Tanning Operator Training and Certification

This Is In Your “Downloads” Folder

Welcome to the Sun Focus online operator certification course. Developing knowledge and skills is very important in the business world, that's why you are here. You can leave our course with more than just a certification to hang on the wall; you can leave with increased value to deliver to your salon’s business. The knowledge that you gain can be applied every time you work with a client; that adds value to you as an individual, value to your clients, and value to your business.

This course has been developed with our experience owning and operating tanning salons. We will bring real life experience from the salon to your learning to make it the most relevant experience possible. Regulations refer to your job as a “tanning operator” but we think of your role, and will refer to it as, a Tanning Client Service Representative. That is at the core of what your role is about; to provide for the best possible client service, satisfaction and experience.

You should plan on spending at least 4 hours building your competency in the course material; that is the minimum amount of time allowed under Ohio Regulations
The course consists of 11 Modules or chapters, these are available from the menu bar tabs at the top of each page.

- Module 1 - Introduction
- Module 2 - Light and UV
- Module 3 – Skin and Tanning Process
- Module 4 - Skin Types
- Module 5 - Eyes and Eyewear
- Module 6 – New Client Process
- Module 7 – Salon Procedures
- Module 8 – Effects of UV
- Module 9 - Equipment Components
- Module 10 - Equipment Maintenance
- Module 11 - Regulation

At the end of the course material there is a "WrapUp" where you will get information on the in-person testing and credentials required to take that exam.
As you proceed through the course you may want to take the quiz at the end of each module as you complete the module. The quiz will help re-enforce your learning prior to taking the certification exam after completing the course.

SunFocus Mission Statement
"SunFocus is committed to meet Tanning Salons' needs, by
providing affordable, reliable and accurate training for salon owners, managers and operators of tanning equipment".
SunFocus's business is meeting the needs of your business. We promise to provide training that is:
Affordable
Available
Accurate, Balanced and Objective
The emphasis of SunFocus's Course is:
* Development of Professional Attitudes and Behavior
* Promotion of Responsible Tanning
To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 1 - Introduction for the next lesson.

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Also note the Resources Menu at the bottom of each lesson. Use it for access to resources, such as a course manual, that can augment your course experience.
We strongly suggest you download a course manual to use as a long term resource for review of what you learn here as well as using it for a learning aid as you proceed through the course.

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Module 1 - Course Introduction

Let’s begin with module 1. This module you will help you understand the indoor tanning industry.

Objectives, In this module you will learn:

- Indoor Tanning History and Background
- Indoor Tanning Industry Structure
- Indoor Tanning Clients
- The Indoor Tanning Client Service Representative’s job
- Indoor Tanning Industry Challenges

Indoor Tanning History and Background

The idea of indoor tanning originated in Europe. The ability of electric lamps to produce Ultraviolet Light (UV) was discovered in 1903 and by the 1930s single lamp tanning appliances were being produced.

In Europe exposure to sunlight was often seen as a wellness issue. The buildup to World War II spurred research in several countries into using artificial sources of UV light to keep a healthy workforce of factory workers and miners who had limited opportunity for exposure to natural sunlight. Post war this led to commercialization of UV emitting devises on a larger scale. Indoor tanning was born.

Very early indoor tanning devices were based on UV lamps that had been developed for medical applications. Because of the wavelengths of UV they produced, overexposure could occur very quickly. Indoor tanning based on these early devices was largely unsuccessful due to the overexposure and subsequent burn that occurred and the minimal darkening that came from these narrow wavelengths.

This photo is an example of one of these early standalone tanning devices.

In 1979 Friedrich Wolff introduced indoor tanning to the US. He developed and patented a phosphor mix for fluorescent lamps that he felt was optimal for human exposure. He then licensed the use of that phosphor mix and the Wolff name for lamp production. He also licensed the use of the Wolff name to manufacturers of tanning equipment that used the Wolff licensed lamp. Today this technology is commonly known as the Bellarium S lamp. Though many of us refer to our equipment as ‘Wolff’ beds, in reality Wolff never manufactured any tanning units.

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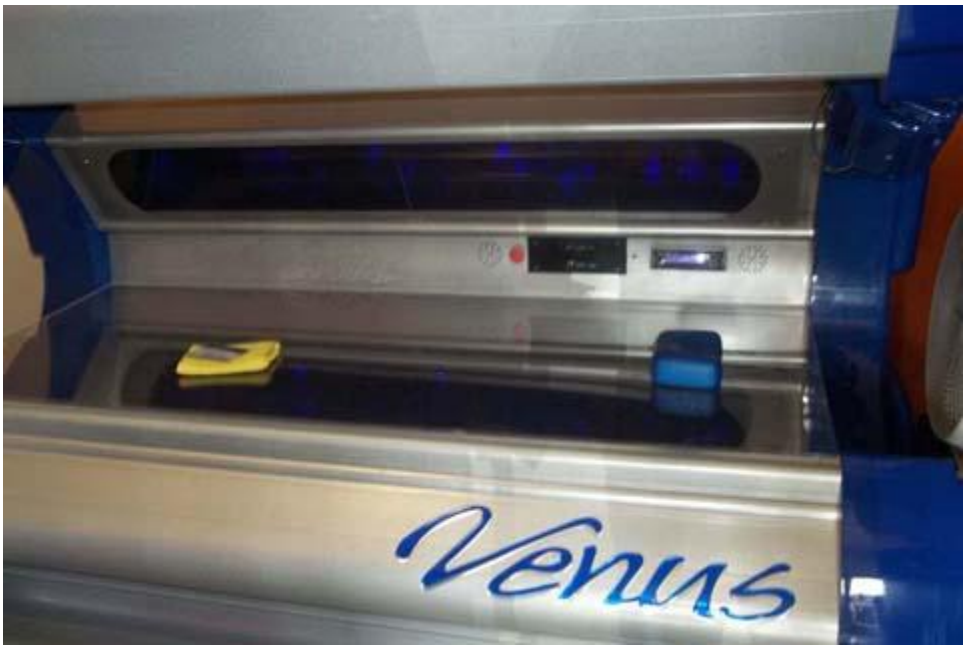
Here are a couple of early to mid 1980’s tanning units. The first tanning units were built out of wood.

Today’s tanning units are contructed from a combination of plastic and metal, have a sleek appearance and are ergonomically designed for maximum comfort.

In the late 1980's and early 1990's tanning equipment based on High Intensity Discharge or (HID) lamps were introduced to the US. The lamps used metal halide technology and were described commercially as “high pressure”

based on the lamp design, type of lamp used and a filtering system. They continue today to be distinguished from fluorescent lamps that are commercially described as “low pressure”.

The first High Pressure tanning units utilized a design where the lamps were in the canopy and the bench was a mattress. A timer would go off to let the client know it was time to turn over. This design is still being used today.



In the late 1990’s 360 degree high pressure technology was introduced. This technology shortened the amount of time the client tanned and eliminated the need to turn over.

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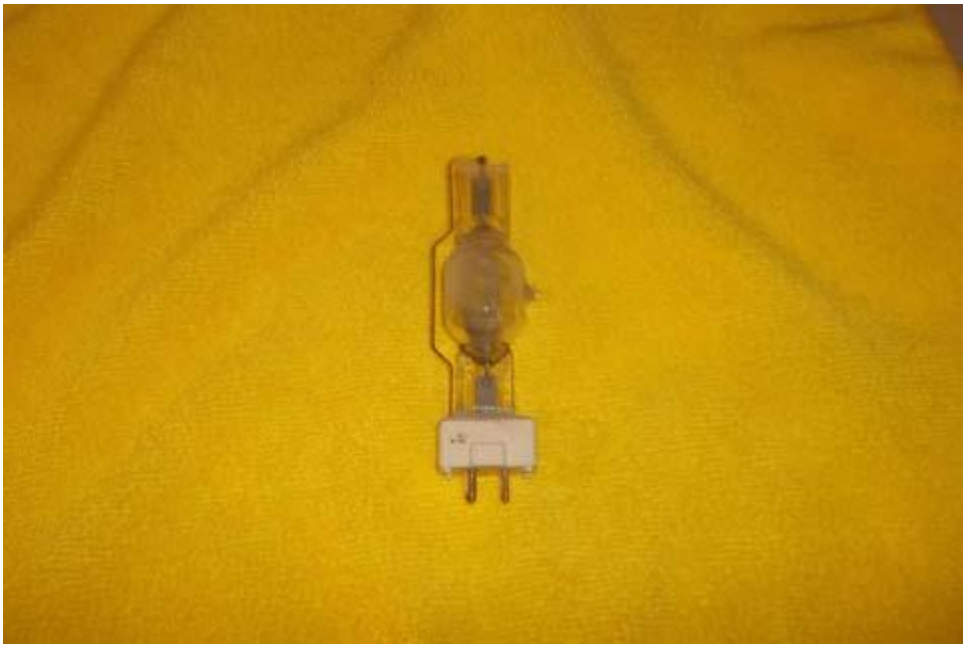

An example of a plugin High Pressure lamp is shown here.

Today, millions worldwide use tanning beds / booths or “sunbeds”, as many call them, to develop and maintain a glowing tan complexion.

Over 30 years after being labeled a passing fad, the $5 billion U.S. indoor tanning industry is still providing golden tans to approximately 30 million Americans each year.

There are approximately 20,000 professional indoor tanning salons in the US and another 15,000 businesses such as health clubs, spas, video stores and beauty salons that have one or two tanning units. The highest number of tanning salons per capita are found in the Midwest and Southeast, with Ohio, North Carolina, Michigan, South Carolina, Illinois, Indiana and Florida having the most salons.

The majority of indoor tanning facilities in the United States are small businesses, and more than 50 percent of them have female ownership, compared to 25 percent of businesses in other industries. Indoor tanning also provides jobs for approximately 160,000 employees annually.

The Indoor Tanning industry continues to grow and change. Incremental improvements in technology continue to improve the performance of our equipment. New phosphors, new glass for lamps, new reflector designs and refinements in filter glass are adding enhanced value for our clients. Improvements in cosmetics technology make tanning lotions and skincare products major steps ahead of where they started. Sunless technology has become a key component of the industry with spray booths, hand held spray as a personal service and bronzer enhanced lotions all being important components of the industry as a whole

Now that you know the history of indoor tanning, let’s look at the structure ofthe Indoor Tanning industry.

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Indoor tanning in the US is a collection of tanning salons and other retail businesses that offer tanning services. Distributors of products and equipment support these businesses. Manufacturers of products and equipment from both the US and international marketplace supply and support these distributors.

This industry is very much a part of the global economy. It is not uncommon for a tanning salon to be utilizing equipment produced in several different countries. US lotion manufacturers have set a standard for quality and an approach that has dramatically changed the European salon and lotion market.

The US indoor tanning industry is further served by a series of national and regional tradeshows. These venues bring information about new equipment, products and other issues that affect the retail side of the indoor tanning business. There is also a healthy trade press that conveys information to the retail sector as well as several tanning industry Internet discussion boards that provide a platform of discussion and conversation within the indoor tanning business community.

Distributors and manufacturers also have their own sites that offer information about their products, services and support.

Regulation is a fact of life in the indoor tanning industry. In the US, the Food and Drug Administration (FDA) regulates tanning at a national level. The FDA sets standards for the manufacture, supply and use of indoor tanning equipment. The FDA is located in Rockville, MD just outside DC.

Go to their website www.FDA.GOV for additional information.

The FDA is happy to receive input from us.

Tanning is regulated because tanning equipment is classified as a medical device. The UV they produce and expose clients to causes physical changes to the body, specifically, that exposure creates pigment in the skin and causes the skin to tan.

Currently about 30 states have state level regulations. Some of these states delegate responsibility for regulation and enforcement to the county or city level. State regulations vary in their scope and enforcement but have many common elements.

Of course the most important part of our industry structure is our clients. We'll talk about them in a general sense next.

Indoor Tanning Clients

Our clients are a diverse group, really a cross section of our society. They range in age from "baby boomers", and older, to adolescents. About 35% are male. The majority are Caucasians but we are increasingly attracting Hispanic and Asian clients. They come from all socio-economic groups, from wealthy to blue collar.

Tanners tend to be happy, friendly people that have active and full lives. They enjoy what they are doing, including the tanning experience, and like to try and experience new things.

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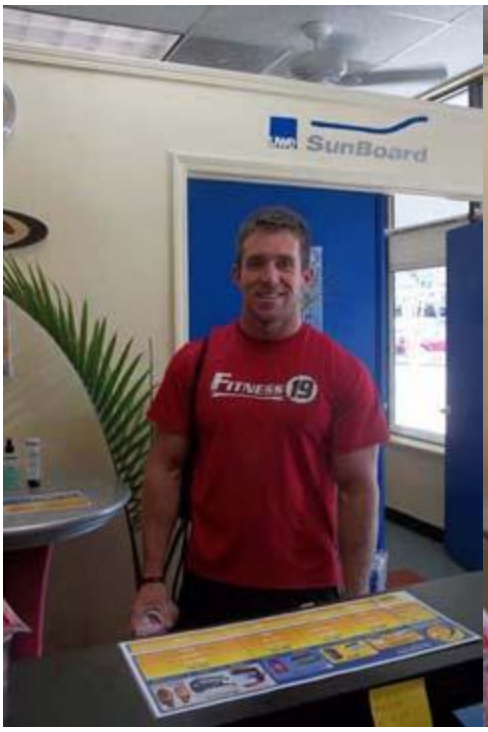
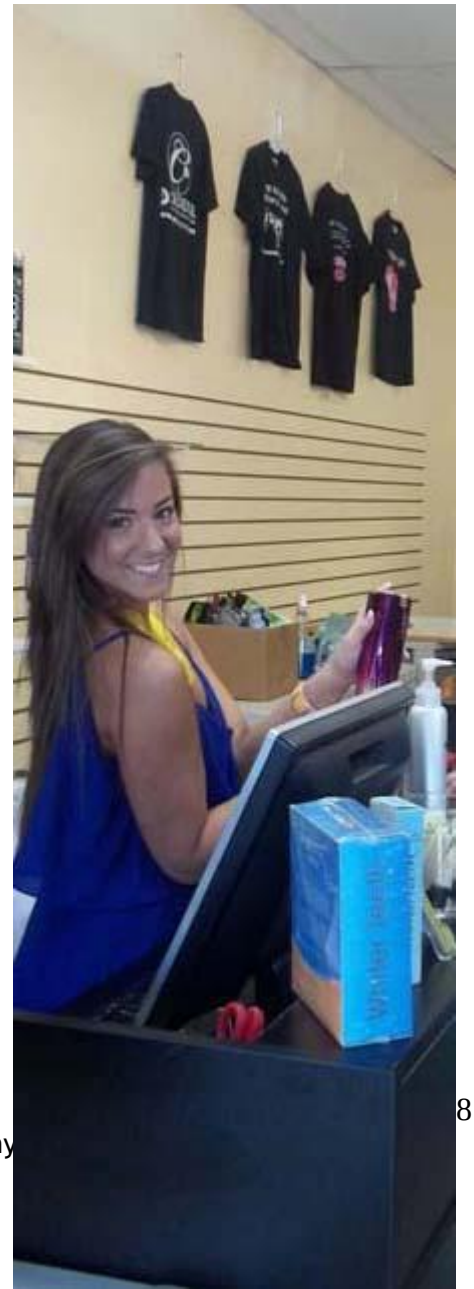


They have a diverse set of motivations for tanning. Obviously the warm glow of a nice tan is the big attraction; but clients are also motivated by:

- The perception that a person with a tan looks healthier, more lively, and active.
- The relaxation associated with the tanning experience.
- The protective effects of a base tan to be ready for outdoor activities and recreation.
- Relief from the symptoms of physical problems such as psoriasis and arthritis.
- The convenience that the sun is always shining in our sunbeds when they may not have an opportunity for tanning outdoors.
- Increasingly as medical concerns about Vitamin D deficiency receive attention, more people are using indoor tanning to reduce the risk of issues related to Vitamin D deficiency.
- Controlled environment



Our clients make our job fun.

