1971, workplace fatalities have been cut by 62%, and occupational injury and illness rates have declined 40%.

Importance of the OSH Act

According to OSHA, providing workers with a safe workplace is central to their ability to enjoy health, security, and the opportunity to achieve the American dream. Addressing safety and health issues in the workplace also saves the employer money and adds value to the business. Recent estimates place the business costs associated with occupational injuries at close to \$170 billion – expenditures that come straight out of company profits.

When workers stay whole and healthy, the direct-cost savings to businesses include:

- ✓ Lower workers' compensation insurance costs.
- ✓ Reduced medical expenditures.
- ✓ Smaller expenditures for return-to-work programs.
- ✓ Fewer faulty products.
- ✓ Lower costs for job accommodations for injured workers.
- ✓ Less money spent for overtime benefits.

Safety and health also make big reductions in indirect costs, due to:

- ✓ Increased productivity.
- ✓ Higher quality products.
- ✓ Increased morale.

- ✓ Better labor/management relations.
- ✓ Reduced turnover.
- ✓ Better use of human resources.

Over 95% of OSHA cases reported are preventable injuries.

However, the cost of non-compliance with OSHA regulations is immeasurable:

- 4,679 fatal, yet preventable work injuries were reported to the Census of Fatal Occupational Injuries in 2014. 793 of these were linked to falls, slips, and trips.
- From October 4, 2015 to March 3, 2016, 393 catastrophes resulted in death.
- In 2014 alone, there were nearly 3.0 million nonfatal workplace injuries and illnesses reported by private industry employers.

These numbers represent the tragedy associated with non-compliance to OSHA rules and regulations. While the data shows that reported injuries and illnesses in healthcare and social assistance have declined, this is still an alarming number and indicates the importance of OSHA compliance in every organization.

RECOGNIZED HAZARDS AND PENALTIES FOR THE SALON AND OTHER INDUSTRIES

An excess of 375,000 nail technicians work every day in salons across the nation and are exposed to multiple potential hazards in the workplace. These hazards can include chemical exposure from various salon products including glues, polishes, dyes, and chemical hair treatments, among others, and can result in a host of negative health effects, including respiratory illness, liver disease, reproductive dysfunction, skin disorders, and even cancer. However, there are other dangers that are present in the salon that can be just as serious and, in some cases, deadly. These include a high risk for infection from blood borne pathogens, communicable diseases from skin and nails, and bodily injury from repetitive motions, awkward positions, and slips and falls. Therefore, salon owners and managers must be diligent in their safety regulation. Fortunately, OSHA provides standards and responsibilities to help salon owners navigate thorough potential hazards and address them in a way that can prevent most injuries and illnesses.

In fact, OSHA employer responsibilities are important not only for managing cosmetologists, but for any salon worker. **OSH law edicts employers must provide a safe workplace and dictates employer responsibilities that are legally enforceable in Florida.** There are serious penalties for employers that do not maintain these OSHA standards. Aside being detrimental to an employee's safety and health, violations can be detrimental to any salon and can result in heavy fines and even salon closures. **Employers have a responsibility to provide a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm.** There were multiple infractions in 2015 costing organizations penalties above \$40,000. While these serious Florida violations were fortunately not discovered within the salon setting, they do provide precautionary information that can indeed apply to your salon. For example:

- \$71,000 fined to the U.S. Postal Service in Pensacola for working conditions in which employees were exposed to excessive heat while delivering the mail.
- \$140,000 fined to Jasper Contractors, Inc. in Jacksonville for failing to provide eye and face protection.
- \$60,500 fined to Dollar Tree Stores, Inc. for issues with maintenance, safeguards, and operational features for exit routes; exposure to compressed gases; handling of materials, and other infractions.
- \$91,000 fined to Indianhead Exploration, LLC for infractions involving permit-required confined spaces, the control of hazardous energy, mechanical power-transmission, hazard communication, respiratory protection, and other general requirements.

Important OSHA Regulations for Salons

It is important for salon owners and managers to be familiar with OSHA regulations and standards. The following are some of the major OSHA Regulations (Standards – 29 CFR) essential for safety in the salon setting. Familiarize yourself with each of these standards (and others), which are available through OSHA and the [osha.gov](https://www.osha.gov) website.

https://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910

Standard Number 1910

- Subpart D – Walking-Working Surfaces
- Subpart E – Means of Egress (Exit Routes, Emergency Action Plans, and Fire Prevention Plans)
- Subpart G – Occupational Health and Environmental Controls
 - 1910.94 – Ventilation
 - 1910.95 – Occupational noise exposure
- Subpart H – Hazardous Materials
 - 1910.106 – Flammable liquids
 - 1910.119 – Process safety management of highly hazardous chemicals
 - 1910.119 App A – List of Highly Hazardous Chemicals, Toxics, and Reactives)
- Subpart I – Personal Protective Equipment
- Subpart J – General Environmental Controls
- Subpart K – Medical and FirstAid
- Subpart L – Fire Protection
- Subpart N – Materials Handling and Storage
- Subpart O – Machinery and Machine Guarding
- Subpart P – Hand and Portable Powered Tools and Other Hand- Held Equipment
- Subpart Z – Toxic and Hazardous Substances

**SAFETY IS YOUR RESPONSIBILITY!
PROTECT YOURSELF AND YOUR SALON**

OSHA AND THE SALON

OSHA has not formulated any rules and regulations that deal specifically with the cosmetology industry. While no specific rules exist, cosmetologists are expected to abide by basic rules contained within the Code of Federal Regulations (29 CFR) which refer to workplace safety and health. These rules describe the responsibilities of employers and employees when handling hazardous chemicals, as well as the use of personal protective devices (PPE), proper ventilation, prevention from overexposure to dust, and overall health and safety plans. All regulations for general industry Standards – 29 CFR, can be found at the following web address:

https://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910.

OSHA provides guidelines to help keep workers safe in various settings, including the salon. In many cases, they provide information on good work practices that should be used to protect workers and guests from chemical hazards, muscle

strains, and diseases. Often overlooked but very common in the salon setting are the hazards that can cause aches and pains that can eventually result in long-term damage. For instance, aches and pains can result from leaning over a worktable too long – a common concern for cosmetologists working in nail salons – or repetitive movements like cutting hair, applying cosmetics, and resting hands, wrists, and forearms and/or elbows against hard surfaces or sharp edges of worktables. **These types of hazards are referred to as ergonomic or musculoskeletal hazards, and they impact the functioning and health of muscles and bones.**

In order to reduce these risks, salon workers can practice ergonomics, or the science of fitting the task to the worker. This can make cosmetology techniques more comfortable and more efficient and can take the strain out of some procedures. By utilizing good ergonomic practices, you can reduce stress on your body and prevent ailments resulting from improper positioning of your body. Some good ergonomic practices are included in the following chart.

Good Ergonomic Practices for Reducing Hazards

When Sitting...	When Standing...
Use an adjustable chair and pay attention to your posture at all times. Be sure to sit with your back supported and feet flat on the floor. If necessary, use a footrest to ensure your feet reach the floor.	Raise your guest to a level that is comfortable to reach so you do not place strain on your extremities or bend your back to reach them. If working with hands or feet, you can also use a cushion to raise their extremities and maintain proper posture.
If working at a table, place a towel or foam pad on the edge in order to cushion the impact to your wrists, elbows, and hands.	Adjust the lighting or use safety glasses with magnifying lenses so that you do not have to strain your eyes or bend over to reach your guest.
Never sit with the back of your knees flush to your chair. This will improve the blood flow to your legs.	Always wear comfortable shoes that provide arch support.

In General...
Changing your position can be helpful to ward off strains. Take frequent breaks or switch between repetitive tasks whenever possible. You can do gentle stretching exercises in between clients to relieve stress on muscles.
Pace yourself. Working too fast can cause your body to become tense and result in muscle pains.
Keep your arms and shoulders loose. Tilting your head to each side for a few seconds at a time can help to relieve neck stress and tension.
Organize your work area in a way that makes equipment and materials easy to access without causing unnecessary bending, reaching, or twisting.
Pay attention to the way you move and position your body. For example, when lifting any item of weight, make sure to support the weight with your legs, rather than your back. Try to keep your wrists straight, rather than repetitive bending.
No matter what task you are doing, always listen to your body. If a technique is causing you pain, try to find a way to adjust your posture or positioning to more easily accomplish the task.

While you can play a part in your own health within the salon setting, employers must also take a role in providing you with a safe operating environment. There are key responsibilities that employers are responsible for that can make a difference for everyone working within or visiting the salon.

The federal government requires that product manufacturers make the safety data sheets (SDS) available to their employees and customers.

Safety Data Sheets for every hazardous material must be readily accessible at all times within the salon. In addition, hazardous materials should be clearly labeled, and employers should use posters, signs, or some other indication (such as color codes) to warn employees of dangers within the salon. Employers are also responsible to develop and implement written hazard communication programs. These should include communication and training on hazards present in the salon and safety precautions for preventing exposures. Certain chemicals and techniques will also require OSHA regulated medical examinations and training, so check with your supervisor or the OSHA standards before handling any hazardous materials.

In worst case scenarios resulting in work-related fatalities, reporting must be provided to the nearest OSHA office within 8 hours of the instance. For inpatient hospitalization, amputations, and losses of an eye, reporting must be complete within 24 hours. Always keep records of any work-related injuries or illnesses. This is a requirement for any salon that employs more than ten employees, but is also a good practice for any salon, despite the size or headcount. It is also important to provide employees (as well as former employees and their representatives) access to the Work-Related Injuries and Illnesses Log, for full disclosure of potential injuries and hazards. In addition, all employees should also be provided access to their medical records and exposure records.

When violations have been identified and addressed by OSHA, employers have the responsibility to notify employees of the citation at or near the involved work area. These notifications are required to remain posted until the violation is corrected or for a period of three working days, whichever is longer. OSHA will provide guidance on required deadlines for correcting violations.

TRIORTHOCRESYL PHOSPHATE					
$(C_6H_4)_3CO_2P=O$	MW: 368.37	CAS: 76-30-8	RTCC: TD0350000		
METHOD: BEST: Issue 1	EVALUATION: PARTIAL	Issue 1: 2004 1994			
OSHA: 0.1 mg/m ³ NIOSH: 0.1 mg/m ³ (skin) ACGIH: 0.1 mg/m ³ (skin)	PROPERTIES: liquid, melting point 11 °C; boiling point 416 °C @ 20 mmHg, VP very low at 20 °C; vapor density 12.7 (air=1); flash point 210 °C (closed cup)				
SYNTONES: phosphoric acid, tri-n-octyl ester, phosphoric acid, tri-n-octyl ester, phosphoric acid, tri-2-ethyl ester, phosphoric acid, tri-2-methylphenyl ester, tri-n-octyl phosphite, a triphenylphosphite, triphenylphosphite, tri-n-octyl phosphite, tri-2-methylphenyl phosphite, TCEP, TCEP, Phospha 17C2					
SAMPLING	MEASUREMENT				
SAMPLER: FILTER: 0.3 µm MIXED CELLULOSE ESTER MEMBRANE	TECHNIQUE: GC, FPD in phosphine mode				
FLOW RATE: 1 to 3 L/min	ANALYTE: triorthocresyl phosphates				
VOL. INJ.: 2 µL @ 0.1 mg/mL INJ. AIR: 100 %	EXTRACTION 10 mL diethyl ether				
SIPHONET: none	INJECTION VOLUME: 0.5 µL				
SAMPLE STABILITY: not determined	CARRIER GAS: N ₂ , 50 mL/min				
BLANKS: 2 to 10 test blanks per set	DETECTOR: H ₂ , 100 mL/min Air: 100 mL/min				
	TEMPERATURES INJECTION: 250 °C COLUMN: 250 °C				
	COLUMN: 0.8 x 6-ft ID stainless steel, with 3% OV-17 on 100/120 mesh Supelcoport				
	CALIBRATION: standard solutions of triorthocresyl phosphates in diethyl ether				
	RANGE: 0.5 to 25 µg per sample				
	ESTIMATED LOD: 0.07 µg per sample [1]				
	PRECISION (RSD): 0.025% [1]				
APPLICABILITY: The working range of this method is 0.002 to 2 mg/L in air. For a 100-L air sample, this method may be adapted to other phosphates of varying low volatility with appropriate changes in chromatographic conditions.					
INTERFERENCES: Any phosphorus-containing compound that has the same retention time as the analyte is an interference. Triorthocresyl phosphates may be a minor component in a product containing numerous isomeric triorthocresyl phosphates. When dealing with such products, it must be verified that the chromatographic parameters employed result in separation of the triorthocresyl phosphates (some from the other isomeric phosphates). A non-polar capillary column may be used for better resolution.					
OTHER METHODS: This method follows Method 1209 (26). The separation of any triorthocresyl phosphates by capillary-column GC has been investigated [14]. A GC/MS method has been reported that determines triorthocresyl phosphates (TCEP) in the presence of other volatile triorthocresyl phosphates (TOEP) in solute mix [5]. GC/MS has been used to determine both TCEP in water [5], Phospha 17C2 in air (PP1, LC/UV) [7], RPLC/UV [26], and RPLC/TOC (acidic detection) [26]. It has been shown that the useful analytical range for TCEP, but not for all evaluated in the absence of other TCEP isomers. Normal-phase HPLC with a refractive index detector is used to identify [1] in solute mix [26]. NPLC has been used to quantify low levels of TCEP in commercial TCEP samples [15].					

NIOSH Manual of Analytical Methods (NMAM), Fourth Edition, 5/10/04

A best practice in salons is the adoption of an Injury and Illness Prevention Program. This can help employers to limit injury and illness by using standard interventions, which can significantly impact the occurrence of workplace injuries and manage safety within the salon. There are examples of programs and systems for your reference on OSHA's Injury and Illness Prevention Programs topics page.

- Management/leadership.
- Worker participation.
- Hazard identification.
- Hazard prevention and control.
- Education and training.
- Program evaluation and improvement.

Discrimination

It is also extremely important to note that it is a direct violation of OSHA standards to discriminate in any way against employees who report concerns to OSHA. Every employee has the legal right to be protected from retaliation and free from adverse action when reporting concerns to OSHA. The OSH Act guarantees that employees who complain to their employer, OSHA, or other government agencies in regard to hazardous, unsafe, or unhealthy working conditions cannot be transferred, denied a raise, have hours reduced, be fired, or punished in any other way based on the fact that they exercised their OSHA rights. These protections are outlined under OSHA's Whistleblower Protection. Employees are able to file complaints regarding retaliation directly to OSHA by either visiting, calling/faxing, or filing online.

The OSH Act also allows for limited rights to refuse performing a job due to hazardous conditions. You have the right to refuse a job under the following circumstances:

- 1) You reasonably believe the act puts you at risk for death or serious injury because the act is clearly hazardous;
- 2) You have attempted (if possible) to have your employer rectify the hazardous condition and there is no alternative way to complete the job safely; and
- 3) The situation is urgent enough that there is no time allowed to prevent hazard through calling OSHA or other regulatory channels.

There are a number of laws that protect your rights against retaliation for reporting violations of environmental laws related to drinking water and/or pollution, toxic substances, air quality/pollution, disposing of solid waste, and more.

HAZARD COMMUNICATION STANDARD

Of extreme importance to the salon industry are OSHA's requirements and standards on Hazard Communication. Working with cosmetology presents multiple opportunities to come into contact with chemicals and hazardous materials, and the importance of communication regarding hazard can prevent serious injury and even death. **Information about the identities and hazards of all chemicals found within the workplace is required to be available and understandable to employees.** This is essential in ensuring chemical safety within the workplace and is a fully enforceable requirement. Violations of this requirement can result in extreme fines paired with required corrective action. OSHA's Hazard Communication Standard mandates that these informative materials are maintained and disseminated throughout every salon.

The manufacturers of chemicals used in the salon are required to include safety and hazard information with their products. Each product should come with a Safety Data Sheet. It is the responsibility of the salon to ensure that all employees understand this provided information and have access to it at all times. Never remove a label from any chemical product or store it in an unlabeled container. This can be extremely

hazardous to anyone who works in or visits the salon. **Salon managers must ensure all employees are trained in how to properly handle hazardous materials.** Never use chemicals or hazardous materials without first being trained on their safe use. If you are unsure, ask your salon manager and access the Safety Data Sheets and labels for more information on safe use and precautionary actions.

There have been recent, major changes to the Hazard Communication Standard that impact cosmetology professionals:

- **Hazard Classification:** Must provide specific criteria for classifying health and physical hazards and classification of mixtures.
- **Labels:** Labels from manufactures must include harmonized signal word, pictogram, and hazard statement as well as precautionary statements.
- **Safety Data Sheets:** Must have a specified 16-section format.
- **Information and Training:** Employees must be trained on the new label elements and safety data sheets to ensure awareness and understanding.