What are some of the components of a your job?

The tanning client service representative plays a very important role in the indoor tanning industry.

You are the face of the tanning industry.

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You're a sales consultant, an educator, and a friendly smile. All parts of your job are important.

To the client:

- YOU are their tanning consultant.
- YOU optimize their results and help them meet their tanning goals.
- YOU provide a friendly, comfortable, clean environment.
- YOU educate the client about intelligent use of tanning equipment and if used in a safe manner, the benefits.
- YOU explain the importance healthy skin and the dangers of ingredients that are bad for their skin.

To your employer:

- How well you do your job affects client satisfaction, client retention and income from sales, both tanning and product.

To our industry:

- Your positive attitude about tanning helps our industry grow. When you educate the client about the benefits of UV, the entire industry benefits.

To yourself:

- The things you learn about client service, education and sales will benefit you throughout your future.

Did you know?

- Indoor tanning technology, when used in moderation, is designed to reduce the risk of skin damage caused by UV overexposure.
- Indoor tanning gives a controlled UV exposure and the duration is based on the client's skin type that is calculated to tan without burning. This control isn't possible when tanning outdoors.
- Outdoor overexposure is more likely.
- Overexposure causes the long-term skin damage that people today are most concerned about.

By following guidelines for duration and frequency of tanning sessions established by regulation and equipment manufacturers, the trained staff of a professional tanning salon work hard to avoid overexposure.

A well-trained staff is the most important asset to a tanning business.

You can help your salon compete with the biggest indoor tanning competitor, the sun Indoor tanning is smart tanning because of these advantages the tanner enjoys:

- Predictable controlled exposure, without having to contend with variables in location, weather conditions, season, or changes in the ozone level in the atmosphere.
- Convenience because it's available in any season, weather, or time of day; and because it takes just a few minutes, not half a day.
- Privacy that few of us can enjoy in our own backyard let alone at the pool or beach.

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- Service from tanning professionals, starting with the initial tanning consultation and ongoing advice while they're tanning; as well as products to help build and maintain a tan.
- "Vacation Insurance" in the form of a base tan in healthy skin before they leave, as well as knowledge and products to help them protect and enhance their tan while they're outdoors.

Of course, your training is also an invaluable asset in the day-to-day competition for the indoor tanning dollar. Knowledgeable and friendly client service is the least expensive way to distinguish your business from your tanning competitors. The added value of the service and the applied knowledge you supply can be your edge to attract and retain tanning clients.

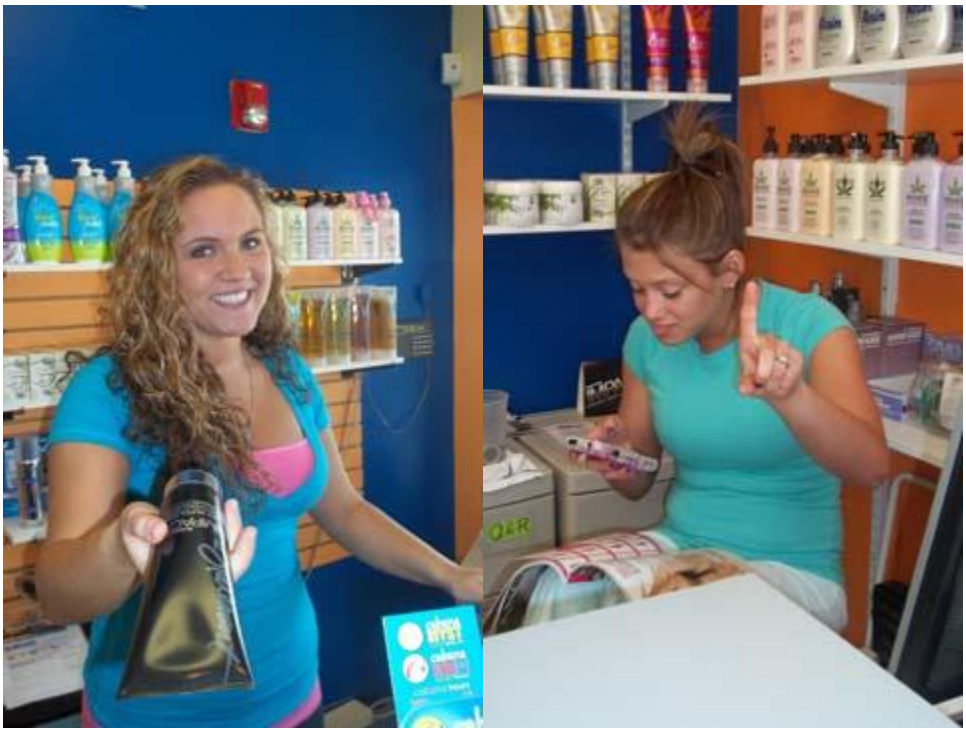
What does the future hold for indoor tanning and what are the challenges we face?

The indoor tanning industry faces a serious set of competitive challenges. We not only compete for consumers discretionary dollars but are also seen as direct competitors by several industries and other economic groups. Indoor tanning is the target of ongoing attack based on these groups economic interests:

- The cosmetics industry.
- The sunscreen industry.
- The dermatology industry.

These attacks have resulted in more laws governing tanning and increased taxes on our industry.

Our challenges are not just external. Some providers in our industry have failed to perform up to reasonable standards for quality and performance over a range of issues from client service to UV exposure and eyewear use. This gives our industry a bad reputation. Again, your role as a client service representative is so important in the quality you deliver to the public.



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Which of these customer service representative would you want to have wait on you?

Take Quiz 1 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.
  Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

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Module 2, Light and UV or Ultraviolet Light

In this module you will learn:

The fundamental concepts of Light and Energy.

That Ultraviolet Light (UV) is the kind of energy that tans our skin.

The different types of UV light and their role in the tanning process.

The similarities and differences between indoor and outdoor tanning.

Throughout the rest of this module we will refer to Ultraviolet Light as UV.

Tanning is regulated as “Radiation” Exposure – what does this mean

Exposure to UV light produces a tan in human skin, as well as having other physiological effects, but why is UV referred to as “radiation”? There is a gap between our ‘social’ concept of radiation and a technical definition of radiation.

Socially we tend to define radiation around what we are exposed to in the news. Such as the concept of “nuclear” radiation from nuclear weapons or nuclear power. These forms of radiation are considered “ ionizing” radiation because they can change the structure of atoms. That is very different from the definition of radiation used in tanning.

Tanning regulations use a much more general scientific definition of the term “radiation”. This definition includes “non- ionizing” forms that include radio waves, microwaves, infrared, visible sunlight and UV light.

The general concept of radiation is energy that comes from a source and travels through some material or through space and it moves in the forms of waves of particles.

We are familiar with many kinds of energy that meet that definition. They include Visible Light, radiant heat, electricity, UV light and Radio waves.

Ionizing radiation causes atoms in matter, through which it passes, to loss or gain charge. It does this by adding to, removing, or moving the electrons around the atom. Ionizing radiation poses a biological and environmental hazard but is not a concern for indoor or outdoor tanning. The shortest wavelengths such as gamma rays and x-rays are ionizing radiation. Visible light and UV light are not ionizing radiation; in fact they are essential to life.

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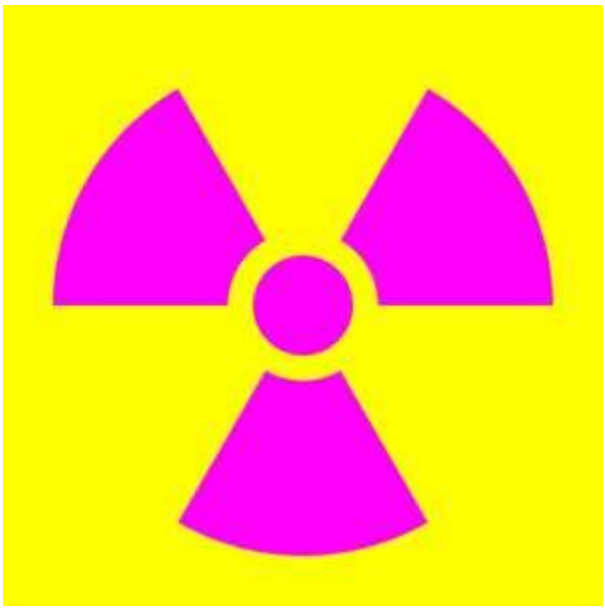
UV light is this. The sun makes life on Earth possible.



UV light is NOT this. This is the symbol for dangerous ionizing radiation.

Now that we know the more general scientific definition of the term “radiation” we need to understand how this energy moves and how it is arranged.

We can’t see these waves of energy but their behavior can be compared to waves on the ocean. These waves move like ocean waves, only much faster. An interesting feature of these waves of energy is that the “wave length”, the distance between the crests of 2 adjacent waves, varies dramatically.

The wavelengths of vsible Light and UV are very short. Because their wavelength is so short visible Light and UV are measured with a unit of measure called the “nanometer”. A nanometer is one billionth of a meter. By contrast AM and FM radio waves are several hundred feet long.

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In order of decreasing wavelength and increasing frequency, various types of electromagnetic radiation include: radio waves such as AM, FM, TV, and short wave, microwaves, infrared radiation, visible light, ultraviolet radiation, X rays, and gamma radiation.

The arrangement of radiation according to the length of its waves is called the "*Electromagnetic Spectrum*".

Let's discuss the various types of radiation beginning with the longest wavelengths

Radio Waves are used to transmit radio and television signals. They have wavelengths that range from less than a centimeter to tens or even hundreds of meters. FM radio waves are shorter than AM radio waves. For example, an FM station at 100 on the dial would have a wavelength of about 3 meters or approximately 10 feet. On the other hand, an AM station at 750 on the dial has a wavelength of about 400 meters or a little over 1300 feet.

Microwaves – In a microwave oven, the radio waves generated are tuned to frequencies that can be absorbed by the food. While the food absorbs the energy and gets warmer, the dish holding the food doesn't absorb a significant amount and stays cooler. Microwaves have wavelengths ranging from approximately 1 millimeter or the thickness of a pencil lead to about 30 centimeters or about 10 inches.

Infrared is adjacent to the visible region and measure about 1 millimeter in wavelength. The name infrared is also referred to as "below the red," beyond the red, and radiant heat. Infrared radiation is thermal, or heat radiation. This is the heat you feel from the sun and from the tanning unit. We actually get this type of energy from the sun. About 45% of the energy that reaches the earth from the sun is in the form of infrared.

Visible light is the type of energy we are the most familiar with because we can see this energy. Visible light is measured in nanometers, between the range of 400 and 700 nanometers. It stretches from the color red on the longest wavelength of visible light to the color violet on the shortest wavelength of visible light. It is also a type of energy we get from the sun. About 49% of the energy that reaches the earth from the sun is in the form of visible light.

Ultraviolet is adjacent to visible light on the short wavelength end of visible light. It has a range of wavelengths from 200 to 400 nanometers. This is another type of energy we get from the sun; about 6% of the energy that reaches the earth from the sun is UV energy.

The UV area of the Electromagnetic Spectrum is where the tanning rays are located.

The following are ionizing types of radiation that are on the Electromagnetic Spectrum:

X-Rays are high-energy waves that have great penetrating power and are used extensively in medical applications.

Radioactive atoms and nuclear explosions generate gamma Rays. They are more penetrating than X-rays and are also used in many medical applications.

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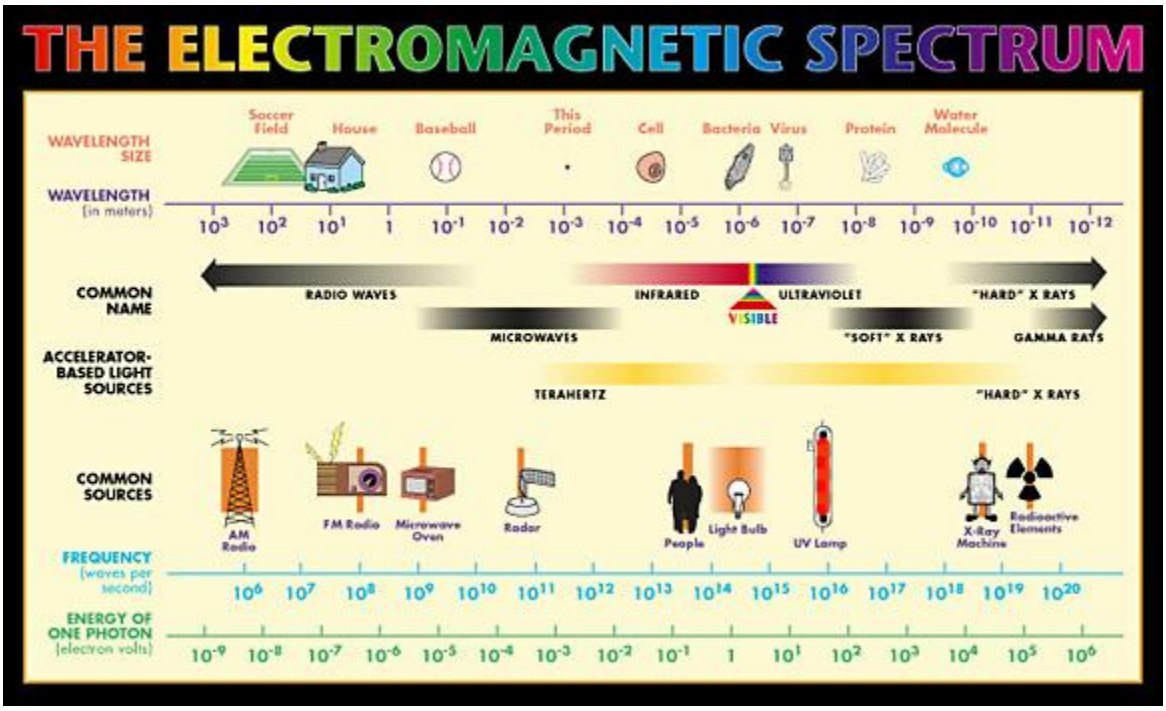
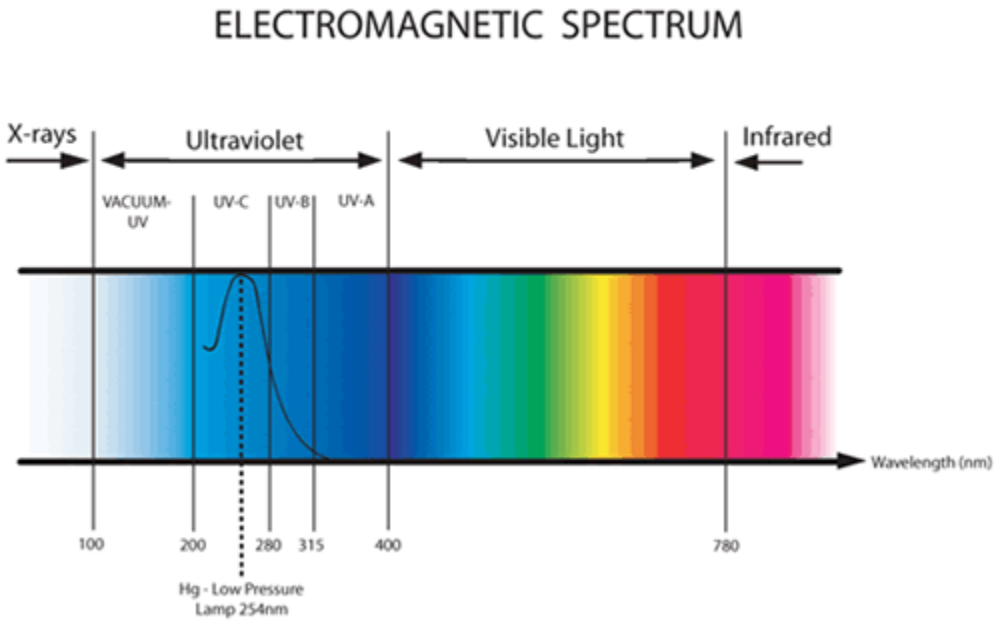


This image shows the full electromagnetic spectrum going from the longest wavelengths on the left to the shortest wavelengths on the right.



In this image, please focus your attention on the UV area of the electromagnetic spectrum. We have already learned that the wavelengths in the UV area range in length from 200 to 400 nanometers. As you can see from this image, UV is further subdivided into 3 distinct types. These types are UV-A, UV-B and UV-C and they each have unique characteristics.

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Let’s discuss the 3 components of UV.

- Beginning with UV-A. UV-A has a wavelength range between 400 to 320 nanometers. It is limited to lower-energy, longer waves and does not cause sunburn, although it can damage collagen fibers. UVA has a very important role in the tanning process because it oxidizes pigment in our skin. That causes the brown to bronze color associated with a tan. I like to call UV-A the cosmetic UV because it gives us our tanned appearance.

- Next is UV-B. It measures in wavelength from 320 to 280 nanometers. Much of the UV-B that enters the earth's atmosphere is absorbed by the ozone layer before it reaches the surface of the earth. UVB has a very important role in the tanning process, it helps develop new pigment. We have skin cells that product pigment. UV-B energizes these cells to produce more pigment thus adding a depth of color to the skin. This is our skins natural response to UV-B exposure. UVB is also the type of UV that can cause sunburn when our skin is overexposed to it. Our tanning exposures need to be balanced so that we get sufficient UV-B to enhance pigment production but not an excess of UV-B that will cause sunburn. Though UV-B has the potential to cause a burn, it also has significant beneficial affects. These will be discussed in a later module.

- Finally UV-C, which measures from 280 to 200 nanometers. Fortunately all of the UV-C that enters the earth’s atmosphere is absorbed by the ozone layer before it reaches the surface. UV-C is extremely biologically active. There have been manmade sources of UV-C that have been used medically and commercially to kill germs. UV-C plays an indirect role in tanning. This role will be discussed in another module.

Note that the distinction between the 3 types of UV is based on the behavior of the UV. Because the changes in behavior are spread across a range of wavelengths scientists vary in their definition of the boundaries between the types of UV. For example: the lower range of UVB is described as between 280 to 296 nanometers and the lower range of UVA is described as between 315 to 320 nanometers.

An intriguing question related to the changes in behavior being spread across a range of wavelengths is raised about the wavelengths between 320 and 340 nanometers. The rays in this range have some, but minimal, capability to contribute to sunburn. Some people suspect that these wavelengths, with some of the higher energy characteristics we associate with UVB, as well as the deeper skin penetration characteristics we associate with UVA, may be the component of UV exposure that contributes to aging of the skin.

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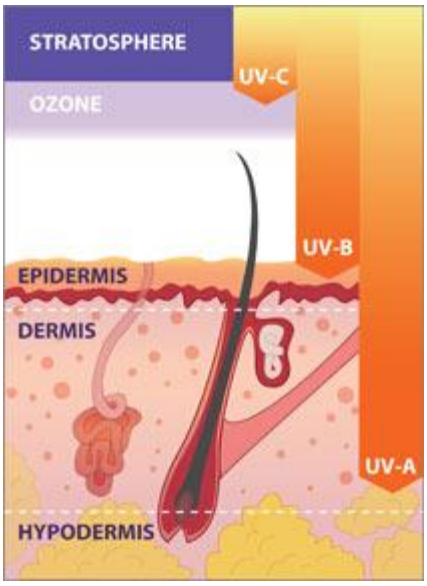

At this point, you should remember that UV-A and UV-B are the primary tanning wavelengths and they fall within the range of 400 to 280 nanometers.

UV has a low power of penetration; hence its direct effects on the human body are limited to the surface of our skin. The direct effects are reddening of the skin or (sunburn), pigmentation development or (suntan), and aging. Tanning is your body's natural defense against sunburn relying on melanin to help protect the skin from further injury. Melanin is a chemical pigment in the skin that absorbs UV and limits its penetration into tissues. A suntan occurs when UV activates melanin pigments in cells in the deeper tissue portion of the skin, and the cells migrate to the surface of the skin. UV-A is what darkens these cells by means of oxidation, giving the tanned appearance. When these cells die, the pigmentation disappears.

Tanning indoors or outdoors, which is the best choice?

There are many myths around tanning, one of them being that the UV in tanning beds penetrates deeper into the body and tans you from the inside out. Another is that it's safer to tan outdoors. The only difference between the UV produced in tanning equipment and outdoor UV is that one comes from electricity and the other one comes from the sun. Our body's reaction to both types is the same.

The three characteristics of the UV light in indoor tanning that differ from UV received outdoors are:

1. The intensity. The total intensity of the UV indoors is stronger, with more UV dispensed in a shorter time frame.
2. No dependency. Nothing outside of the tanning bed influences the output of the bed. Not the time of year, weather conditions or surfaces. Output IS dependent on the bed design, the condition of the lamps, the condition of the bed, and the condition of the acrylic.
3. Ratio of UV-A to UV-B will differ. Depending on the type of lamp and filter system use, most lamps produce mainly UV-A, with a minimal amount of UV-B. The intent of indoor tanning has always been for cosmetic purposes.

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Many people think it is ‘safer’ to tan outdoors, but they do not understand the similarities and differences between indoor and outdoor tanning. These differences should be pointed out to your clients to help them understand their exposure schedule, spacing of their sequential visits and the importance of using FDA approved eyewear.

Lets start with Outdoor Tanning:

1. The height of the sun and time of day. Radiation is greatest when the sun is directly overhead and is most intense between 10am and 3 pm. At this time of day the UV travels though less atmosphere and is therefore stronger. These are the hours when you will burn the fastest.
2. Latitude - distance from the equator. Areas nearer the equator are physically closer to the sun and get more direct sunlight.
3. The time of the year. As the earth moves around the sun, it is different distances from the sun, thereby affecting the intensity of UV.
4. Temperature really has nothing to do with getting a tan. If the maximum UV level occurs between 10am and 3pm it should be noted that the maximum temperature doesn’t occur until much later in the day around 5pm or 6pm. Temperature only makes us uncomfortable, you can still burn on cool and cloudy days.
5. Scattered and reflected UV. UV can be reflected back from various surfaces such as water, sand and glass. This can add to the intensity of the UV reaching your skin. Snow reflects the greatest amount of UV. Clouds scatter the UV in all directions and although you receive less direct UV, you may receive more indirectly. UV intensity outdoors can change by as much as 100% in an hour.
6. The altitude - distance above sea level . Did you know that for every 300 meters above sea level you will see a 4% increase in UV?
7. And finally Ozone depletion. Ozone is a gas, which is part of the earth’s upper atmosphere and it plays a vital role in the absorption of UV. As this layer thins, more UVB reaches the earth’s surface. This is most noticeable during spring when the amount of ozone drops rapidly. The National Weather Service issues a daily UV index which predicts how long it would take a light-skinned American to get a sunburn if exposed; unprotected, meaning without sunscreen, to the noonday sun, given the geographical location and the local weather. It ranges from a UV Index of 1, which means you can stay in the sun for about 60 minutes before the skin will burn to a high of 10 or about 10 minutes before the skin will burn.

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Now lets look at Indoor Tanning:

1. The condition and maintenance of your lamps. Changing lamps at least on the rated life specified by the manufacturer makes a big difference in the output of the equipment.
2. The condition and maintenance of your acrylic. Performing maintenance on the acrylic by cleaning the underside on a regular schedule impacts the performance of the equipment.
3. The Intensity. What does this mean to you? A person with skin type 3 can stay on the beach in Cancun for about 1 ½ hours or 3 to 4 hours on a beach in North Carolina without sunscreen compared to a typical tanning session.
4. Ratio of UVA to UVB will differ. Generally speaking most tanning lamps produce a higher amount of UVA than what you receive outdoors.
5. And the most important difference is the controlled environment. Time of day, weather conditions, UV Index, and the reflection of the sun off various surfaces have no affect on indoor tanning. We cannot control what our clients do when they leave our salon, but we are obligated to educate them about the hazards of overexposure to UV and the importance of tanning responsibly. The UV coming from a tanning lamp never goes up, but steadily decreases over time. The only time the UV goes up is when we change our lamps. When we do that, we inform our clients that the lamps are new and adjust their tanning time accordingly.

Take Quiz 2 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.
  Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

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Tanning Operator Training and Certification

To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 3 - The Skin and the Tanning Process for the next lesson .

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Tanning Operator Training and Certification

Module 3 – The Skin and the Tanning Process.

The Objectives in this module are:

- Learning about the anatomy of our skin
- Finding out how our skin tans
- Recognizing the difference between Base tans, cosmetic tans and sunless

Let’s begin with the anatomy.

The skin is an ever-changing organ that contains many specialized cells and structures. The skin functions as a protective barrier that interfaces with a sometimes-hostile environment. It is involved in maintaining proper body temperature, it gathers sensory information from the environment, and plays an active role in the immune system protecting us from disease. Understanding how the skin can function in these many ways starts with understanding the structure of the 3 layers of the skin – the epidermis, dermis and hypodermis or subcutaneous tissue .

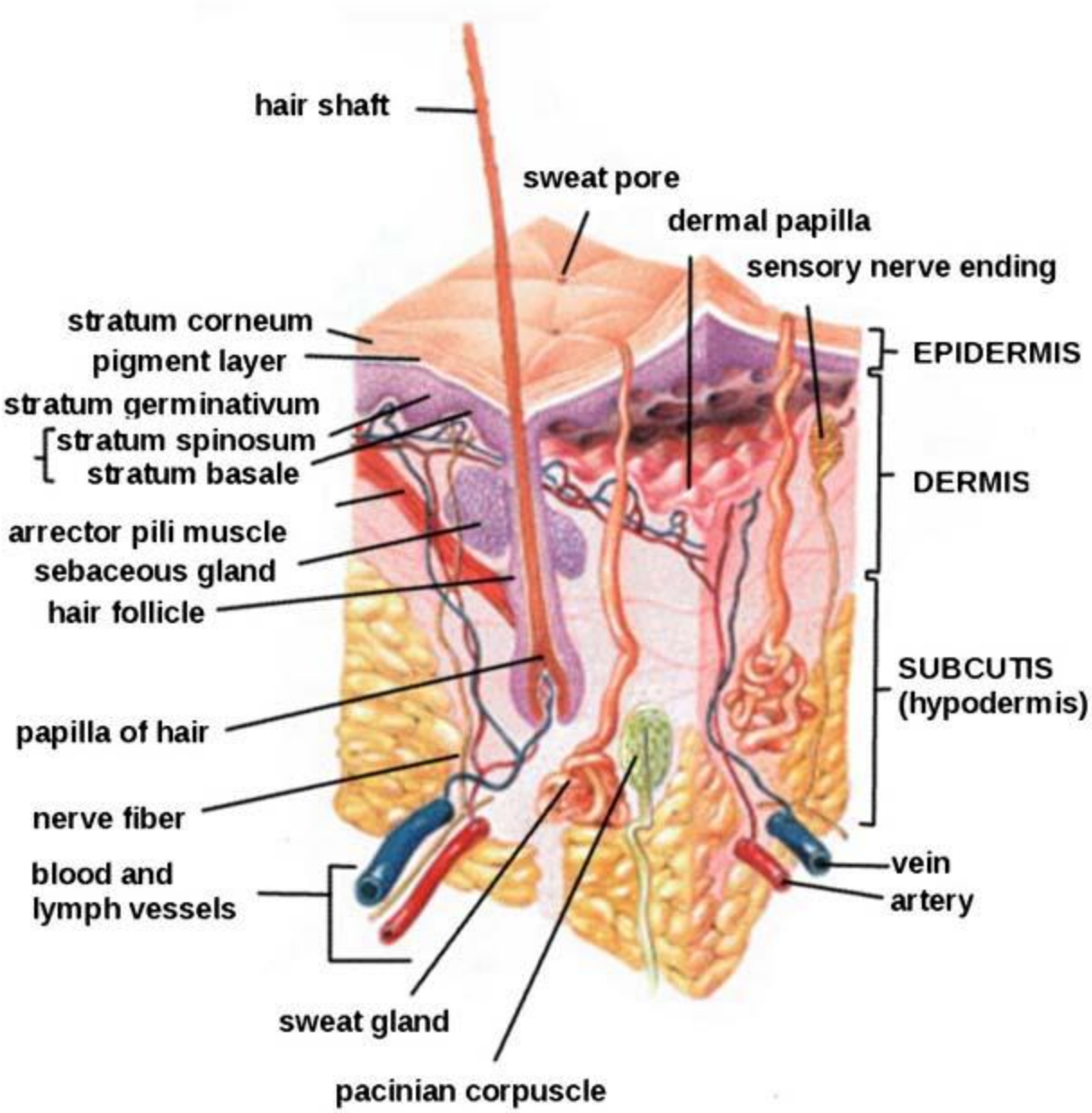
Starting with the epidermis – The epidermis is the most superficial layer of our skin. It covers and protects the dermis and is our body’s first line of defense from the invasion of foreign substances, such as pollution and UV light.

The epidermis is a combination of multiple layers of skin cells. The outer or first layer is called the Stratum Corneum or the Horny layer. This layer is composed of approximately twenty layers of brick-like, densely packed horny cells, which are interlocked with their neighboring cells. They are formed by dead cells, which are transformed into keratin or protein. Keratin plays a major role in holding moisture in the skin. The horny layer has the function to protect the living skin layers through these numerous layers of flat, dead (horny) cells, which flake away at the skin's surface.

The next layer of cells in the epidermis is the Stratum spinosum or prickle cell layer . A prickle cell is an epidermal cell, which lies above the basal cell layer. It forms innumerable inter cellular bridges. These inter cellular bridges give the stratum spinosum a rough appearance. The purpose of these cells is to generate keratin.

The bottom layer of the epidermis is called the Basal layer. Other names for this layer are stratum basale and stratum germinativum. This is the deepest part of the epidermis. The primary function of stratum germinativum is to assist in the regeneration of the epidermis. Once a cell has originated in the stratum germinativum it undergoes what is known as mitotic division. This is a scientific name for a type of cell division that causes one cell to divide and create more cells that are identical to the original cell. And so a new skin cell is formed. Cell division is rhythmic and occurs in cycles. It has been estimated that normal epidermal cells take about 27 days or roughly 1 month to travel from the basal layer to the surface.

The epidermal layer of the skin is very important in the tanning process because the entire process occurs in this layer. Later in this module you will learn that in addition to new skin cells being made in that layer, new pigment to color our skin is also made there.



This illustration shows a cross section of our skin. You can see the horney layer or stratum corneum, followed by the prickle cell layer or the stratum spinosum and finally the bottom or basal layer; in the illustration it is labeled stratum germinativum and stratum basale.

The next layer of skin is Dermis:

The dermis is a layer of skin between the epidermis and the subcutaneous tissue. Structural components of the dermis are collagen (which provides strength), elastic fibers (which provide elasticity), sweat glands, hair follicles, sebaceous glands, lymphatic vessels and blood vessels. The blood vessels provide waste removal for both the dermal and epidermal cells.

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The innermost and thickest layer of the skin is the hypodermis or subcutaneous tissue . It is attached to the dermis by collagen and elastin fibers. It is composed of a type of cells that specialize in accumulating and storing fats known as adipocytes. The hypodermis acts as an energy reserve and is used mainly for fat storage.