CONTACTING YOUR OSHA AREA OFFICE

Due to the extent and complexity of OSHA rules and regulations, it is important to know how to clarify any questions that you may have regarding compliance in your place of employment. In Florida, there are three OSHA Area Offices that

are available to you for any questions or concerns. The following chart provides the contact information for each of the three Florida OSHA Offices. Contact the office nearest you.

Fort Lauderdale	Jacksonville	Tampa
1000 South Pine Island Road Suite 100 Ft. Lauderdale, FL 33324	Ribault Building, Suite 227 1851 Executive Center Drive Jacksonville, FL 32207	5807 Breckenridge Parkway Suite A Tampa, FL 33610-4249
(954) 424-0242 (954) 424-3073 FAX	(904) 232-2895 (904) 232-1294 FAX	(813) 626-1177 (813) 626-7015 FAX
Toll-Free Numbers: 1-800-321-OSHA (6742); TTY 1-877-889-5627.		

Conclusion

OSHA laws and regulations are in place for a reason: to keep you safe. Staying on top of OSHA requirements and responsibilities is essential and cannot be taken lightly. In order to protect yourself and everyone in the salon and avoid penalties, always follow OSHA stipulated guidelines and protocols.

Chapter 8: A Matter of Life or Death: Sanitation and Sterilization in the Salon Industry

(Satisfies Sanitation and Sterilization Requirement)

Learning objectives

Given the course materials, the learner will be able to:

- Discuss the importance of sanitization and sterilization in the cosmetology industry.
- Describe recent events that require your knowledge of sanitation techniques.
- Describe the difference between "sanitation" and "sterilization" and the significance of those differences.
- Summarize the purpose of an autoclave and provide details on how to use it.

INTRODUCTION

Sanitation and sterilization is serious business

In the entertainment industry, characters that are obsessively clean are often portrayed as amusing. Adrian Monk (played by actor Tony Shaloub), the quirky detective in the television show "Monk," maintains that germs are at the top of his list of 312 phobias. In addition to germs, Monk has an overpowering fear of door handles, anything dirty, and always carries sanitizing wipes with him wherever he goes.

Although we find these personalities in television and movies funny, germs and infections are serious concerns in the cosmetology industry and can be a matter of life or death.

Cosmetologists must approach the cleanliness of their salons with an obsessive ferocity - for the safety of both themselves and their clients.

Health risks and the beauty industry

The health risks associated with the beauty industry include viral infections such as HIV, hepatitis B and C, and herpes.

Bacterial infections, such as staphylococcus, streptococcus, and pseudomonas are also of great concern, as well as fungal infections (e.g., athlete's foot, nail fungus, and yeast). Reactions to nail, hair, and facial products can cause devastating effects such as chemical burns, loss of hair or nails, eyelid dermatitis, and eczema. Furthermore, toxicity from acrylic, lacquer, and hair product fumes and the misuse of chemical peeling solutions can cause a whole host of respiratory problems and diseases.

Hepatitis B & C

Among the diseases that have the potential to be transmitted at a hair or nail salon, hepatitis B and C pose the biggest threat to public health.

One out of every three people worldwide has been infected with hepatitis B. 240 million people have become chronically infected; in other words, they are not able to get rid of the virus. In the United States, over 12 million people have hepatitis B and it is estimated that 40,000 people become infected each year.

Unlike hepatitis B, there is no vaccination for hepatitis C. It currently affects an estimated 3.5 million people in the United States. Approximately 75-85% of people who become infected with hepatitis C develop a chronic infection. Hepatitis B can be infectious for at least a week on surfaces commonplace to salons, such as headrests, chairs, and tools or instruments. Prior to 1990, hepatitis C was commonly transmitted through blood transfusions; there is now evidence that it can be transmitted through personal care items that may have come in contact with another person's blood, such as razors, nail files, and barber's scissors, among other items commonplace in a salon.

Among the diseases that have the potential to be transmitted at a hair or nail salon, hepatitis B and C pose the biggest threat to public health.

Unlike hepatitis B, there is no vaccination for hepatitis C.

What's the worst that can happen?

Case histories are littered with "worst-case scenarios" and should be warnings to cosmetologists that bad things can – and will – happen if equipment and tools that are used daily on clients are not properly cleaned and maintained. Equally important are safety measures such as ventilation and proper training about chemical use and the appropriate use of personal protective equipment (PPE). Due to the sheer nature of people touching people in the salon atmosphere, killer organisms can occur in your facility if you are not informed and/or not following the proper procedures.

Before AIDS and hepatitis became household names, the cosmetology and barbering industry were under little scrutiny as risks for spreading infectious diseases. However, since the 1980's, an epidemic of blood-borne diseases has forced a reexamination of the beauty industry.

Herpes

A woman in Colorado was awarded \$3.1 million dollars after it was found that she contracted herpes from a manicure. Kristina Preston had her first professional manicure in 1998 at a salon in Aurora, Colorado. Preston reported to ABC News that after she had left the salon, the cuticles of her thumbs felt like they were burning. "Two days later they were swollen and tender," Preston said. "I knew something was wrong. I started developing blisters, which spread to all 10 fingers."

Blood tests showed that she had herpes and bacterial infections. A second test confirmed these results. Preston also reported that she started suffering with chronic fatigue, ear infections, and strep throat among other ailments following her manicure.

This is just one example of why it is so important to properly sanitize and sterilize within the salon. "Since there is an inherent risk that customers may accidentally be cut during a routine hair or nail appointment, it makes sense to use sterile instruments," says Dr. Shelley A. Sekula-Gibbs, MD, a dermatologist practicing in Houston, Texas. "Nail clippers, acrylic nail drills, cuticle scissors, callus paring blades, and reusable razors and blades all have the potential to transmit infectious disease if they are not properly sterilized. "Unfortunately," continues Sekula-Gibbs, "we are finding that not all salons are following this simple rule of thumb. As more and more consumers frequent hair and nail salons each year, the risk of becoming infected with hepatitis, HIV, and other transmittable diseases increases as well."

A similar case was reported in a New York salon. Attorney Bruce Egert recounted his client's experience which resulted in an occurrence of herpes transmission. The client, who visited the salon for an eyebrow waxing, maintained that the attendant applied the wax with "a terribly infected stick." Egert explained to the *New York Post* that the stick had been previously "used on somebody else in a rather delicate part of her body." According to the *Post*, an ophthalmologist found that the client was suffering from herpetic keratoconjunctivitis in her eyes.

Northern California bacterial outbreak

In optimal conditions, certain bacteria can thrive and divide every twenty minutes. Optimal conditions include moisture, oxygen, and warm temperatures. These "perfect storm" environmental factors created the ideal setting for an outbreak of mycobacterial furunculosis in a California nail salon's footbaths.

In the fall of 2000, a physician in Northern California reported a group of female patients who reported developing boils on their lower legs. Over one hundred customers reported pustules that were slow to respond to antibiotics and which left the victims scarred. The patients reported small bumps that turned into purple pus-filled boils that "erupted discharge, seemed to heal, then formed again and spread to other areas."

Strong antibiotics were prescribed and patients were required to continue the treatments for six months. The treatment was "no picnic" said Betsy McCarty, Chief of Public Health for the Santa Cruz County Health Department. The antibiotics resulted in yeast infections, diarrhea, and nausea for the patients.

Upon investigation of the nail salon, large amounts of skin debris and hair were found inside the inlet suction screens of every whirlpool footbath examined. "A bacterial soup was back there behind the screens," said McCarty. "There was enough hair to make a toupee." In response to the claims, the salon owner reported that the areas behind the screens were never cleaned. Cultures from all ten footbaths at this particular nail salon produced fortuitum. In addition, *m. mucogenicum*, *m. smegmatis*, unidentified mycobacteria, and nocardia organisms were also found in at least five of the footbaths.

Unfortunately, this is more common than one might think. California investigators reported they found similar bacteria at 16-18 salons they checked. Investigators from 20/20, a prime-time news program, also went with inspectors to salons in Dallas, Boston, Houston, and Phoenix, and almost all of the salons tested positive for potentially harmful bacteria.