How thick do you think your skin is? All layers of our skin are between 2 to 3 millimeters or 0.08 to 0.12 inches.

Now that we understand the anatomy of our skin, lets' add the tanning process to the picture and learn how human skin tans.

Human beings come in a glorious spectrum of different colors: light, dark, plain or freckly skin; black, brunette, blond, auburn, and white hair; and eyes that are blue, hazel, green, amber and brown, to name just a few. It's amazing to realize that most of this color is attributed to a single class of pigments: the melanins.

What are melanins?

Melanins compose a class of compounds that serve predominantly as a pigment. These pigments are derivatives of the amino acid tyrosine. There are two types of naturally occurring melanins: eumelanin and pheomelanin. Both the chemical composition and the physical properties differ for the various types of melanin, suggesting that their chemical and biological responses may behave differently when exposed to light.

Eumelanin is a black to brown pigment. In humans it is more abundant in people with dark skin.

Pheomelanin is a yellow to a red-brown pigment. In humans it can be found in both lighter-skinned and darker-skinned individuals.

Cells called melanocytes produce melanin in our skin. These cells are found in the basal layer of the epidermis, the pigmented tissue underlying the iris of the eye and in the inner ear.

In general human beings have a similar concentration of melanocytes in their skin, but the melanocytes in some individuals and ethnic groups are more frequently or less frequently expressed in the melanin producing genes thus showing a greater or lesser concentration of skin melanin.

Through a process called *melanogenesis* , these melanocyte cells produce melanin. This leads to long lasting pigmentation in contrast to the oxidation of already existing melanin on the surface of our skin.

Exposure to UV-B causes an increase in melanogenesis, thus increasing the amount of melanin. This is our skin's response to potential burning.

Melanin reduces ultraviolet induced DNA damage by absorbing or scattering the ultraviolet radiation that otherwise would have been absorbed by the DNA. This prevents the development of melanoma, a potentially deadly form of skin cancer, as well as other health problems related to exposure to strong solar radiation. The amount of UV radiation that is absorbed or scattered is determined by a number of factors: the size, shape, and distribution of pigment granules that are produced by melanocytes, as well as the wavelength of the incident ray.

Skin color depends upon the size, number, shape, and distribution of these pigment granules, as well as the chemical nature (level of activity) of their melanin content.

With the increased production of melanin, triggered by exposure to UV-B, the result is a suntan.

The degree of exposure to UV-B necessary to stimulate the melanocyte cell to produce melanin is called a minimum erthemal dose or MED.

As those pigment granules move up through the epidermis and are exposed to UVA the pigment oxidizes. That oxidized pigment produces the brown to bronze color of a tan. When these epidermal cells die and are exfoliated, the pigment and color are gone.

Your MED is a boundary between not burning and starting to develop a burn. At an exposure level below the MED no burning occurs in the skin. It is only after the MED is exceeded that we start to sunburn. This is very important to our approach to indoor tanning. Indoor tanning exposures are based on a series of exposures below the MED level that start and then accelerate the process of increased pigment production.

A person's MED at any given time is based on their natural skin type and the level of pigment they have developed in prior exposures.

The concept of MED is very important to you as a client service representative. One of your most important duties is determining what the exposure time for each client should be when they visit. What you are doing is trying to calculate what their MED level exposure time will be relative to the piece of tanning equipment that they are going to be using.

Have you ever heard someone say that they "need to get a burn before they tan"? This myth that getting sunburn helps you tan has been around for a long time.

The reality is that sunburn is damage to the pigment producing area of the skin. That damage has to heal before normal pigment production and other cell behavior can resume. In reality a burn impedes the tanning process for the period of time it takes the burn to heal.

The reason people get this misperception that burning helps them tan faster is from their outdoor tanning experience. Later on in this module we'll discuss that misperception and it's possible source.

What have we learned so far?

- Our skin is divided into 3 distinct layers – epidermis, dermis and hypodermis

- Our skin has various functions – thermal regulation, sensation, protection and biologic
- All the tanning occurs in the epidermal layer
- UV-B triggers our pigment producing cell the melanocyte cell to make more pigment, thus raising the overall amount of pigment or melanin in our skin
- UV-A gives us our tanned appearance due to oxidizing the surface melanin
- The importance of the MED or minimum erythemal dose.

Now we know how we tan, it's time to learn about the phases of tanning.

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There are 2 phases of tanning. One is called an immediate tan and it appears shortly after exposure to UV-A. Not everyone experiences this phase of tanning because the UV-A acts on the existing pigment on the surface of our skin. Individuals with lower skin types do not usually see this darkening because they have relatively low levels of melanin on the surface. Another name for this is Immediate Pigment Darkening or IPD and it is most noticeable in clients with higher skin types. This phase is short lived due to exfoliation of dead skin cells.

Phase 2 of tanning is the delayed phase. This phase begins anywhere from 4 to 8 hours after exposure to UV-B. The effect may not reach its peak for 4 to 10 days. The delayed effect involves the development of new melanin pigment, causing the skin to have a greater depth of color. The epidermal layer of the skin also begins to thicken. The development of new pigment and this thickening of the skin are the factors that differentiate the immediate phase from delayed phase.

This second phase of tanning is very important to the development of our tan because of the development of additional pigment in our skin.

For a person with “normal” skin starting to tan, it takes about 2 ½ times as much UVB exposure to trigger pigment production as it does to cause a sunburn. This is what indoor tanning is all about. Exposing the client to a series of sub-burning every other day to encourage the melanocyte to start additional pigment production and increased capacity.

Ok, so if it takes about 2 ½ times as much UVB exposure to even start pigment production as it does to cause sunburn then we would need to get a burn to tan wouldn’t we? No, the difference is the delay or residual time for the effect. The residual time for pigment production is around three weeks where the residual time for burning is 48 to 60 hours.

This goes back to why people have the perception, from their outdoor tanning experience, that burning helps their tan. People mostly don’t have the opportunity to get a little bit of sun every other day, so they pack an overexposure into a single afternoon and then are back out in the sun a week later. After a cycle or two of burning then back a week later they start to see color. Color with a cost.

Is there more to a tan than just that bronze glow?

Absolutely! We all know that a base tan helps protect us from sunburn on subsequent sun exposures.

Exposure protection is measured in “Sun Protection Factor” or SPF. The definition of SPF is complex but there is a popular oversimplification of how SPF determines how long one can stay in the sun. For example, many users believe that, if they normally get sunburn in one hour, then an SPF 15 sunscreen allows them to stay in the sun fifteen hours (i.e. fifteen times longer) without getting sunburn. This would be true if sun intensity were constant over the course of the day, but it is not.

The protective effects of a base tan come from two things - The increase in melanin in our skin that absorbs UV and the thickening of the epidermis.

UV does not penetrate very far into our skin. UV-B penetrates just to the basal layer of the epidermis and UV-A penetrates thru the epidermis and additionally about half way thru the dermis.

As our skin thickens, less and less UV-B reaches the basal cell layer and the pigment producing cells there. This means we are less prone to sunburn. It also means we reach a “tanning peak or Tanning Plateau”; a point beyond which we do not produce more pigment simply because UV-B no longer reaches the melanocyte cells.

The combined protective effect of the increase in pigmentation and increase in epidermal thickness is equivalent to between a SPF 2 and SPF 4 for most Americans. This level of protection is a good start.

For prolonged outdoor exposures and especially ones with higher sun intensity most people will also need to use a topically applied sunscreen cream or lotion to augment the protection of a base tan.

The High-Pressure Tan.

Indoor tanning using equipment that produces only UV-A light (no or minimal UVB) has been popular in Europe for a long time and has become increasingly popular here in the US. This type of equipment is called High-Pressure and it is a very intense UVA environment.

This equipment uses high intensity exposure to UV-A. The UV-A intensity may be as much as 20 times greater than that found in a conventional tanning unit. This high intensity UV-A exposure will develop color in the skin due to the darkening of any existing melanin pigment but it will not develop new protective pigment. This is cosmetic color.

Consumers find the immediate gratification of being able to get significant color in just one or two visits to be very attractive and convenient.

But now it’s time for the annual beach vacation and though they have a lot of color, they don’t have a tan. When you have a client in this situation talk to them about the importance of using a full spectrum SPF and to be vigilant with their SPF applications when they hit the beach.

The Sunless tan!

Sunless tanning is based on a topically applied dihydroxyacetone (DHA) as the active ingredient and has become an important part of the indoor tanning business model.

The delivery system for a sunless tan may be by spray booth or by hand held units based on airbrush or high volume low pressure (HVLP) equipment.

Though the ingredients used in the sunless tanning solution are regulated by the FDA the application of this solution is not.

A sunless application will deliver color but provides no base of protection for subsequent sun exposures.

As tanning bed operators you need to pay attention to new clients who appear to have a base tan. Looks can be deceiving. If your new client with the great tan had previously been using High Pressure or UV-A only equipment and you put them in a tanning unit that emits UV-B you could potentially burn them if you assume they have a tan.

Take Quiz 3 below to complete this Module

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Module 4 – Skin Types and Skin Typing

In the previous module you learned about how people tan, but you also learned that we don't all tan equally. In this module you will learn about skin types, the importance of skin typing and how to determine a clients skin type.

Up to this point we have talked about how people tan, about pigmentation, and the role UV-A and UV-B play in the tanning process. We know that UV-A oxidizes our pigment and gives us that bronze color and we know that UV-B can cause burning from overexpose.

We discussed the Minimum Erythemal Dose or MED and that it bears a strong relationship to the type of skin we are born with.

So, how do we bring this all together? Is there anything that can help you determine how long to put someone in a tanning bed initially and ensure they will not burn?

The answer is yes. We know that people differ in the amount of time it takes to tan and the type and color of skin they are born with is the most important factor. Now, using their hereditary information plus a little more we will establish the client's skin type.

The FDA has helped us in our efforts to accurately skin type our clients by using an industry standard known as the Fitzpatrick skin typing scale. It consists of a range of six skin types described as skin type 1 the most pale thru skin type 6 the least pale.

Understanding a client's skin type is the most important part of your job as a tanning bed operator. Everything you do involves the clients skin type. Determining initial exposure time, educating the client about spacing their upcoming visits, determining the exposure time for the sequential visits. Should you increase the tanning time, decrease it or keep it the same? Always talk to the client. Ask the client how their skin reacted to the previous visit. Was their skin pink or red? How long did the pinkness or redness last? Was there any discomfort? The answers the client gives you will help you determine what to do next and even determine what tanning unit to put them in next. Skin typing can even help you determine the best tanning product for this client.

Skin typing is a valuable tool, but it can also be subjective. Not all clients fit neatly into one of the 6 skin types. Some clients might boarder between a 2 and a 3 or have some physical characteristics of a low skin type but have inherited a higher skin types tanning potential.

Skin sensitivity and reaction follows a range of responses. The skin on different parts of the body reacts differently to UV exposure. For example, most people find that extremities, like the legs, don't tan as easily as the torso and the skin on the face is more sensitive to UV.

It is important that you keep communication open with your clients to be aware of how their exposure is working for them. This helps you give them the most value from each visit. Tanning is a process, we don't want to overexpose our clients resulting in a burn, but we also do not want to underexpose them resulting in a dissatisfied client.

In looking at skin type by skin color it is important that we base our view on totally unexposed skin, skin that has developed no tan. One area where we can do this is usually the inside of the client's upper or lower arm.

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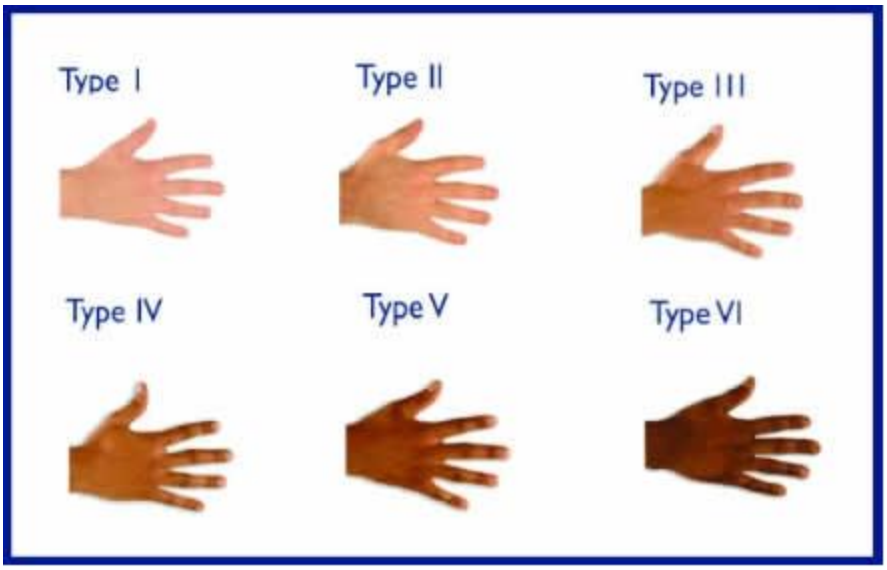

This is an overview of what the skin type colors look like:

Skin Type 1

Physical characteristics include:

- Very fair skin with a high number of freckles
- Eye color is light blue, green or gray
- Ethnic background is English, Irish, Scottish or Celtic

Their reaction to UV-B is:

- Extreme sensitivity
- They always burn and never tan

This person should be advised to not tan indoors or outdoors.

The warning - "If a person cannot tan from the sun, it is unlikely they will tan using indoor tanning equipment" is on the bed label on all tanning devices.

This warning is targeted specifically for people with skin type 1.

Thankfully there are very few Skin type 1 people out there. They make up a small percent of the US population. But occasionally you will need to deal with a prospective client with Skin type 1.

The question is what action should you take in this situation? Regulations tell us that we should not attempt to tan a person with type 1 skin, but your job is to explain to the client why tanning is not only a bad choice, but also a dangerous choice.

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Talk to them about their outdoor tanning experience. If they are being truthful, they will tell you the horror stories of burning every time they go out in the sun, even for a short period of time. Explain to them that indoor tanning would cause them to suffer a burn in even less time. Then suggest an alternative.

To obtain color, sunless would be a great option for this person. In addition you should advise them to talk to their doctor about Vitamin D issues and how they can get adequate levels without UV exposure.

Here is an example of a person with Skin type 1. Note the grayish to blue eye color, the many freckles, the red hair and the reddish skin tone.

Skin Type 2

Physical characteristics include:

- Fair skin with a hint of beige
- Eye color is blue, green, gray or a light hazel
- Hair color is blonde or light brown
- Ethnic background is light skinned Caucasian. Perhaps a combination of German and French or perhaps some Italian thrown in.

Their reaction to UV-B is:

- Very sensitive
- Burn easily and tan minimally.

A person with skin type 2 needs to take their time. Slow and steady gets the tan. For this person a base tan can reduce the risk of burn in future outdoor exposure. This person can spend hour's outdoors if they follow these simple guidelines:

- Limit exposure time to between 9am to 11am or anytime after 4pm.
- Where a full spectrum sunscreen.
- When the sun is most intense, stay in the shade.
- Where sunglasses
- Where a hat.

Here is an example of a person with skin type 2. Note the blonde hair, the blue eyes and the pale to light beige skin tone.

Skin Type 3

Physical characteristics include:

- Caucasian with natural beige skin
- Eye color is a dark gray, light brown or a dark hazel.
- Hair color is medium to dark brown.
- Ethnic background is dark skinned Caucasian. Perhaps a combination of German and Italian. Any combination of a medium complexion combined with a darker ethnicity.

Their reaction to UV-B is:

- Normal reaction
- Sometimes burns
- Gradually tan to a uniform light brown color.

Clients with skin type 3 will make up the bulk of your clientele, well over 70%. The majority of the US population, as well as the majority of indoor tanning clients, has skin type 3.

Here is an example of a person with Skin type 3. Note the brown hair, brown eyes and the beige complexion.

Skin type 4

Physical characteristics include:

- Beige with medium to dark pigmentation
- Dark Brown eyes
- Dark Brown hair
- Ethnic background is Spanish, Italian or Greek

Their reaction to UV-B is:

- Tolerant to UV
- Minimum burning
- Always tans to a moderate brown color
- Experience IPD or Immediate Pigment Darkening

People with skin type 4 tan quickly, easily and to a deep rich brown color. Any exposure to UV-A will show an Immediate Pigment Darkening or IPD in clients with skin type 4 because of the high capacity they have for melanin production that they inherited from their ancestors.

Clients with skin type 4 tend to be great indoor tanning clients. Because they can tan so quickly they don't want to deal with tanning outdoors because they know they can tan so easily and quickly indoors. They are willing to invest in their tan and the health of their skin.

Here is a great example of someone with type 4 skin. She has dark hair and eyes and her ethnic background appears to be Italian or Spanish.

Skin type 5

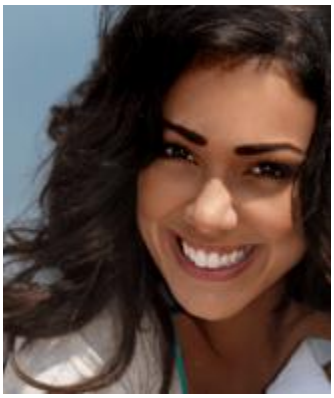
Physical characteristics include:

- Dark skin with medium to heavy pigmentation
- Dark Brown eyes
- Dark brown to brownish-black hair
- Ethnic background is Middle Eastern, Asian, Indian, Latin American and light skinned African American.

Their reaction to UV-B is:

- Very Tolerant to UV
- Rarely burning
- Tan easily and profusely to a dark brown
- Experience IPD or Immediate Pigment Darkening

A person with skin type 5 is not your typical indoor tanning client, but with changes in demographics in the US, salons are seeing an increase in the number of tanners with this skin type. This person's skin is a naturally medium to dark brown color and they reach a profuse dark brown tan.



Here is an example of a person with Skin type 5. Note the dark brown hair, dark brown eyes and the more olive skin tone.

Skin type 6

Physical characteristics include:

- Very dark brown or black skin
- Dark Brown eyes
- Black hair
- Ethnic background is African American, Africans or dark-skinned individuals with heavy pigmentation.

Their reaction to UV-B is:

- Extremely Tolerant to UV
- Never burn
- Deeply pigmented

We seldom see clients with skin type 6. For the most part they do not need our services. On the rare occasion that we do, it is for a very specific reason on the part of the client. Getting ready for either a body building event or beauty pageant to even the skin tone or for a skin condition such as acne or psoriasis.

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Here is an example of a person with skin type 6. Black hair, dark brown to black skin tone and ethnic background is African or African American.

There is a striking correlation between geographic conditions, particularly exposure to sunlight, and skin tone. These differences have evolved to find the balance between the benefits and the dangers of the ultraviolet (UV) radiation we absorb from the sun.

Early humankind living in the sun-soaked savannah plains of Africa developed a dark-toned skin, rich in the pigment melanin. Within the skin cells, melanin concentrates above the nucleus, shielding the vital DNA from radiation damage. In an environment where there is little to break the path of sunlight onto the skin, this barrier is a great advantage.

There are other benefits to having a high concentration of melanin in the skin and other parts of the body. Melanin boosts the immune system, and darker-skinned groups have been shown to have a lower incidence of a number of serious diseases, including Parkinson's, multiple sclerosis, and spina bifida. Darker-skinned individuals also age better, as their skin is better protected from sun damage.

Let's learn how to determine a clients skin type. This is not a guessing game nor do we rely on the client telling us how easy they tan.

There is a variety of information we can gather from the client to determine an accurate skin type. To do the best job for our client, good skin typing practice is essential.

Physical characteristics alone will not give us a complete picture of a persons tanning potential.

The following worksheet is based on the original Fitzpatrick skin typing form. This example was enhanced by the North American Association of Tanning Salon Owners to further break down skin types 2 and 3 into sub-types. This allows for those very light skin type 2 clients who are slightly darker than a skin type 1, the dark skin type 2 clients who are not quite a skin type 3, the light skin type 3 clients who are slightly darker than skin type 2 and the dark skin type 3 clients who are not quite a skin type 4. This is important because you will deal differently with a 2A skin type versus a 2C skin type when determining exposure schedules.

Now you have the clients skin type. What is the next thing you need to know before you determine there tanning time?

That's right, you need to know the status of your equipment. What type of equipment is in your salon, how many lamps, what is the intensity of the lamps, how new are the lamps and what is the maximum tanning time in each unit? These are just a few of the things you need to know before you put this new client into a tanning bed.

This is something that should be addressed in procedures specific to the business you work for.

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The FDA requires that all equipment have a recommended exposure schedule label on the tanning unit. FDA exposure labels represent a very conservative approach to recommended exposure times. When in doubt always use a conservative approach to exposure time.

After that initial exposure, you can always increase exposure time for a subsequent visit.

Over exposure is a bell you cannot un-ring.

Understanding your client + knowledge about you equipment = Optimum results for the client.

Today's client understands the tanning process. The days are behind us when a client thought they needed to get a burn before they could tan. We no longer hear our clients ask for the full amount of time on the first exposure. Our industry has become more professional and the clients are responding and demanding that professionalism. This should be the real reason you take a course such as this, not just because regulations demand it.

See the Resources and Download page on the Resources Menu for a copy of this form.

	0	2	4	6	8	10	Total
What is the natural color of your untanned skin?	Reddish-White	White-Beige	Beige	Light Brown	Brown	Black	
What is your natural hair color?	Red or Light Blonde	Blonde, Light Brown	Brown	Dark Brown	Brownish-Black	Black	
What is your eye color?	Light blue, Green, or Gray	Blue, Green or Gray	Gray, Light Brown	Brown	Dark Brown	Black	
How many freckles do you naturally have on your untanned body?	Many	Some	Few	None			
What best describes your genetic heritage?	Celtic Caucasian	Caucasian, light skinned European	Caucasian, dark skinned European	Caucasian Mediterranean	Middle East, Indian, Asian Hispanic	Aborigine, African, African-American	
Describe your sunburn potential?	Always burn without tanning	Usually burn but can tan	Occasionally burn, but tan moderately	Seldom burn and tan easily	Rarely burn and tan profusely	Never burn	
Which best describes your tanning potential?	Never tan	Can tan lightly	Can tan moderately	Can get a dark tan			

If your total score is:	Your skin type is:	Your reaction to UV is:
0-2	Type 1	Unable to tan
4-7	Type 2A	Extremely sensitive
8-12	Type 2B	Great sensitivity

13-20	Type 2C	Very sensitive
21-31	Type 3A	Normal sensitivity
32-38	Type 3B	High/Normal sensitivity
39-44	Type 4	Tolerant
45-55	Type 5	Very tolerant
56+	Type 6	Extremely tolerant

Take Quiz 4 below to complete this Module

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Module 5 – The Eyes and Eyewear

Now that you've learned about the anatomy of skin and how to skin type a client, its' time to learn about the effects UV light has when it enters our eyes.

The objectives in this module are:

- Learning fundamental biology and anatomy of our eyes
- How far UV penetrates into our eyes
- What effects UV exposure has when our eyes are not properly protected.

Our eyes are divided into 3 distinct layers.

The first layer of the eye is the Sclera, which is the white part of the eye. It protects it from injury and irritation. It covers the entire eyeball, except the cornea.

The Cornea is an extension of the sclera. It is a clear front window that transmits and focuses light into the eye. It covers and protects the Iris.

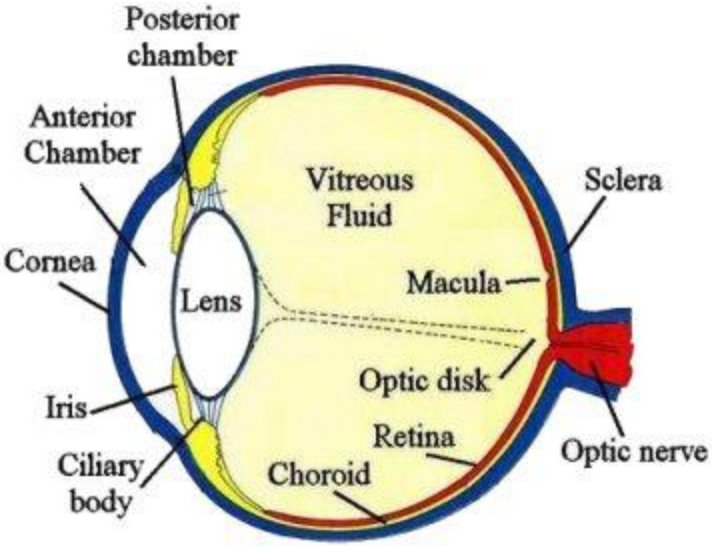
The Iris is the colored part of the eye. It helps regulate the amount of light that enters the eye.

The dark center portion in the middle of the Iris is the Pupil**.** The pupil determines how much light to let into the eye. It changes sizes to accommodate to the amount of light that is available. The pupil appears dark, because the light that passes into the eye is not reflected back to any great extent. As a matter of fact, the cornea absorbs the majority of light that enters our eyes.

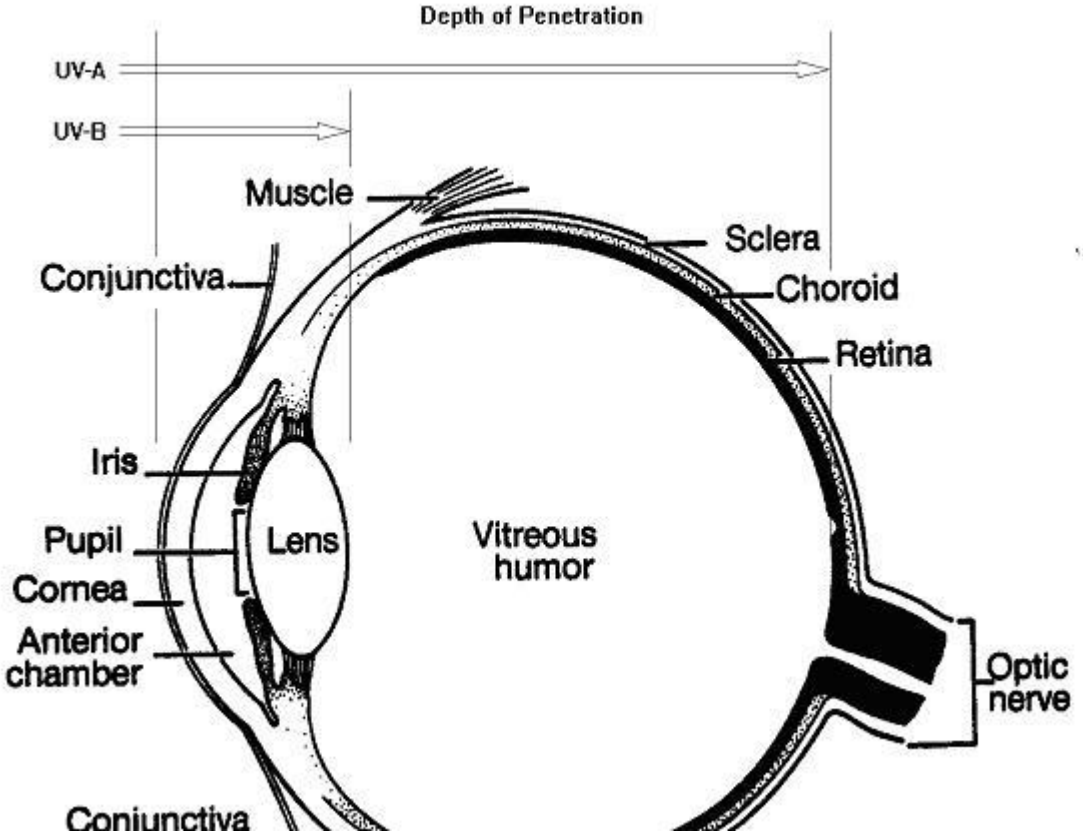
The second layer of the eye is where the Lens is located, directly behind the pupil. The lens is a transparent flexible structure that focuses light rays onto the retina. Also part of the middle layer of the eye is the Vitreous Humour, which is a clear jelly-like substance that fills the middle of the eye with liquid that helps maintain proper pressure on the eye.

The third layer of the eye is a nerve layer that lines the back of the eye. It consists of the Retina, the Macula and the Optic nerve. The retina senses light and creates impulses that are sent on to the optic nerve and then to the brain. The macula is a small area in the retina that contains special light-sensitive cells. The macula allows us to see fine details clearly. It is composed of cones and rods; cones working in bright light and rods working in dim light. Lastly is the optic nerve. It connects the eye to the brain. The optic nerve carries the impulses formed by the retina to the brain, which interprets them as images.

Only about 1% or less of light reaches the retina of the eye.



This image shows a cross section of the eye.



This image shows how far UV-A and UV-B travel into the eye.

As you can see from the second image, UV-A travels as far back as the Retinal layer and UV-B travels as far back as right behind the lens. This example is without any eye protection.

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UV is NOT visible, but it can still enter your eyes. Your eyes are sensitive to UV and your pupil will constrict upon exposure.

The light you see coming from a tanning bed is visible light in the violet spectrum of visible light.

Closing your eyes does not prevent the penetration of UV into the eye. The eyelid is thin and the UV passes through that thin membrane of skin. Eyelids block less than 25% of UV light.

According to the FDA Even with your eyes closed, 78% of UV-A and 58% of UV-B will still penetrate the eye.

UVB penetrates through the cornea of the eye and additionally about half way through the lens. UVA is more penetrating. It penetrates as far back as the retina of the eye.

Take the following quiz and see how much you know about eye protection:

1. Do you need to wear eye protection when tanning? Yes or No

The correct answer is yes. The intense UV light from tanning beds can permanently damage your eyes.

2. Can you lose your night vision when tanning without eye protection? Yes or No

The correct answer is yes. The only way to lose night vision is from UV overexposure. This can happen from tanning indoors or outdoors. No drug or surgery can restore night vision loss.

3. Are your eyes protected just by closing them? Yes or No

The correct answer is no. Eyelids block only 25% of UV light.

4. Can you lose your color vision by not wearing eye protection? Yes or No

The correct answer is yes. Color perception fades very quickly from tanning without eye protection.

5. If you own your own goggles do you need to clean them? Yes or No

The correct answer is yes. Wash your goggles after every use and store them in a clean container. No purse, gym bag or hanging from a rearview mirror.

6. If you move your eye protection during your tanning session will you prevent raccoon eyes? Yes or No

The correct answer is yes. Moving your eye protection slightly and removing ALL makeup helps minimize tan lines around your eyes.

7. Will a towel over your face protect your eyes? Yes or No

The correct answer is no. A towel is almost no protection.

8. Are colds and flu spread more through the eyes than the mouth? Yes or No

The correct answer is yes. More colds are spread from touching your eyes or wearing contaminated goggles than through your mouth.

9. Are eye burns the #1 reason tanners seek medical attention after a single tanning session? Yes or No

The correct answer is yes. Every year since 1978 the FDA reports eye burns from not wearing eye protection as the most common medical treatment for tanners.

How did you do on the quiz?

As a tanning operator, ensuring that our clients wear their protective eyewear is one of the most important and the most challenging part of your job.

Have your ever had a client come in on Friday late afternoon for some serious color before they hit the clubs? And that same client says “but I don’t want to look pink or red, so I don’t want to go in too long”. Great you say we can handle that. Can I see your eyewear before you go in the bed? The clients’ response – Oh, I’m fine I don’t need that.