Deaths in California

Evidence suggests that an infection contracted from a pedicure may have caused the death of Gerry Ann Schabaram, wife of former California State Assemblyman and longtime Los Angeles County Supervisor, Pete Schabaram. According to Pasadena Weekly, Schabaram had been battling a staphylococcus infection for over a year. She suffered from rheumatoid arthritis, and because of a weakened immune system, the bacteria were able to take hold in her body.

"It is tragic that another life may have been lost because of an unsanitary salon," said Senator Leland Yee (D-San Francisco/San Mateo), the author of legislation signed into law to help clean up dirty salons. "While progress has been made," Yee continued, "clearly more needs to be done to protect the health of nail salon consumers."

In addition, a Sunnyvale, California woman died in June of 2006. Jessica Mears was 43 years old. Her mother, Diana Mears, filed a wrongful death lawsuit in Santa Clara County Superior Court against Top Hair and Nails Salon in Mountain View. The suit claims Jessica Mears contracted a bacterial infection during a 2004 pedicure at the salon that left a large lesion on her left calf. Jessica Mears had lupus - a chronic disease that compromises the immune system. "The lesion never healed," said Robert Bohn, Jr., the San Jose attorney representing Diana Mears. The end result was the loss of Mears' life.

A Death in Texas

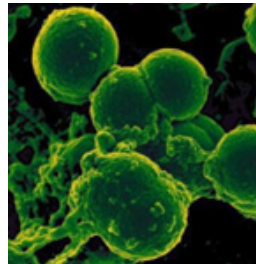
Kimberly Jackson of Fort Worth, Texas, died in February of 2006. Jackson was a paraplegic and couldn't feel the massages and the bubbling water on her feet, but she loved the bright pink nail polish. Her heel was cut with a pumice stone during a pedicure. Several days later she sought out medical help for an infection in her foot and was treated with repeated rounds of antibiotics. Shortly after, the 46-year-old died of a heart attack triggered by the staph infection, according to family's attorney, Steven C. Laird. "She was afraid she was going to lose her foot," said

David Lee Jackson, her ex-husband. "Who would've thought this would take her life?"

MRSA Outbreak in the Netherlands

In September 2005, a medical microbiologist from a regional medical microbiology laboratory in the Netherlands reported to the municipal health department of a recurring MRSA – methicillin-resistant *Staphylococcus aureus* – infection in a stylist. From December 2004 onward, the woman had recurrent infections on the legs, buttocks and groin, resulting in incision and drainage of lesions. When an abscess developed in the genital area in July 2005, MRSA was cultured from a wound swab. In December 2005, the stylist was declared to be MRSA-free after antimicrobial treatment. Yet, in March 2006 the woman was tested again for MRSA colonization; test results showed that she had been re-infected, or that the therapy had failed.

The stylist had eczema. Because of the "hands on" nature of her work, she was advised to temporarily stop providing services to customers. The municipal health department conducted a risk assessment of the woman's contacts within her household and in the beauty salon.



In April 2006, a salon customer was hospitalized with an abscess of the breast caused by MRSA; in July 2006, another customer who had had boils since February 2006 was found to be MRSA positive. Both customers had been given wax treatments by the stylist during the period in which she had an infected hair follicle in her armpit.

Concern arose about the risk for infection to customers through instruments, materials (wax), or contact with other employees. The index patient and the other six employees of the salon regularly provided services to each other. In response, all working procedures and protocols in the salon were investigated, and the salon was advised to clean and disinfect instruments and procedure rooms. A total waxing procedure was observed and ten swabs were taken from used wax, wax implements, and the treatment room. All six employees were screened and informed about MRSA and the current situation. Arrangements were also made to test 22 regular customers who had received wax treatments by the index patient in the previous two months.

In the following weeks, these customers were screened at the municipal health office and informed about the MRSA. Of the 22 regular customers, 21 completed a questionnaire and 19 were actually screened for MRSA by culturing samples from the pairs of openings of the nasal cavity, as well as the throats. Fortunately, all employees and the 19 selected regular customers were negative for MRSA colonization. All environmental swabs were also negative for MRSA.

It became apparent that after performing waxing treatments, the stylist would touch the waxed skin of customers with ungloved hands to check for remaining hairs. She did not wash her hands. Ultimately, a total of 45 persons who had been in direct or indirect contact with the stylist were screened for MRSA: three family members, three roommates, 11 other persons (including secondary contacts), six beauty salon employees, and 22 customers (including regular customers). Fifteen persons had skin infections and ten were colonized with MRSA (stylist, family member, roommate, ex-partner of the roommate, customers and partners of the customers). Although skin infections never developed in the stylist's family members, tests did show MRSA colonization in one of them. While the MRSA infections were treated, the damage to the salon was unrepairable.

Although the prevalence of MRSA is low, local microbiologic laboratories should report outbreaks to the local municipal health department for further investigation when they are



detected. More research is necessary to better understand the risk factors involved in these outbreaks.

Other recent salon incidents

- ✓ An unnamed woman nearly died after getting a bikini wax and then contracting a life-threatening bacteria: *Streptococcus pyogenes*.
- ✓ Entertainer Paula Abdul's injury made worldwide news, and she nearly lost her thumb because of a fungal infection following a manicure. She testified in front of the California State Business and Professions Committee to lobby for legislation that would establish safety standards for manicure and pedicure equipment. "Being a professional dancer, I'm no stranger to pain," Abdul said. "But this time, the pain was so excruciating that even my hair touching my thumb caused me to scream."
- ✓ Reba Burgess, of Kansas City, Missouri was forced to amputate her finger after getting her nails done, reported Kansas City television station KMBC. "Then they filed

again. Then they drilled. Then they filed, drilled, picked..." said Burgess of the nail technician's attempts to remove her acrylic nails. The process took almost four hours. Burgess left the salon with a new set of acrylic nails, but five days later she visited the hospital and was told she had to stay. "I was shocked because I never thought going and getting your nails done, to have them polished, would end up with a finger gone." Burgess continues, "I cry a lot. I hide my hand a lot. I'll never wear fingernail polish again. I'll never wear nails again."

- ✓ Mary Reddish, Athens, Georgia, was awarded \$150,000 after a visit to a salon left her mostly bald. Reddish said she was left nearly bald as result of a chemical reaction from the hair relaxing product and the dye used to bleach her hair blonde. The damage to Reddish's follicles was bad enough to cause her premature hair loss, according to her attorney.

Germes are everywhere

Bacteria and viruses can live virtually anywhere. We expect some surfaces – such as toilets and surfaces in bathrooms – to harbor germs. Some of the most contaminated surfaces in business, however, are a little more unexpected.

In Kimberly Clark Professional's "The Healthy Workplace Project," over 5000 swabs from different samples were collected to determine the levels of bacteria. The most contaminated area (75% of surfaces tested) was the sink faucet tap handle, followed closely by microwave door handles (48%). Light switches are also highly contaminated.

In salons, handling money can be a major source of transmission of bacteria and viruses. Scientists have found that the dollar bill carries about 3000 types of bacteria on its surface. Most bacteria are harmless; and some bacteria are even beneficial. Yet, according to a 2014 National Public Radio report, money may have a "smudge" of anthrax or diphtheria. The very nature of money makes it a possible way that antibiotic resistant genes move around cities, as reported by biologist Jane Carlton, who is leading the Dirty Money Project at New York University. "We're not trying to be fear mongers," says Carlton, "or suggest that everyone goes out and microwave their money. But I must admit that some of the one-dollar bills in NYC are really nasty."

...money may have a "smudge" of anthrax or diphtheria.

Trendy and dirty

Beards have recently become trendy among a certain demographic of men. Simmons National Consumer Study estimates 17% of all men and 35% of young men ages 18-24 have facial hair today, an increase from past studies. **Barbers and stylists need to be aware of just how dirty beards can be when men present themselves for grooming.**

Beard swab tests were performed by reporters at Action 7 news in Albuquerque, New Mexico. Quest Diagnostics discovered that men's facial hair can contain bacteria usually found in the intestines and fecal matter. "I'm usually not surprised," said Quest Diagnostic microbiologist, John Golobic, "and I was surprised by this." Some beards tested were comparable to toilets. Bacteria found could lead to skin infections and to the

spread of bugs, such as staphylococcus. Because of a beard's location, organisms found in it can easily make their way to a man's mouth.

Violations

Former WFAA reporter, Brad Watson, performed several undercover salon investigations in 2007. He found that while improvements had been made, many salons continued unsanitary practices. After his reports, Texas Department of Licensing and Regulation (TDLR) went to look for themselves. "Well, we found a lot of lax sanitation practices," said Patrick Shaughnessy, a spokesperson for TDLR. "They were not paying attention to the things they need to look at."

Watson's investigations showed evidence of salon professionals not washing hands between customers, illegal blades, improper cleaning and disinfecting of spa chairs, the potential cross-contamination of creams/lotions, and reuse of buffing blocks, which expose a customer to the previous customer's nail and skin tissue.

Simple solutions

Although each of these risks poses considerable health problems for consumers, there are simple ways beauty establishments can modify their current practices and reduce the potential transmission of infectious diseases. Dr. Sekula-Gibbs explains that using disposable instruments whenever possible, properly sterilizing instruments, employing proper hand washing practices, and teaching the Centers for Disease Control's (CDC) "standard precautions" in cosmetology and barber schools would virtually eliminate the risks of contracting viral, bacterial, and fungal infection.

Your responsibilities

As a salon professional, you have responsibilities to the State and to your profession. **Learning appropriate precautionary measures and cleaning procedures will help protect you and your clients.** These measures will also reduce the incidence of bacterial, viral, and fungal infections and will prevent the spread of disease. You, your instruments, and your workstation must be kept as clean as possible. This means no shortcuts or omissions of any precautionary measures discussed in this course. Violations can result in penalization by the state of Florida, removal from your salon, and hazardous infection to both you and your clients.

Humans have some level of immunity against infection, but our level of protection varies with age, health, and a range of other factors. Skin is our first line of defense. When there are no cuts or scrapes, skin is excellent protection against pathogens. In the vast majority of cases, bacteria, fungi, and viruses enter the body through the portals of the nose and mouth, small tears or openings in the skin, and to a lesser extent, the eyes and ears.

Modes of contamination

Always assume your clients, co-workers, and the salon environment are contaminated. Diseases are communicable or contagious when they move from one individual to another. Working with the public means encountering potentially dangerous pathogens and opportunistic organisms. **Always assume your clients, co-workers, and environment could be carrying illness, and use proper infection control procedures, or standard precautions, every day.**

Once inside the body, the pathogen reproduces rapidly at a rate that can overwhelm the immune system, resulting in disease.

Transmission may occur through “direct” or “indirect” contact. For example, indirectly inhaling contaminated droplets in the air (airborne transmission) or touching a contaminated surface and then touching one’s nose, eyes, or mucous membranes is an easy way for transmitting germs. Try to avoid touching your face during the day, and always wash your hands between clients.

Always assume your clients, co-workers and environment could be carrying illness, and use proper infection control procedures every day.

On the other hand, yeast, scabies, lice, and many other skin infections do not require an open sore or mucosal surface to infect. For example, athlete’s foot contaminates through indirect transmission. When someone with athlete’s foot walks barefoot on a wet bathroom floor, the person leaves behind spores that will stick to the foot of anyone else walking barefoot on that floor, infecting the individual even if he or she has no cuts or openings on the feet. Fungi, like athlete’s foot, will survive for some time on a damp or wet floor. Spa shower stalls and soaking baths that retain small amounts of water must be thoroughly cleaned and disinfected with the appropriate disinfectant.

The primary modes of travel for common contagions are:

- Unclean hands.
- Unclean implements.
- Open sores.
- Pus.
- Mouth and nose discharge.
- Shared cups or towels.
- Coughing or sneezing.
- Spitting.

Microbes can also exist on seemingly unlikely products, like bars of soap.

Pathogenic bacteria can also enter the body through:

- A break in the skin, including pimples, scratches, or cuts.
- The nose and the mouth during breathing.
- The mouth during eating and drinking.

Humans are excellent sources of contamination because we are constantly leaving organic particles behind wherever we go; a mixture of dead skin cells with viral, bacterial, and fungal particles, along with other microorganisms that consume skin cells or use us to travel to an appropriate host. Every time you touch something, you deposit some of this organic matter on another surface. Simple actions - such as touching a client’s hair, brushing some of your hair out of your eyes with your hand, or touching a spray bottle - can move

Decontaminating your environment

You have a responsibility to control exposure to pathogens by decontaminating your environment and tools. Remember that pathogens collect any time an object or surface is exposed to air. Doorknobs, handles, telephones, money, light switches, cash registers – all are surfaces touched by co-workers and clients that may harbor harmful pathogens, so all must be decontaminated to some degree.

Cleaning is only the first step of the process. The following sections review the meaning of sanitation, sterilization, and disinfection - terms that are commonly used interchangeably, but have very different meanings and results and require different procedures.

microorganisms from one item to another: from you to your client or from your client to you.

Individuals who are susceptible to infection (due to a compromised protection system or some failure in their ability to resist invasion) are also the targets of opportunistic microorganisms. In contrast to pathogens, opportunistic organisms do not cause initial illness but will infect an individual once pathogenic organisms have already weakened the immune system. These opportunistic organisms cling to the skin and the hair and exist in the bodies of healthy people.

Microbes also contaminate ventilation systems. Germs in a ventilation system easily spread throughout a salon - landing on people, surfaces, and implements - whenever the blowers or fans turn on. Germs not only float through the air, settling constantly on salon surfaces such as sinks and countertops, but they can also “hitchhike” on human skin, hair, and clothing, contaminating anything with which they come into contact. To discourage their growth, vents, filters, humidifiers, and dehumidifiers should be cleaned and maintained regularly. Investigate any mildew or musty odors, which are a good indication of microbe growth.

Pathogenic and opportunistic microorganisms are able to thrive in a salon’s warm, moist places, like shampoo sink drains, footbaths, and hot and cold-water handles and taps. Implements such as scissors, files, brushes, or nippers can be major sources of contamination because they often contain organic matter, an optimum growth environment for pathogenic and opportunistic microorganisms.

Some of the most dangerous areas in salons are the places contaminated manicuring tools or equipment are kept, including the manicure table and the trash cans in which dirty implements are deposited. **Microbes can even exist on seemingly unlikely products, like bars of soap.** Because germs and other microorganisms have been shown to thrive on bar soap, many salons prefer to use liquid soap that can be dispensed from a container for each customer. In addition, soaking solutions, lotions, and creams that initially are uncontaminated may lose preservatives that keep them safe from pathogenic or opportunistic microbes growing in them. Changes in color, texture, appearance, or odor can be signs of contamination.

Fighting infection may be a matter of staying home when you are sick. Just as you should avoid working with contagious clients, you should not go to work if you have an infection, such as a bad cold or flu. Cover your mouth and nose to control pathogens escaping through sneezes and coughs. Another way to fight infection is to take care when interacting with others. For example, avoid causing wounds when working with dry or fragile skin, as tears and breaks can occur easily, even when filing nails. Always use abrasive instruments with care and a gentle touch, especially around the nail bed.

Sanitation

Sanitation is the lowest level of decontamination. Sanitation will reduce some germs on a surface but will not kill all organisms. Sanitation provides a minimum level of cleanliness, protecting public health by preventing the spread of some, but not all, bacteria and fungi. It is important to note that instruments that are sanitized are not sterile.

Countertops and workstations should also be sanitized by wiping them down with soap and water; this process should not be confused with (and does not replace) disinfection, which requires an appropriate disinfectant cleaner. Remember that soap and water will kill most of the bacteria on your hands, workstation, or chair, but will not kill all bacteria or fungal spores.

The term "sanitation" is most often used in reference to cleaning the hands. Hand washing is absolutely essential to controlling bacteria and the most effective way to prevent the spread of infectious agents from one person to another. Hands cannot be sterilized, because it is impossible to remove all microorganisms from the surface of the skin. Water and soap, in fact, are not sterile and can introduce new bacteria and infectious agents.

Sanitation will reduce germs on a surface but will not kill all organisms.

Your hands are populated by both resident and transient organisms. Resident organisms are a normal part of your skin's environment - their natural habitat. They grow and multiply in an oxygenated environment and rarely cause infection or harm the individual who is their host. These organisms cannot be removed easily by hand washing.

Sanitation controls minimize exposure to transient organisms. These organisms, like E. coli and salmonella, cause dangerous infections in humans. In contrast to resident organisms, transient organisms cannot live long on the surface of our skin. They function poorly in an oxygen environment, usually surviving less than 24 hours. Fortunately, these organisms can be removed easily through the process of hand washing, using friction, soap and water.

Wash your hands



Hand washing is like a "do-it-yourself" vaccine. It's the best way to prevent infection and illness.