The good part of this exchange is the client is smart enough to know they don’t want to get burned. Sadly they do not understand the importance of protective eyewear.

As a tanning operator, ensuring that our clients wear their protective eyewear is one of the most important and the most challenging part of your job. .

In the above client/operator interchange, the operator needs to immediately show the customer the damages that can occur from not wearing protective eyewear. You can contact EyePro for instructional material that aids in this process. This information should have been discussed with the client on their very first visit.

So, let’s set our client straight. Here are the damages that can occur when you don’t use proper eye protection:

- Sun burn to the cornea, feels like someone threw sand and tried to wash it out with salt water. Like any burn this is an indicator of potential issues in the future
- Getting a cataract. Cataracts are the leading cause of blindness in the world. Lifelong exposure to UV is associated with the formation of a cortical cataract that forms on the lens of your eye. They can be surgically removed, but vision may not be totally restored.
- Night vision blindness. This damage is permanent. There is not drug or treatment that will correct this.
- Dulled or fading color perception. This damage is permanent. There is not drug or treatment that will correct this.
- Basel cell carcinoma on your eye.

Plain and simple, either you wear the eyewear or you are willing to:

A) Have someone perform surgery on your eyes and

B) You can find some who will be willing to drive you around at night and pick out your clothes.

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The choice seems obvious, but why is it that we still have clients who don't want to wear their eyewear?

Here are some of their Objections and how you can overcome these objections:

- The straps leave a tan line.
- I'll get a tan line from the piece over the bridge of my nose.
- They didn't make me use eyewear the last place I tanned.
- I'll just close my eyes.
- I don't need eyewear because I cover my face with a towel.

And the list goes on.

There is a great response to each of these objections.

- Offering your client various types of eyewear, such as winkese, iDomez or Sun Globes, can eliminate the lines left from straps and the bridge piece over the nose, because this type of eyewear does not have the elastic straps or a nosepiece.
- In our salon we require you to wear protective eyewear that is FDA approved.
- Closing your eyes or covering your face with a towel will not protect your eyes from UV wavelengths.

The good news is that we have a lot of options in our choice of eyewear that help address the excuses people make.

Some examples are:

- Without straps.
- Without bridge pieces over the nose or with highly raised bridge pieces
- Without both straps and bridge piece.
- One time use disposable.

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This is an example of one-time use disposable eyewear. It folds into the shape of a cone that fits neatly over your eyes. There is adhesive around the edge to ensure the eyewear stays in place during the tanning session. Instruct the client to press the eyewear securely around the edges to ensure it will remain over the eyes.

Another example of protective eyewear with no strings. The eyewear has a high bridge to overcome the issue of a tan line across the client's nose.

Another example of eyewear with a high bridge over the nose. These are very flexible eyewear and can be adjusted during the tanning session.

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Eyewear without straps or a bridge piece. Note, these cannot be used in a stand-up unit.

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The all-in-one eyewear. The bridge piece is clear, so it does not leave a tan line, the straps are for use in a stand-up unit and it all comes in a convenient pod.

Regulations require that eyewear be provided to all tanners. This requirement is contained in both federal (FDA) and state regulations.

The requirements of the regulations do not stipulate how this is executed. For many years salons provided eyewear to the client for 'shared' use. The eyewear was soaked in a disinfectant and rinsed between client uses. Many salons still offer this option to the clients, but there are problems with this option.

- The client throws them in their bag or purse and the salon loses a lot of eyewear this way
- When the salon is not careful about disinfecting the eyewear there is the danger that infectious eye diseases are transmitted to the client.

Increasingly tanning businesses are requiring customers to purchase their own eyewear. This reduces or eliminates many of the problems associated with the "shared used" model. It also transforms eyewear from being a cost to the business to being a small profit area for the business. This approach is completely acceptable under regulations in almost all states. This approach is probably now the norm, not the exception, in indoor tanning. When using this model you must still address the following:

- You will need to have sufficient eyewear available to sell.
- You must still work with your customer to get them to use eyewear. Typically this means asking each customer if they have their eyewear, some salons require that the attendant see the eyewear. Eyewear will also need to be addressed when doing the new customer process.
- You will need to address how to respond when they have left their eyewear at home or in a different purse, etc. Selling a pair of disposable eyewear is most salons' answer to this problem.

The customer should be advised to handle and store their eyewear in a sanitary way to avoid any contamination and to maintain sanitary eyewear.

Eyewear Sanitation

State regulations require that "shared use" eyewear must be sanitized after each use. The eyewear must be soaked in an approved eyewear disinfectant according to label directions and then thoroughly rinsed.

With customer owned eyewear the customer is responsible for maintaining sanitation and should be reminded of this on a regular basis. Though we do not have a definition for how long eyewear is good for, we should advise our clients to purchase new eyewear at least every other year.

Regulation about eyewear and Inspections

The requirements for eyewear begin with FDA regulations, they require the following:

- It must be available to the customer for use in the equipment
- It must block 99.9 % of UVB and 99 % of UVA from penetrating the user's eyes.
- It must remain over the consumer's eyes in all anticipated positions.
- Proper vision must be maintained to allow the consumer to see the location of the emergency cut off switch.

All eyewear that is purchased from a tanning distributor is FDA approved eyewear.

Generally state regulations require:

- The tanning business must provide protective eyewear to each consumer while they are using the tanning equipment.
- The protective eyewear must meet FDA regulations as stated earlier.
- The tanning facility operator must instruct each consumer in the proper use of the protective eyewear. This would include how to attach the straps, how to fold and attach the disposable eyewear, and how to properly use the eyewear that does not have the straps or the nosepiece.
- The person who is registered with the state must ensure that the protective eyewear is sanitized before each use and shall not rely upon exposure to the ultraviolet radiation produced by the tanning equipment itself to provide such sanitizing.
- The eyewear must be kept in good condition. Eyewear that is cracked, missing a lens, or broken should be thrown away. Eyewear with missing or stretched straps should have the straps replaced.
- Regulations require that "peeper" style eyewear designed for use with straps, must have the straps present and attached.

All rules that apply to the salon also apply to the client. If clients are required to purchase eyewear and the eyewear they purchased requires straps, they must be present and attached. It is always a good idea to keep some straps on hand for this purpose.

Take Quiz 5 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.
  Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

As you proceed through the course you may want to take the quiz at the end of each module as you complete the module. The quiz will help re-enforce your learning prior to taking the certification test after completing the course.

To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 6 – New Client Process for the next lesson .

Also note the Resources Menu at the bottom of each lesson. Use it for access to resources that can augment your course experience. Some examples are that you can download a course manual, see Frequently Asked Questions, or post question or comments in our online Forum.

Tanning Operator Training and Certification

Module 6 – The New Client Process

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In this module you will learn:

- How to educate the new client about indoor tanning
- The procedures required by regulations for new clients
- The importance of using and selling the indoor tanning product
- The importance of using and selling a good moisturizer

The Initial Consultation

This is what will set you apart from your competition. How you approach the initial visit and the interaction with the new client is very important. You can make this a great experience for the client by beginning the education process, displaying your knowledge about tanning, the process, the benefits and the importance of moderation. Or…you can really blow it by exhibiting a poor attitude; including your body language and overall demeanor.

This is your opportunity to understand in detail your client's needs and how you can best meet those needs. It's your best opportunity to explain the benefits of tanning. Remember, you are the face of tanning. Your attitude and knowledge about tanning, the tanning process and the importance of skin care will make the difference between a 1 time visit or a new client who goes away convinced that your salon is THE place where they want to tan.

This process can be broken down into a series of steps:

Step 1 – Introduce them to indoor tanning.

They will come in the door with questions about pricing and a feeling that this is a bad thing they are about to do. Start your presentation off right by "showing off" your business. Take them on a "salon tour" so they can see the choices in equipment that will be available to them as well as other amenities provided for their convenience and satisfaction. While the salon tour is taking place, talk to the client about indoor tanning, about the features and benefits of indoor tanning. Keep in mind that some clients can be somewhat intimidated and afraid. Your job is to eliminate these internal fears by demonstrating your depth of knowledge about indoor tanning.

See a Salon Tour here

Play Audio Here

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This is also a time to find out what their tanning goals and motivations are. Why are they tanning?

- Are they getting ready for a special occasion or event?

- Are they interested in getting their base tan?
- Is this an indoor tanning veteran who is looking for long term or year round tanning?
- Has their doctor referred them to you for UV therapy due to a skin condition or other issue ?

Determining the client's tanning needs will help you build a tanning program that they will be happy with. During this process you will need to understand their tanning habits.

- Do they plan to tan every other day in order to build their base tan?
- Will they just be an occasional tanner who pops in once in a while?
- Are there bad habits they've learned at other salons that you need to break? One of the worst bad habits is the client who wants to tan every day. Your knowledge of the tanning process will help break this bad habit.

This introduction will set the stage for determining what tanning package is right for them and what price level they are comfortable with. It also starts the process of building client rapport. This connection builds a sense of trust and alleviates many of the concerns the client has about the dangers they perceive around indoor tanning.

Step 2 – Time to collect some information.

Though the information you collect in this step is often required by state regulations, the more important reason is to assure that the clients tanning experience is positive and as risk free as possible. The business you work for will have new client paperwork that will help you collect the required information. See the Resources and Download page on the Resources Menu for a sample of a new client form. Have the client fill out the new client form, but also be a part of this process with the client. With your help and guidance, the client will provide accurate information that you will need.

The new client form is a tool to gather information and should include the following questions:

1. The client's date of birth
2. An email address for marketing purposes
3. How did the client find out about your business? This helps the owner determine what forms of advertising is working
4. Is the client tanning for a specific reason? What are their tanning goals? This will help you determine the package that will meet their needs.
5. Have they tanned indoors before?
6. If the answer to #5 is yes, then determine when and where they last tanned. How long did they tan and what was the maximum exposure time on the unit they tanned in?
7. If they tan outdoors, how long do they normally stay out in the sun? Is this someone who lays by the pool everyday in the summer or who only gets sun exposure when they occasionally go to the beach?
8. Do they wear sunscreen?
9. What level of Sun Protection Factor or SPF do they wear? The answer to this question will help determine the clients fear factor. Are they someone who wears an SPF 4 (no fear) or an SPF 40 (a lot of concern about sun burn)?
10. Without wearing any sunscreen, can they give you an estimate of how long they could be out in the sun on a typical summer day before they would start to burn?
11. Do they wear sunglasses outdoors?
12. Do they plan to tan in the nude? You will need to educate them about burning sensitive areas.
13. What if any prescription medications are they taking?

14. Are any of the medications photosensitive?
15. Have they ever had an allergic reaction to the sun? This would include sneezing, rashes or eye sensitivity.
16. Have they ever had a mole removed that was determined to be cancerous or any other signs of skin cancer that required medical attention?
17. Is there any history of skin cancer in their family?
18. Have they ever been diagnosed with or had a cataract removed?
19. Do they think they might be pregnant?

After they have completed the new client form, it's time to determine their skin type.

This is an extremely important part of the new client process. Remember? Everything going forward involves the accuracy of the client's skin type. We have gone through skin typing in Module 4 and a sample of the skin type worksheet that was used in that module can be found by going to the Resources and Download page on the Resources Menu.

Whether you use the worksheet we provided or you use another method to determine skin type, you as the operator should be an integral part of the process. The more information you obtain from the client the better understanding you will have.

Step 3 – It's time to evaluate the information.

You want to engage the client in this evaluation. Let them know what their skin type is, what that means in the tanning process and when they are likely to start seeing results.

Let's go through the process of elimination:

- Is this person even suitable to tan indoors? For example a person with skin type 1 should be advised to not tan indoors. Talk to this client about other options and finding another source of Vitamin D.
- Has this person had a skin cancer removed? Research has been introduced that indicates regular consistent tanning can help prevent skin cancer, but a person who has already been diagnosed is at a much higher risk of that skin cancer recurring.
- How old are they? Some state regulations restrict tanning below an age limit, these age limits vary in the range of 14 to 18. Some state regulations require parental consent below an age limit, generally that limit is 18.

In this step you are spending a lot of one on one time with the client. In addition to everything you have done so far, you also want to make sure the client:

- Reads, understands and signs the required warning statement. The key is that they really understand what they have read and the significance of the warning.
- Understands the risks of photosensitive reactions and has given you accurate information about all medications they are taking.
- Understands the tanning process and how it works. Even if they've tanned indoors before this may be new information. This will prepare them to understand and accept the exposure plan you will be determining.

The paperwork is done, it's time to make the sale and continue the education process.

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Step 4 – Making the sale and continuing education.

By now you are aware of how important client service is in the tanning industry. Our clients are spending what is called disposable income. What does that mean? It means they are spending money they don't need to spend and quite often, in their minds, it's money they should not spend. It is your job to meet the clients tanning needs and at the same time make them feel comfortable with the decision they are making about the packages and products they purchase.

Based on the information the client has already given you it's time to sell them the tanning package that meets their tanning goals and makes them happy with the purchase.

Next you will develop an exposure plan and schedule with the clients' goals in mind. Make the client a part of this process. They need to understand the importance of complying with the plan and the importance of successive exposures over time in order to build a base tan and to prevent overexposure.

Explain your salon policies to the client.

- Do not tan every day.
- Do NOT tan indoors and outdoors in the same 24-hour period without using sun protection outdoors. This behavior will add significant risk of burning.
- What hours are you open
- What your appointment policy is, if any.
- Special incentive programs you might offer, such as the first visit free or a referral program.
- Outdoor products are not allowed to be used in your equipment, especially sunscreen
- FDA approved eyewear must be worn during the tanning session

Continuing education:

- Explain what precautions need to be taken when tanning in the nude. A client who is interested in tanning in the nude should be instructed to limit exposure time of the pale areas to 1/3 of the time of the first session, then gradually increasing the exposure time until the pigmentation of the area matches the rest of their body.
- Make sure they understand that sunburn from outdoor exposure will damage their tan and their skin. Help them understand how to minimize that risk with appropriate strategies such as:
    - Wearing a hat, a long sleeve cotton shirt and sunglasses.
    - Understanding that the mid-day sun is the strongest and they would be at the highest risk of sunburn.
- The correct use of sunscreen:
    - Use a sunscreen with an SPF level appropriate to their skin type
    - Use a sufficient amount of sunscreen; most recommendations are for 1 ounce of sunscreen for an adult full body exposure.
    - Re-apply about every 2 hours during extended periods of exposure as well as after swimming or excessive perspiration.

Step – 5 Tanning lotions and skincare.

If your depth of knowledge about the tanning process helped the client understand the benefits of tanning, then your depth of conviction about the use of indoor tanning products and the value of healthy skin will help you sell products suited for each individual client.

There are many reasons why the client doesn't purchase our products. Here are just a few:

- The products are too expensive.
- I have always tanned better without products
- No one has ever talked to me about the products
- I am afraid I will get a burn if I use these products

It's time to overcome objections and talk about features and benefits.

8. The products with the highest price tag are also the products that offer the best tan possible and the highest quality skincare ingredients. Tanning can have drying effects on our skin and cause our skin to lose vital nutrients. The high end products replenish and rebuild our skin. Because of the melanin building ingredients, you can tan less often which will extend the package you purchased. We offer products in various price ranges.
9. For the client who tans better without using a product, it's time for a 'taste' test. Have the client try a product on one area only. Preferably offer the client a light bronzer. When the client comes out ask to see the test area and make sure you point the difference out to the client. Point out that the products you sell offer more than just tanning ingredients, they also improve skin health.
10. I don't know what to say about a client no one has ever talked to except shame on you.
11. When we use terms like accelerator and intensifier, it's no wonder the client is concerned about burning if they use these products. Think of different terminology you could use, such as maximizer or extender.

Try all the products you offer for sale, this will give you knowledge about the products that you can pass on to the client.

Talk to the client about the product you use. Your love of the product will come across to the client in a positive way.

When you talk to a client about tanning lotion, your message should be, using a tanning lotion will:

· Help you tan easier and faster

· Get you the darkest tan possible

· Make your tan last longer

The purpose of your skin is to protect and cool your body. The outermost layer is the epidermis and is the first line of defense. The skin cells there, however, are dead. This is the target area for most so-called skin care products. The theory for many lotions on the market today is to put a greasy sheen on that outer layer to give the appearance of moist skin, and supposedly, this will trap moisture in the skin. However, what if you do not have moisture in the skin to begin with, how will you get it there? Drinking water is an obvious action, but if you need moist skin now it will take almost 3 to 10 hours for that water to reach the skin. So, drink your water, and put on a moisturizer with a water or aloe base.

In order for a moisturizer to sink in to the second layer, the dermis, you need a lotion with some sort of a delivery system. As you may have noticed, when water touches the skin it beads up, and will not penetrate it. So

something is needed that will help the water and other ingredients penetrate. Some lotions will use propylene glycol or some sort of a carbopol solution to help the water and other ingredients get to the dermis where they are needed.

Important ingredients to look for are Vitamins A, C, and E which are anti-oxidants and reduce damage to the skin caused by UV rays or harsh climate conditions. Look for Alpha and Beta Hydroxy acids, which promote healthy exfoliation; natural extracts such as shea butter, cocoa butter, macadamia nut oil, sweet almond oil, cucumber extract, jojoba oil, hemp seed oil, yarrow, and natural marine extracts like plankton and algae. Other specialty ingredients will include bio-engineered DNA Enzymes to help stimulate the skins natural ability to recover from UV-light exposure reducing the look of fine lines and wrinkles, which will in turn enhance the skins ability to tan. In addition, some lotions will contain a cell protection complex to help maintain cell structure and repair UV-induced DNA breakdown. Some lotions will include L-Tyrosine and melanin, which are both used as food by the skins melanocyte cells to make more melanin.

Explain the importance of skin care to your client. Tanning, indoors or out, puts stress on our skin, causing us to lose precious moisture and nutrients. These skin-drying influences include:

- Heat exposure.
- UV exposure.
- Contact with the acrylic causes you to lose essential body oil
- Wind exposure
- Skin drying ingredients in non-indoor products such as mineral oil, petrolatum and high amounts of alcohol.

A good skin care regimen will include:

- Cleansing: Use a body wash and facial cleanser that are NOT soap based. Soap breaks down the acid mantle that covers our epidermis. The acid mantle is a thin acidic film of natural body oil and perspiration. It has 3 important roles in the health of our skin:
  - It seals in moisture
  - It blocks airborne particles from clogging our pores.
  - Its acidity inhibits growth of and kills bacteria and virus that would otherwise attack the skin.

  The use of an exfoliating body scrub should be limited to once or twice per week.

  - Moisturization: The most important time to moisturize is after bathing. It is important to use a quality product with vegetable and/or fruit oils that add moisture to the skin without clogging pores. Avoid moisturizers that contains any of these ingredients:
    - Mineral Oil - A liquid mixture of hydrocarbons obtained from petroleum. Mineral oil can attract dirt and causes blackhead and eruptions. It can accelerate free radical damage, thus speeding up the aging process, because it causes toxins to build up in the skin.
    - Waxes - widely used in cleansing creams, eye creams and moisturizers. Waxes clog pores creating blackheads and whiteheads; they also smother the skin, which over a period of time creates an enlarged pore problem.

- Lanolin - A yellow, semi-solid, fatty secretion from sheep's wool is widely used in skin and beauty care products. It can cause an allergic reaction in some people, as well as enlarged pores.
- Petrolatum - This familiar, semi-solid mixture of hydrocarbons is derived from petroleum. Literally, "paraffin jelly" or "petroleum jelly" – it is not absorbed by the skin and suffocates the pores.
- Acetone - Used in nail polish and nail polish removers, this colorless, volatile liquid is often used in astringents, fresheners or clarifying lotions. It is extremely toxic and will dehydrate the skin while speeding up the aging process.
- Alcohols such as Isopropyl, SD 40, Ethyl**:** Alcohols dissolves the body's own natural moisturizers and strips the skin of its own protection, leaving it vulnerable to infection. Alcohols destroy the skin pH balance and since they absorb water, they speed up wrinkling of the skin.

- Exfoliation: As we age our natural exfoliation process slows down. Accumulated dead skin cells can dull the appearance of our skin. Exfoliate once or twice a week using an exfoliating body scrub, that contains mild abrasives and/or exfoliating agents like glycolic, lactic acid, and salicylic acid scrubs. Use a washcloth or exfoliating gloves.

Talk to the client about the importance of moisturization. Ask them what moisturizer they are currently using. Using a great moisturizer can be the difference between a deep tan with healthy skin and a non-existent tan with dried out unhealthy skin.

Explain the difference to the client between the products you sell and what they purchase off the shelf. Using a bad moisturizer will inhibit them from getting a good tan. They need to especially avoid mineral oil and petrolatum in any product they use on their skin, moisturizer or bath product.

We want what is best for our clients. Good moisturizer + a daily skin care regimen = healthy skin. Healthy skin + a great tanning lotion = a great tan.

Step 6 – It's time for show and tell.

Show them the eyewear choices you offer. Explain and demonstrate how to use each option. Continue to educate them about the importance of proper eye protection and about permanent eye damage that can occur such as night vision loss and dulled color.

Show them the tanning products you offer and help them select a product that is appropriate for their needs. Once again, stress the importance of using a product that is specifically designed for indoor tanning.

Suggest a moisturizer they can add on to their purchase. Remind them to look at the ingredients on the products they are currently using at home and explain again how these products can destroy their tan and can even cause a hypersensitive reaction to tanning.

Now it's time to take them to the tanning room and show them how to use the equipment:

o Show them where the on/off switch is located.

o Explain how the timer works. If your timer is on a delay, let them know how much time they have to apply their lotion and get their eyewear on before the bed starts.

o Show them how to raise and lower the canopy.

o If the unit has a separate emergency off switch, show them where it is located

o If the unit has a body fan, show them how to turn it on and off

o If the unit has facial lamps, show them how to turn those on and off

o Tell them your name in case they need assistance.

See an Equipment Demonstration here

.

It is important to instruct the client in the proper use of the equipment. If you don't address lowering the canopy they may tan with it in the raised position and will detract from the effectiveness of the visit.

Some equipment with a delay time still requires the client to physically press the start button. If you don't address this, the client may fail to start the bed and they will be dissatisfied with the lack of instructions they received from you.

When the client leaves, ask them if everything was all right in the tanning room, and suggest a date for their next visit. Remember, this is your opportunity to establish yourself and your salon as THE tanning professionals . Now they'll look to you for the products and packages that give them the tan they want.

Learning this new client process and executing it smoothly takes a lot of effort on your part but it will make the experience better for the client. Having a consistent profession presentation will have result in a positive impression on the part of the new client.

Take Quiz 6 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.
  Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

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To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 7 - Salon Procedures for the next lesson .

Tanning Operator Training and Certification

Also note the Resources Menu at the bottom of each lesson. Use it for access to resources that can augment your course experience. Some examples are that you can download a course manual, see Frequently Asked Questions, or post question or comments in our online Forum.

Tanning Operator Training and Certification

Module 7 – Salon Operating Procedures

Different indoor tanning providers will have operating procedures specific to their facility and business model. This module represents a set of procedures and issues common to most tanning businesses. You will need to be familiar with the specific procedures developed by your facility in addition to the items covered in this module.

When a client walks in the door:

Always make eye contact and smile!!! If you are sitting down, stand up. Never remain seated when a client is in front of you!

If this is an existing client:

1. **Always look at client information**. Check their client info to see if they've purchased a lotion. If they have, make sure they have it with them or if it's kept at the salon, get it for them. Ask them how they like the lotion. If the lotion is getting low, talk to them about buying a new lotion.

2. **If the client has not purchased a lotion**, ask them what lotion they are using.

3. Verify that the client has eyewear with them . Y**ou MUST see the eyewear!!!!**

4. If you are putting the client in a bed they have not tanned in before, take the client to the room and show them how to operate the bed.

5. If this is a client who is not tanning at the maximum time yet, always determine how long to put the client in the bed.
NEVER ASK THE CLIENT HOW LONG THEY WANT TO GO INTO THE BED FOR!!!!!
Ask them how they did with the amount of time they tanned the last time. Ask them if they got red or pink. If they did, ask them how long it took for the redness to go away or if they still have sensitive areas.
Depending on which unit you're putting them in, you may need to reduce their tanning time, suggest they go into a different unit or wait another day to tan.

If this is a new client

1. Have them fill out the new client paperwork.
    - Make sure they read and understand the warning statement and sign the statement.
    - If the client is illiterate or visually impaired, get another person to witness you reading the warning to the client. Then you and the witness must sign the paperwork indicating the warning has been read to this client.
2. Is the client old enough to tan based on your state's regulations? Is parental consent required for them to tan?
3. Determine client skin type, using the skin type worksheet
4. Is the client taking any medications? Determine if any medications are photosensitive. If they are taking a photosensitive medication, it should be determined if the client has previously tanned while on this medication. If not, then explain to the client that they should consider not tanning while on this medication or that the initial tanning time will be set very low until it can be determined what if any effect tanning will have with the medication.

5. Go over the paperwork with the client. Determine if the client is suitable to tan indoors. If the client has had basal cell cancers removed, are a skin type 1 or have any skin or eye conditions where tanning would cause them a problem they are not a candidate for indoor or outdoor tanning and you MUST tell them!!
6. Determine tanning duration. For new clients this will be determined by the information from the new client paperwork. **NEVER ASK THE CLIENT HOW LONG THEY WANT TO TAN!** It is your responsibility to know the strength of each piece of equipment in your salon.

Now that the paperwork is complete, it's time to sell!!

1. **Why is the client tanning** ? Are they getting ready for summer, are they going on vacation to a tropical destination, do they want to be tanned for a special event? Perhaps this person is new to the area and they want to find a new tanning 'home'. Finding out why this person walked in the door in the first place will help you decide what package/products to sell them.

2. Build a package that meets their need . You know why they're tanning, now using your knowledge of your products and packages, build a package for the client. Explain the different options that would meet their tanning goal. **Make sure you know the current monthly special. Always make sure the client has or purchases eyewear.**

3. Take the client to the tanning room. Show them the following:

- How to operate the bed. Show them how they can turn the unit on and off.
- How to raise and lower the canopy
- How to contact you in case they have a problem
- If you put them in a unit with facial lamps, how to turn them on and off

4. **When should the client come back for their next session** ? It is recommend that clients tan every other day, NOT every day. Tanning every day does NOT get them any darker and it dries out their skin.

5. Instruct the client to not tan indoors and outdoors in the same 24-hour period.

6. If the client is wearing contacts, suggest they remove these as they can cause the eyes to become dehydrated.

7. If the client is wearing makeup, suggest they remove the makeup prior to tanning. Some ingredients in makeup can cause a photosensitive reaction. Remind them that they must still wear the protective eyewear.

8. If the client is planning on tanning in the nude, explain how to avoid burning those lighter areas by limiting the exposure time of those areas to one-third of the time you will be setting the timer for.

9. If the client thinks they might be pregnant, have them consult with their physician prior to tanning. Usually most doctors will allow a healthy pregnant woman to tan. This issue is the heat from the unit, not the UV exposure.

10. After the client has been given all of the tanning instructions, set the time on the bed.

11. If you are computerized, the salon software will send time to the timer. It will also create a history record including date and duration of exposure, the unit they tanned in and the operator initials.

Tanning Operator Training and Certification

Salon software should be the best tool you have. It should allow you to communicate with each other about things you've talked to clients about to help someone, maybe you, get a sale!

Know your Salon

You should be familiar with everything in your salon. Know the following:

1. Forms and other printed material?

    a) New Client

    b) Job Applications

    c) Membership forms

    d) Change forms

    e) Freeze forms

    f) Cancellation forms

    g) Drawer Close sheets

    h) Injury Report

    i) Gift Certificates – where are they and how are they sold in the salon software + envelope

    j) Brochures

    k) Sunless brochures

2. Office supplies?

    a) Paperclips

    b) Scissors

    c) Tape

    d) Pushpins

    e) Pens and pencils

    f) Notepads

    g) Credit card machine paper

h) Calculator

i) Zip lock bags for client lotions

3. Where do you file paperwork? For new clients and new Membership forms

4. Where are the restocking supplies?

a) Products (lotion, eyewear, etc)

b) Sanitizer – can you mix sanitizer

c) Toilet paper

d) Paper towels.

5. Where are the cleaning supplies?

6. Do you know how to sanitize a bed?

7. Do you know how to deep clean a bed?

8. Do you know all duties to be performed at the end of your shift?

9. Can you explain sunless and how it works?

10. Can you tell the client what they need to do to prepare to get sprayed, how long it will last and what sunless packages you offer.

Job Description

You are a tanning and skincare consultant. Your clients rely on your ability to give them accurate information about tanning, the equipment, the salon and the products and services you offer. Therefore, the number one priority is client service. The following duties are listed in order of importance.

1. Client Service
   a) Know the clients by name
   b) **NEVER EVER SIT WHILE YOU ARE TALKING TO A CLIENT**
   c) Determine the client's needs, why are they tanning, what are their goals
2. Selling – Selling and client service go hand in hand. This is primarily a sales position
   a) Match the package to the client – once you have determined what the client's tanning goals are, you can then sell them the package that will best meet those goals.
   b) Up-sell – get the client into upgrade equipment
   c) Product sales – this includes tanning lotion plus add-on sales.
3. Know our products
   a) Tanning lotions – know the difference between all products you carry and be able to explain these

differences to the client
b) Skincare – Moisturizers

4. Know the salon
   a) How many beds does your salon have
   b) What kind of equipment do you have
5. Keeping your salon clean
   a) Sanitize the bed after each client. This includes the following duties every time:
   a) Spray the bed, including underneath the pillow and the canopy, with the sanitizer
   b) Wipe the table or shelf in the room
   c) Wipe the top of the canopy to remove fingerprints and dust
   d) Check the room to make sure the client hasn't left anything behind.
6. Restocking - Restock shelves. Make sure there is toilet paper and paper towels in the holders. Let your manager know when you have put out the last of something or when we are running low on something. This includes things like lotion samples, peepers, winkese, candy, toilet paper, and sanitizer, and cleaning supplies.

Take Quiz 7 below to complete this Module

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Tanning Operator Training and Certification

Module 8 – Effects of UV Exposure

In this module you will learn:

- The benefits of tanning and the importance of Vitamin D
- How to recognize a sunburn
- The types of skin cancer
- Who is at the highest risk for skin cancer

UV exposure has significant effects on our body. Some of those effects are beneficial some are not. It is important to recognize that both exist. We don't want to avoid UV exposure completely and we also do not want to overexpose, causing damage to our skin.

Let's begin with some of the benefits to UV exposure.

One benefit is that Vitamin D is produced in skin exposed to UV light.

Why is this a benefit?

Without getting too scientific, Vitamin D circulates as a hormone in the blood, regulating the levels of calcium and phosphate in the bloodstream and promoting healthy growth and remodeling of bones. This helps prevent Osteomalacia in adults, called Rickets in children.

Vitamin D regulates bone mineral density. A deficiency may lead to Osteoporosis, a disease in which bones become lighter, less dense and more prone to fracture.

If your source of Vitamin D is from UV light, then for most human beings 10 –15 minutes of sunlight, 2 –3 times a week is an effective way to insure adequate levels.

The best way to discover vitamin D deficiency is to take a blood test that will measure the level of the vitamin in your blood. You can either ask your doctor to administer the test or buy a home test kit and do the test yourself. However, you are certainly vitamin D deficient if you have any of the following ailments, and you need to consult with your doctor regarding your preventive, as well as curative, options as soon as possible.