It involves five simple and effective steps: Wet, lather, scrub, rinse, and dry. Regular handwashing, particularly before and after certain activities, is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others.

(<http://www.cdc.gov/handwashing/>)

Clean hands prevent infections, and keeping hands clean prevents illness at home, at school, and at work. Hand hygiene practices are key prevention tools in healthcare and human services settings, in daycare facilities, in schools and public institutions, and for the safety of our food. In health care settings, hand washing can prevent potentially fatal infections from spreading from patient to patient, from patient to health care worker, and vice-versa. The basic rule in the hospital is to cleanse hands before and after each patient contact by either washing hands or using an alcohol-based hand rub. The same is true for salons, cosmetologists, and their clients.

Wash your hands, the right way!

When washing hands with soap and water:

- Wet your hands with clean running water and apply soap. Use warm water if it is available.
- Rub hands together to produce lather and scrub all surfaces.
- Continue rubbing hands for 15-20 seconds. Need a timer? Imagine singing "Happy Birthday" twice through to a friend.
- Rinse hands well under running water.
- Dry your hands using a paper towel or air dryer. If possible, use your paper towel to turn off the faucet.
- Always use soap and water if your hands are visibly dirty.
- If soap and clean water are not available, use an alcohol-based hand rub to clean your hands. Alcohol-based hand rubs significantly reduce the number of germs on skin and are fast-acting.

When using an alcohol-based hand sanitizer:

- Apply product to the palm of one hand.
- Rub hands together briskly.
- Rub the product over all surfaces of hands and fingers until hands are dry.



(<http://www.health.state.mn.us/handhygiene/wash/fsgermbuster.html>)

Hand washing: The beginning of infection control

Over 16 years ago, Ignaz Semmelweis, a Hungarian physician, first demonstrated that hand hygiene can prevent the spread of disease. Hand hygiene, as a practice, includes performing hand washing using antiseptic hand wash or alcohol-based hand rub and/or surgical hand hygiene/antiseptics.

Dr. Semmelweis worked in a hospital in Vienna whose maternity patients were dying at such an alarming rate of puerperal fever (or childbed fever) that they begged to be sent home. Most of those dying had been treated by student physicians who worked on corpses during an anatomy class before beginning their rounds in the maternity ward. Hand washing was an unrecognized hygienic practice at the time.

Because the students did not wash their hands effectively between touching the dead and the living, pathogenic bacteria (Semmelweis called them "cadaverous particles" or little pieces of the corpse) from the dead bodies were regularly transmitted to the mothers via the students' hands. The result was a death rate five times higher for mothers who delivered in the clinic attended by the students than for mothers who delivered at another clinic.

In an experiment considered quaint at best by his colleagues, Dr. Semmelweis insisted that his students wash their hands before treating the mothers – and deaths on the maternity ward fell fivefold. **Unquestioned today as the most important tool in the health care worker's arsenal for preventing infection,** hand washing was not readily accepted in Dr. Semmelweis's era. His pleas to make hand washing a routine practice throughout the hospital were largely met with derision. Another 50 years would pass before the importance of hand washing as a preventive measure would be widely accepted by the medical profession. Sanitation is now a standard and thousands of lives have been saved because of Dr. Semmelweis's discovery.

Cleaning agents for the hands

Cleaning agents assist in the process of removing substances from surfaces. Soaps and detergents are two common cleaning agents that are often confused for one another, but are composed of very different ingredients, with different cleaning properties. Soaps are the product of a chemical reaction. They can be formed by vegetable oil reacting with lye or chemicals. These chemicals, such as glycerin, add a desirable smell or quality to the soap and make it milder. While soap does not kill microorganisms, soap and water will help remove them from surfaces.

On the other hand, detergents are manufactured for the express purpose of cleaning specific substances off specific items and are created using chemicals that can be very harsh to skin. In contrast to detergents that do not leave a residue or require rinsing, soaps leave a coating or residue on the body, typically one designed to make skin smoother or more attractive. Soaps also remove less fat from the skin than detergents. Removing fat from the skin has a drying quality and may strip the skin, therefore the use of detergents can dry skin out.

Be sure to use the appropriate cleaning agent for the job. Different cleaning and disinfecting agents have many different properties. Always read the ingredients, instructions, and recommendations for use on the item's label.

Sterilization and disinfection

"Sterile" means free from all germs; sterilization is the most effective level of decontamination, involving the removal of all bacterial life from a surface. This is the level of decontamination required for tools and surfaces in hospital surgeries. For sterilization, hospitals use steam autoclaves to heat instruments to a very high temperature. Today, many salons are investing in autoclaves to reassure clients that their safety is the number one priority.

"Disinfection" is the process of killing specific microorganisms, bacteria, or germs using physical or chemical processes.

Disinfectants are chemical agents that destroy organisms on contaminated instruments or surfaces. They can be dangerous and must be used with caution. Disinfectants are used to destroy bacteria on equipment and implements, but they should not be used on the skin. In a salon atmosphere, disinfectants must be able to kill viruses, fungus, and dangerous bacteria.

"Sterile" means free from all germs; sterilization is the most effective level of decontamination, involving the removal of all bacterial life from a surface.

Disinfectants

Controlling bacteria in a salon requires a degree of effort, vigilance, and good sense. In choosing a disinfectant, always look for the EPA registration number (awarded by the Environmental Protection Agency) to ensure you are using an approved disinfectant. This number indicates a level of safety for specific kinds of disinfection. To be registered by the EPA, disinfection must be effective in killing bacteria, including *Staphylococcus aureus*, salmonella, and pseudomonas. Cosmetology salons must use not only EPA-approved disinfectants, but also those with an EPA rating of hospital-level (tuberculocidal) quality. These disinfectants are especially effective for salon use and are capable of killing viruses, dangerous bacterium, and fungi.

Disinfectants can be hazardous if prepared incorrectly.

Consult the manufacturer's Safety Data Sheets (SDS) for information on preparing and using the solution. Always check the listing of chemicals in the disinfectant and if/how they can pose safety hazards. Be certain to follow manufacturers' instructions and all written directions for the preparation and use of a specific disinfectant. Remember to follow all directions when using this type of disinfectant or any other disinfectant.

To ensure safety, use an appropriate ratio of concentration in the solution, and clean only approved items according to label instructions. Wear gloves and safety glasses whenever mixing and using solutions. Do not confuse disinfectants, which destroy harmful microorganisms, with antiseptics: products designed to slow the growth of microorganisms. Antiseptics do not kill microorganisms and should not be confused with disinfectants or used for salon disinfection.

Household disinfectants commonly used to clean offices and homes may be used to clean floors, doorknobs, and walls, etc.,

Introduction to the autoclave

According to Merriam-Webster dictionary, the definition of "autoclave" is: an apparatus (as for sterilizing) using steam under high pressure. The autoclave was invented by French microbiologist, Charles Chamberland, in 1879. Autoclaves are used in industries where sterilization is a necessity. They sterilize equipment and supplies by subjecting the equipment to high-pressure saturated steam at 270 degrees Fahrenheit for 15-20 minutes, depending on the size of the load and the contents.

as directed on the container label, but should not be used in place of a hospital-grade salon disinfectant, which is required to sterilize instruments. Bleach can be used as an effective disinfectant, but it is not a cleaning agent and should only be applied to clean surfaces. Bleach must be used with caution because it can release toxic fumes when mixed with certain substances. Bleach is far too harsh for day-to-day disinfection and will damage instruments. It may be used for washing towels and other salon laundry.

What are efficacy tests?

The tests used to measure the effectiveness of disinfectants on various pathogenic (disease-causing) organisms are called efficacy tests. The EPA must pre-approve all "efficacy test methods" used to measure the effectiveness of disinfectants against specific microorganisms. The most common efficacy test prescribed by EPA is the Association of Official Analytical Chemist (AOAC) test.

Currently, for a disinfectant cleaner to be registered by EPA as hospital strength, it must be effective at its recommended dilution in killing target pathogens in the presence of 400 ppm hard water and 5 percent organic serum and must kill 100 percent of the target test organisms.

It is a good idea to verify manufacturer and/or distributor efficacy data of a disinfectant or disinfectant-cleaner before selecting it for use in your salon.

What factors affect how well a disinfectant works?

There are six main factors:

- **Concentration** – This is dilution rate. Proper dilution is very important. Read label for complete dilution directions.
- **Contact time** – For disinfectants, such as bleach, contact time is very critical.
- **pH** – Certain disinfectants work best under acidic conditions (bleach), and others work best under alkaline conditions.
- **Temperature** – Certain disinfectants work best in cold water (bleach).
- **Soil load** – Disinfectants do not know the difference between soil and bacteria. That is why heavy soil should be removed before disinfecting. See explanation above for more details.
- **Organism type** – Not all disinfectants work on all types of organisms. When in doubt, read the product label for a complete list.

How can you calculate active parts per million (ppm) of the disinfectant you are using?

To calculate active ppm, you'll need three things: the active ingredient list from the disinfectant label, dilution rate of the product, and a calculator. The following is an example of how this would be done using Neutral Germicidal Cleaner:

- **Step 1**
Add together active ingredient percentages from the label:
For example, 5.07 percent + 3.38 percent = 8.45 percent total active ingredients.
- **Step 2**
Multiply by 10,000: $8.45 \times 10,000 = 84,500$
- **Step 3**
Divide the result of Step 2 by the dilution rate (128 in this example): $84,500 / 128 = 660 \text{ ppm}$

Parts per million (ppm) is a ratio figure that represents the amount of one substance that is in one million parts of another substance.

While autoclaves are not required in Florida, many salons are purchasing them anyway. They provide salons with an increased layer of safety; and stressing use of an autoclave is a good way to market your salon to clients. This section will give you the basics of autoclave procedures.

The autoclave that uses saturated steam under pressure is one of the most dependable methods available for the inactivation of all forms of microbial life. To ensure safety and quality control, all

biohazardous materials and items contaminated with potentially infectious agents should be decontaminated before use or disposal. Such items include, but are not limited to, toenail clippers, cuticle nippers, and metal cuticle pushers. Steam sterilization is not recommended for anhydrous substances, flammable materials, electrical equipment, or any item that may be damaged in the autoclaving process.

How the autoclave works

The most common steam sterilizer found is the gravity displacement type. Saturated steam enters the top of the changer by a steam pressure-control valve. As the steam enters, it pushes the air out through a trap in the drain line. Once all the air is evacuated, the trap closes. Steam continues to fill the autoclave 270 degrees Fahrenheit and 15 pounds per square inch gauge (psig) pressure.

The sterilization procedure consists of three phases:

1. The autoclave heat-up time.
2. The contact time.
3. The cool-down time.

The autoclave, which uses steam under pressure, is one of the most dependable methods available for the inactivation of all forms of microbial life.

Once the temperature has come to equilibrium, a minimum of 20 minutes contact time for all surfaces that require sterilization is necessary to insure complete biological inactivation. Usually the heat-up time section of the sterilization procedure is the time given for the autoclave chamber to heat up to the prescribed temperature; therefore, the run time used must be long enough for the entire package to equilibrate at 270 degrees and still give the load 20 minutes contact time.

Steps in Cleaning Your Instruments in an Autoclave

- **Step 1**
In a sink, put instruments in warm water and detergent; then, hold the instruments under the water and scrub them with a clean brush, paying attention to crevices and grooves.
Rinse clean instruments in warm water and dry using a lint-free disposable towel.
- **Step 2**
Open or unlock all jointed instruments and other items, such as cuticle nippers and nail clippers, and disassemble those with sliding or multiple parts. This allows steam to reach all surfaces of the item. Avoid arranging the instruments and other items together tightly because this prevents steam from reaching all surfaces.
- **Step 3**
If instruments and other items are to be wrapped before steam sterilization, use two layers of paper, newsprint, cotton, or muslin fabric (do not use canvas). Instruments and other items should not be placed in a closed container.
- **Step 4**
Arrange your instruments according to operator so they do not get mixed up.
If you have multiple sets of instruments and operators in your salon, you may want to invest in an autoclave that has trays. This way each tray can be assigned to an operator, and instruments will be easily identified. You could also invest in autoclave bags so that each set of instruments belonging to an individual operator can have its own bag. This will reduce arguments over whose instruments belong to whom.
- **Step 5**
Because there are many types of autoclaves in use around the world, it is difficult to provide guidance on the specific instructions on operation. Follow the manufacturer's instructions whenever possible. In general, sterilize items for 20 minutes at 121 degrees C (270 degrees F) and 106 kPa

(15 lb/in²) pressure. (Do not begin timing until the autoclave reaches the desired temperature and pressure.)

Note: The units of pressure marked on an autoclave's pressure gauge may vary from one autoclave to another. The following amounts of pressure (which are approximately equivalent) are the desired pressures for autoclaving:

- 15 lb/in² (15 pounds per square inch).
 - 106 kPa (106 kilopascals).
 - 1 atm (1 atmosphere).
 - 1 kgf/cm² (1 kilogram of force per square centimeter)
 - 776 torr.
 - 776 mm Hg (776 millimeters of mercury).
- **Step 6**
If the autoclave is automatic, the heat will shut off and the pressure will begin to fall once the sterilization cycle is complete. If the autoclave is not automatic, manually turn off the heat or remove the autoclave from the heat source after 20 minutes if items are unwrapped. Wait until the pressure gauge reads "zero" to open the autoclave. Open the lid or door to allow the remaining steam to escape. Leave instruments or items in the autoclave until they dry.
 - **Step 7**
Remove the instruments, trays, or unwrapped items from the autoclave using sterile pickups. To prevent condensation after removing the items from the autoclave, place them on a surface padded with sterile paper or fabric until they are cool.
Wait until the instruments, trays, or items reach room temperature (which may take up to several hours) before storing.

If using autoclave bags, check the indicator color on the bag to be sure the items in the bag have been sterilized long enough. Store the sealed dry autoclave bag in a clean, dry, protected area. Mark the bag with the date of autoclaving for future reference.

- **Step 8**
If you are not using autoclave bags, store items in a clean, closed container.

While the autoclave is extremely efficient in sterilizing instruments, the process requires much more time than chemical disinfection. Therefore, it is highly recommended that you have several sets of instruments. Never shorten the length of time instruments are in the autoclave or open the autoclave before it has completed sterilizing. Opening an autoclave in the middle of a cleaning can result in severe burns.

Cleaning your autoclave

Every autoclave, even the one at your salon, needs cleaning.

Experts believe about 25 to 35 percent of repairs could be avoided if autoclaves were cleaned on a regular basis.

These cleaning tips are for a chamber autoclave, but no matter what type of autoclave you purchase, follow the manufacturer's instructions on cleaning:

1. Unplug your autoclave.
2. Move your autoclave to a sink.
3. Remove trays or racks. Sometimes trays can be somewhat difficult to remove, so call your service representative or manufacturer if you need help. TIP: It may help to have a slightly warm chamber for the cleaning process.
4. Pick up the unit and empty the sterilizer chamber.
5. Replace the unit back on the counter top and pour some cleaner into the chamber. (You may purchase a cleaner from the manufacturer or from your hardware store. If you must use a manufacturer's cleaning solution to maintain a warranty, by all means do so.)
6. Let the cleaning solution soak in for a few minutes.
7. Scrub with a scouring pad.
8. Pour out the solution.
9. Rinse with water.

10. Now, pour a small amount of solution in the reservoir with water, run two to three cycles, and cancel drying cycles.
11. After completion, drain the reservoir and refill with distilled water and run another cycle.
12. Drain one more time and refill.

Common areas and threats

Cleaning the salon computers and reception areas

Almost all modern salons now work with computers and computer appointment books. These computer appointment books are generally at the reception desk and are also found in break areas for salon workers to view their schedules. Few people think about the germ havens these areas have become. Yes, experts say the computer keyboard, phone, and desk areas of salons are major germ areas that must be sanitized.

To combat the problem, salons should assign cleaning duties to staff. First, you should remove the screws on the underside of the keyboard and separate the two parts. Brush the debris away and then wipe with a sanitizing cloth. Once you put it back together, spray the entire keyboard with a disinfectant spray. Do this lightly so as not to ruin the electronics. You can also use sanitation wipes commonly found in drug stores.

Staff should clean phones daily with a disinfectant spray and more often when someone is known to be sick or feels sick.

Also, remember to disinfect your workstation daily. Often stylists forget to perform this important step, yet they routinely place combs, scissors, and other items on top of the workstation.

Disease and infestation

Salons and schools should never knowingly permit a person afflicted with an infection or parasitic infestation capable of being transmitted to a patron to serve patrons or train in the establishment or school. In addition, salons and schools should not knowingly require or permit a licensee or student to work

Conclusion

The cosmetology industry is booming, and safety of clients is one of the main factors that has a chance to harm your industry. Therefore, making safe sanitation techniques a part of your daily routine and encouraging co-workers to do the same is essential. Sanitation issues have a direct impact on the health and welfare

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13. Wipe the door gasket weekly with a wet damp towel and clean the cabinet gasket as well.
14. Your autoclave is now ready for use.

Repeat this cleaning about every 10 days or so.

upon a person with an infection or parasitic infestation capable of being transmitted to the licensee or student.

Infections or parasitic infestation capable of being transmitted between licensee or student and patron include, but are not limited to, the following:

- **Cold, influenza or other respiratory illness accompanied by a fever**, until 24 hours after resolution of the fever.
- **Streptococcal pharyngitis** ("strep throat"), until 24 hours after treatment has been initiated, and 24 hours after resolution of symptoms.
- **Purulent conjunctivitis** ("pink eye"), until examined by a physician and approved for return to work.
- **Pertussis** ("whooping cough"), until five days of antibiotic therapy has been completed.
- **Varicella** ("chicken pox"), until the sixth day after onset of rash, or sooner if all lesion shave dried and crusted.
- **Mumps**, until nine days after onset of parotid gland swelling.
- **Tuberculosis**, until a physician or local health department authority states that the individual is noninfectious.
- **Impetigo** (bacterial skin infection), until 24 hours after treatment has begun.
- **Pediculosis** (head lice), until the morning after first treatment.
- **Scabies**, until after treatment has been completed. No person working or training in an establishment or school should massage any person upon a surface of the skin or scalp where such skin is inflamed, broken (e.g., abraded, cut), or where a skin infection or eruption is present.

of clients and the livelihood of the salon professional. Following proper sanitation guidelines will greatly reduce the potential risks to you, your clients, and co-workers. The importance of maintaining proper sanitation procedures cannot be overstated; it can literally be a matter of life or death.

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10 HOUR CE UPDATE FOR FACIAL/FULL SPECIALIST

Final Examination Questions

Select the best answer for each question and mark your answers on the Final Examination Answer Sheet found on page 60, or complete your test online at **EliteLearning.com/Book**

1. Stress creates androgen production, which:
 - a. Triggers acne.
 - b. Ages skin.
 - c. Causes depression.
 - d. Depletes the skin of nutrients.
2. The subcutaneous layer of skin:
 - a. Is the top layer.
 - b. Creates a protective layer.
 - c. Supports the blood circulation for the cell reproduction cycle.
 - d. Is the last layer between the skin and the tissues.
3. Dry skin lacks:
 - a. Water.
 - b. Elasticity.
 - c. Essential vitamins.
 - d. Natural oils.
4. Vitamin E is an antioxidant that:
 - a. Protects the skin and other cells from damage.
 - b. Helps to hydrate and soften the skin.
 - c. Combat redness in the skin.
 - d. Repair cell walls.
5. The body uses protein to:
 - a. Boost hydration and the omegas.
 - b. Create energy.
 - c. Build and repair tissues.
 - d. Boost collagen and hydration.
6. Employers are required by law to report a worker's injury to the insurance company within 10 days of when the accident or injury was first reported.
 - a. True.
 - b. False.
7. In Florida, any employer in an industry, other than construction, and who has four (4) or more employees, full-time or part-time, is required to carry workers' compensation coverage.
 - a. True.
 - b. False.
8. All findings point to the fact that starting treatment for HIV early (as soon as possible after diagnosis) significantly improves the patient's health and reduces the risk of illness and death, decreasing the risk of onward transmission by 96%.
 - a. True.
 - b. False.
9. AIDS is the fifth and most severe phase of HIV infection.
 - a. True.
 - b. False.
10. To prevent transmission of HIV in the workplace, cosmetologists and other health and human service providers must assume that blood and other body fluids from all patients are potentially infectious.
 - a. True.
 - b. False.
11. Service providers are required to disclose personal HIV status in the workplace.
 - a. True.
 - b. False.
12. An applicant shall be eligible for licensure by examination to practice cosmetology if the applicant is at least 16 years of age or has received a high school diploma, pays the required application fee, and has received a minimum of 1,200 hours of training.
 - a. True.
 - b. False.
13. A licensee must notify the Florida Board of Cosmetology, DBPR in writing within 90 days of any change to the current mailing address or place of practice.
 - a. True.
 - b. False.
14. Unsanitized articles such as pens, pencils, money, paper, mail, etc. should be kept in the same container or cabinet as articles that have been cleaned and disinfected.
 - a. True.
 - b. False.
15. When disinfecting pedicure equipment that holds water, once each week, the basin must be filled with a solution of water containing four cups of bleach for each gallon of water.
 - a. True.
 - b. False.
16. It is impossible to control the level of chemical exposures for both salon workers and their clients.
 - a. True.
 - b. False.
17. Formalin and Methanol are both synonymous with Formaldehyde.
 - a. True.
 - b. False.
18. The OSHA Act mandates that employers must maintain a workplace that is free of serious recognized hazards.
 - a. True.
 - b. False.
19. OSHA has not formulated a specific set of rules and regulations that deal with the cosmetology industry.
 - a. True.
 - b. False.
20. Ergonomic or musculoskeletal hazards impact the functioning and health of muscles and bones.
 - a. True.
 - b. False.
21. Unlike hepatitis B, there is no vaccination for hepatitis C.
 - a. True.
 - b. False.
22. Sanitation is the highest level of decontamination. Sanitation will completely eliminate all bacteria and will kill all organisms.
 - a. True.
 - b. False.
23. Microbes can also exist on seemingly unlikely products, like bars of soap, for example.
 - a. True.
 - b. False.
24. Sterile" means free from all germs; sterilization is the most effective level of decontamination, involving the removal of all bacterial life from a surface.
 - a. True.
 - b. False.

Book Code: EFL1023B

Elite**PO Box 37 | Ormond Beach, FL 32175****Questions? Call us toll-free at 1-855-769-9888****10 Hour CE Update for
Facial/Full Specialist****Final Examination Answer Sheet**

Using the spaces provided below, please **PRINT** the information below in **CAPITAL LETTERS**. All information below must be filled in completely to ensure the state of Florida receives your completion data correctly. The cost of our test is \$21.95. Upon completion, please return this sheet, along with payment and mail to the address above. If paying by check or Money Order, please make payable to **Elite**. For faster service, we offer this test online with instant grading and certificate issuance. Please visit **EliteLearning.com/Book** to complete your test online.

Please **PRINT NEATLY** in the areas below using **black or blue pen only**:

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Zip Code					Telephone Number (Please include area code)										Florida License # (starts with two letters: CL, FV, FB, FS - not AC#)				

Use the spaces to the right to note any additional Florida Cosmetology license number(s): _____

E-Mail address (include to receive instant certificate access)

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 Not like this: ☒ ☑

Final Exam questions are located on page 59.
Unanswered questions will be scored as incorrect.

	A	B	C	D
1	○	○	○	○
2	○	○	○	○
3	○	○	○	○
4	○	○	○	○
5	○	○	○	○

	A	B
6	○	○
7	○	○
8	○	○
9	○	○
10	○	○

	A	B
11	○	○
12	○	○
13	○	○
14	○	○
15	○	○

	A	B
16	○	○
17	○	○
18	○	○
19	○	○
20	○	○

	A	B
21	○	○
22	○	○
23	○	○
24	○	○

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EFL1023B

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Test Expiration date: 10/23/2024

COURSE EVALUATION

We value your opinion! Please take a moment to fill out this evaluation form so that we can better serve you in the future. Any comments would be greatly appreciated.

Fill in the circles below the numbers with 0 being the worst and 10 being the best.

	EXCELLENT										POOR											
	10	9	8	7	6	5	4	3	2	1	0	10	9	8	7	6	5	4	3	2	1	0
How likely is it that you would recommend Elite Learning	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
The course material was presented in a clear, concise and well-organized format	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
I would rate this course	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
The content of this course met my expectations	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Please circle yes or no for the following questions.

The material presented met the course's stated objectives	YES	NO
I found this course a good value for my money	YES	NO

Please list any recommendations that you may have for this course: _____

Please list any course subjects you would like to see in the future: _____

Comments: _____

☐ I agree to allow Elite Learning to use my above comments.

Did you remember:

- 1) To clearly print your name and address on the answer sheet?
- 2) To fill out your license number on the answer sheet?
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