1. **The flu** - In a study published in the *Cambridge Journals* , it was discovered that vitamin D deficiency predisposes children to respiratory diseases. An intervention study conducted showed that vitamin D reduces the incidence of respiratory infections in children.
2. **Muscle weakness** - According to Michael F. Holick, a leading vitamin D expert, muscle weakness is usually caused by vitamin D deficiency because for skeletal muscles to function properly, their vitamin D receptors must be sustained by vitamin D.
3. **Psoriasis** - In a study published by the UK PubMed central, it was discovered that synthetic vitamin D analogues were found useful in the treatment of psoriasis.
4. **Chronic kidney disease** - According to Holick, patients with advanced chronic kidney diseases (especially those requiring dialysis) are unable to make the active form of vitamin D. These individuals need to take D3 or

one of its calcemic analogues to support calcium metabolism, decrease the risk of renal bone disease and regulate parathyroid hormone levels.

5. **Diabetes** - A study conducted in Finland was featured in Lancet.com in which 10,366 children were given 2000 international units (IU)/day of vitamin D3 during their first day of life. The children were monitored for 31 years and in all of them, the risk of type 1 diabetes was reduced by 80 percent.
6. **Asthma** - Vitamin D may reduce the severity of asthma attacks. Research conducted in Japan revealed that asthma attacks in school children were significantly lowered in those subjects taking a daily vitamin D supplement of 1200 IU/day.
7. **Periodontal disease** - Those suffering from this chronic gum disease that causes swelling and bleeding gums should consider raising their vitamin D levels to produce defensins and cathelicidin, compounds that contain microbial properties and lower the number of bacteria in the mouth.
8. **Cardiovascular disease** - Congestive heart failure is associated with vitamin D deficiency. Research conducted at *Harvard University* among nurses found that women with low vitamin D levels had a 67 percent increased risk of developing hypertension.
9. **Schizophrenia and Depression** - These disorders have been linked to vitamin D deficiency. In a study, it was discovered that maintaining sufficient vitamin D among pregnant women and during childhood was necessary to satisfy the vitamin D receptor in the brain integral for brain development and mental function maintenance in later life.
10. **Cancer** - Researchers at *Georgetown University Medical Center* in Washington DC discovered a connection between high vitamin D intake and reduced risk of breast cancer. These findings, presented at the *American Association for Cancer Research* , revealed that increased doses of the sunshine vitamin were linked to a 75 percent reduction in overall cancer growth and 50 percent reduction in tumor cases among those already having the disease. Of interest was the capacity of vitamin supplementation to help control the development and growth of breast cancer, especially estrogen-sensitive breast cancer.

The season, time of day, geography, latitude, level of air pollution, color of your skin, and your age all affect your skin's ability to produce vitamin D. Further, the form of Vitamin D found in most multivitamins is vitamin D2, which does not deliver the same amount of the vitamin to the body as the more desirable D3 form.

D is also the only vitamin that does not need to be consumed in food or supplements because our bodies are efficient at making it when our skin is exposed to direct sunlight (not through a window). But not all sun exposure is the same, and many factors help determine how much we absorb. In general, the farther away you are from the equator, the less efficient the vitamin D production, but cloud cover and air pollution can also hinder the sun's ultraviolet (UV) rays.

Taking a daily vitamin D3 supplement of 1,000 IU or [get] safe sun exposure to maintain proper blood levels of vitamin D can reduce the risk of common cancers, type 1 diabetes, multiple sclerosis, rheumatoid arthritis, and inflammation associated with cardiovascular diseases. Sunlight will only produce as much vitamin D as you need, so there is no fear of overdosing from the sun.

Indeed, sunshine and supplements -- not food -- are the best sources of vitamin D, providing you choose a supplement with D3.

Another benefit is for the treatment of Seasonal Affective Disorder . Seasonal affective disorder (also called SAD) is a type of depression that occurs at the same time every year. If you're like most people with seasonal affective disorder, your symptoms start in the fall and may continue into the winter months, sapping your energy and making you feel moody.

Treatment for seasonal affective disorder includes light therapy (phototherapy), psychotherapy and medications. Don't brush off that yearly feeling as simply a case of the "winter blues" or a seasonal funk that you have to tough out on your own. Take steps to keep your mood and motivation steady throughout the year.

The final condition we will discuss is the treatment of Psoriasis using UV. Psoriasis is a chronic, autoimmune disease that appears on the skin. It occurs when the immune system sends out faulty signals that speed up the growth cycle of skin cells. Psoriasis is not contagious.

Treating moderate to severe psoriasis usually involves a combination of treatment strategies. Besides topical treatments , the doctor may prescribe phototherapy (also known as light therapy).

Present in natural sunlight, UV-B is an effective treatment for psoriasis. UV-B penetrates the skin and slows the growth of affected skin cells. Treatment involves exposing the skin to an artificial UV-B light source for a set length of time on a regular schedule.

Although both UV-B and UV-A are found in sunlight, UV-B works best for psoriasis. UV-B from the sun works the same way as UV-B in phototherapy treatments.

Short, multiple exposures to sunlight are recommended. Start with 5 to 10 minutes of noontime sun daily. Gradually increase exposure time by 30 seconds if the skin tolerates it. To get the most from the sun, all affected areas should receive equal and adequate exposure.

Some topical medications can increase the risk of sunburn. These include tazarotene, a vitamin A derivative, coal tar **,** Elidel and Protopic. Individuals using these products should not be exposed to UV-B of any kind. Also, people who are using PUVA or other forms of light therapy should limit or avoid exposure to UV-B as this can increase the risk of sunburn.

Now for the risks and the negative side of UV exposure.

First, almost all risks that will be discussed have to do with overexposure.

Let’s begin with the one that is fairly common and that all tanning bed operators must be able to recognize.

That risk is sunburn. It is caused by overexposure to UV light. The skin will feel tender to the touch, it will be warm, tight and it will itch.

A severe sunburn can also cause nausea, chills, and fever. The skin might also blister or peel.

This is where ongoing education kicks in. We must focus our message on the subject of overexposure. We have already discussed the fact that we might deal with a client who thinks they need to burn before they can tan. We learned in Module 3 how wrong that is. The reality is that sunburn is damage to the pigment producing area of the skin. That damage has to heal before normal pigment production and other cell behavior can resume. In reality a burn impedes the tanning process for the period of time it takes the burn to heal.

Another example of overexposure that may not result in sunburn is daily exposure over the course of many years. We know this as Photo-aging. Photo-aging causes a person to look older than they are. It is distinguished by course

wrinkles, rough dry skin, abundant freckling, loss of firmness and skin discoloration. Years of habitual tanning severely damage the elastic fibers below the surface of the skin, causing it to appear tight and leathery. The effects of this type of overexposure are cumulative.

The risk factors from a combination of chemicals and UV exposure.

A photo-allergy. The reaction can appear within 20 seconds after UV exposure and the symptoms resemble those of eczema. A photo-allergic reaction generally occurs as a result of using any one of the following substances:

- Over-the-counter and prescription pain relievers including Advil, Nuprin, and Motrin
- Cosmetics that contain musk ambrette, sandalwood oil, or bergamot oil
- Some herbal remedies such as St John's Wort, Ginkgo Biloba, Kava
- Ingredients in some moisturizers, shampoos and body washes.

During the new client process, the client told us about the medications they are taking that might be photosensitive, but probably they failed to mention products that can cause a photo-allergic reaction. They might not even know these products can cause this reaction. It is not unusual for a person's skin to become dry and itchy after the first couple of tanning sessions. Drinking more water and using a good moisturizer should make that itchiness go away. If the itching continues and there is a severe localized rash associated with it, then it's time to talk to the client. Determine the cause of the rash. Ask the client about their moisturizer, soap, perfume, and makeup. Ask them about over the counter pain relievers or herbal remedies they might be taking. If you find the source of the problem and eliminate it, the client can continue tanning with no problem.

A photo-allergy is not something that just goes away. Client's who know they have photo-allergies will either stop using the product that triggers the allergy or not tan.

Photo-sensitivity –The symptoms of photo-sensitivity can be an increased sensitivity to UV causing a severe sunburn or as an itchy rash. It can occur a few minutes or several hours after UV exposure. Photo-sensitivity is more common than photo-allergy. According to the FDA, there is some evidence to indicate that people with fair-skin or lower skin types are at a higher risk for developing photo-sensitivity and should take extra precautions

There are many substances that can cause photosensitive reactions. These include some foods such as lemons and fennel, a wide range of over the counter and prescription medications, and chemical products with petroleum or coal tar derivatives, including some chemicals used in chemical sunscreens. The intensity of the reaction can vary from minor to severe depending on the person and the substance.

Occasionally you will have a customer, typically someone just starting an exposure program, that experiences a rash and/or itching that they relate to their tanning exposures. These can cause significant discomfort and you will probably want to work with the customer to identify possible photo sensitizing agents that may be playing a role.

Although there is a wide range of substances that **can** cause a reaction, experience teaches us that the most likely culprits are products that the customer is applying to their skin. You will especially want to check the ingredients in the moisturizer they are using. Problem ingredients include petroleum byproducts such as mineral oil and petrolatum. The types of oils that you want to look for in a good moisturizer are those derived from vegetable and fruit products.

Photo-sensitivity and medications

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On the new client paperwork form we asked the client to list medications they are taking. We did this to determine if they are taking any known photosensitive medications. A significant number of medications can cause photo-sensitivity. In the US any prescription medication with a reported side effect of photo-sensitivity must be labeled with a warning to avoid sun exposure.

You are expected to be thorough when discussing medications with the client in order to determine potential photo-sensitivity. Reactions to photosensitive medications can vary, from mild affecting a small number of people to severe affecting most people.

Most states provides a list of agents that can cause sensitivity.

New drugs are coming on the market everyday and though this list is helpful, it is not always up to date. The best resource about current drugs and their potential for photo-sensitivity is the local pharmacist. Pharmacists have access to accurate and up to date information about drug side effects (like photo-sensitivity) and a very important part of their role and ethical standards is to share that information with the public. Pharmacists give excellent guidance to tanning consumers in issues related to most mild and severe photo-sensitizing agents.

Make sure you talk to your customers about the medications they are taking, how long they have taken them and if they have ever had any problems tanning while taking the medication. Here is a short list, provided by the FDA, of medication types that can cause a photosensitive reaction in some people:

- Acne Medicines
- Antibiotics such as Tetracycline's
- Antihistamines
- Oral Contraceptive that contain Estrogen
- Non-steroidal anti-inflammatory drugs such as naproxen sodium
- Phenothiazines (major tranquilizers and anti-nausea drugs)
- Sulfa drugs
- Tricyclic antidepressants
- Thiazide diuretics
- Hypoglycemic drugs
- Psoralen - A drug used for the treatment of Psoriasis.
- Retin-A - A drug used for the treatment of severe acne.

If the you or your client are unsure, have the client check with their doctor or pharmacist to make sure the medication does not cause photo-sensitivity.

It usually seems like a good idea to wear a chemical sunscreen outdoors, what might not be so obvious is that many ingredients in a chemical sunscreen can actually cause photo-sensitivity. When choosing a chemical sunscreen, look for one containing titanium dioxide as it's active ingredient.

It's time to talk about skin cancer, the most serious and real risk from overexposure to UV.

Between 40% to 50% of all cancer cases diagnosed every year are skin cancer. Over 800,000 Americans are diagnosed each year. There are two main types of skin cancer: malignant melanoma and non-melanoma skin cancer.

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Let’s begin the discussion with Non-melanoma skin cancer.

The most common types are basal cell carcinoma and squamous cell carcinoma **.**

Basal cell carcinoma is the most common form of skin cancer, accounting for approximately 75% of the non-melanoma skin cancers diagnosed annually in the US.

Basal cell carcinoma can damage deeper tissues, such as muscles and bones. It seldom spreads to other parts of the body, tending not to metastasize or spread to distant sites . It develops in the thin, upper layer of the skin, the epidermis. Incidence of basal cell cancer increases with age. About two thirds of basal-cell carcinomas occur on sun-exposed areas of the body. One-third occur on areas of the body that are not exposed to sunlight, emphasizing the genetic susceptibility of basal-cell cancer patients.

The typical basal cell cancer appears as a slow-growing, pink or skin-colored lesion. More than 99% of people with basal cell carcinomas are alive five years after treatment.

Squamous cell cancer is the second most common form of skin cancer after basal cell. It can occur on any area of the body, but the most common places for it to occur are the areas that are exposed to the sun. Although squamous cell cancer starts in the epidermis, it can spread to the underlying tissue if left untreated. When squamous cell skin cancer does metastasize, it can affect other organs and become a more serious condition.

Most cases of squamous cell cancer are the result of extensive exposure to sunlight. That is why it appears most frequently on parts of the body that are often exposed to the sun, such as the face, neck, arms and back. In addition to sun-exposed parts of the body, squamous cell cancer may also occur in areas of the body that have experienced certain types of trauma. These traumas can include burns, scars, sores that do not heal and areas of skin exposed to certain chemicals. Certain medical conditions and chronic skin inflammation can also encourage the development of squamous cell cancer.

The most common sign or symptom of squamous cell cancer is a change in the look or feel of the skin. These changes could include patches of skin that:

- Feel scaly
- Bleed
- Develop a crust
- Have sores that do not heal

The 5-year survival rate for patients diagnosed with squamous cell cancer is greater than 95%.

Melanoma Skin Cancer – the most serious form of skin cancer.

Malignant melanoma is a type of cancer forming in the melanocyte cells. Malignant melanoma develops when the melanocytes no longer respond to normal control mechanisms of cellular growth. They may then invade nearby structures or spread to other organs in the body (metastasis), where again they invade and compromise the function of that organ.

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Melanocytes are derived from a structure in the human embryo called the neural crest. They are distributed in the epidermis and thus are found throughout the skin. They produce a brown pigment known as melanin and are responsible for racial variation in skin color as well as the color of moles . Malignant degeneration of the melanocyte gives rise to the tumor known as melanoma, which has four subtypes. These 4 sub types are:

- Superficial spreading – accounts for 70% of cases
- Nodular – accounts for 15% to 30% of cases
- Lentigo Maligna – accounts for 4% to 10% of cases, and most commonly develops on the face
- Acral Lentiginous – accounts for 8% of cases, and more commonly found on the palms of the hands, soles of the feet and in the nail beds.

A malignant melanoma may develop anywhere on the body. In men, it is most common on the trunk. In women, it is most common on the back or legs.

The locally invasive characteristic of this tumor involves vertical penetration through the skin and into the dermis and subcutaneous tissues of the malignant melanocytes. With the exception of the nodular variety of melanoma, there is often a phase of radial or lateral growth associated with these tumors. Since it is the vertical growth that characterizes the malignancy, the nodular variant of melanoma carries the worst prognosis. Fortunately, the superficial spreading type is most common.

The primary tumor begins in the skin, often from the melanocytes of a pre-existing mole. Once it becomes invasive, it may progress beyond the site of origin to the regional lymph nodes or travel to other organ systems in the body and become systemic in nature.

Untreated malignant melanoma follows a classic progression. It begins and grows locally, penetrating vertically. It may be carried via the lymph to the regional nodes, known as regional metastasis. It may go from the lymph to the bloodstream or penetrate blood vessels, directly allowing it a route to go elsewhere in the body.

Malignant melanoma will account for 5% of malignancies in men and 4% in women, being the sixth most common cancer in men and the seventh in women. Currently, the risk of malignant melanoma is about 13 per 100,000 of the population. It affects all age groups but is most commonly seen in patients between 30 and 60 years of age.

Sun exposure definitely increases the risk of developing melanoma, particularly in older males. The melanocytes are part of the essential photo-protective mechanism; in response to sunlight, they produce melanin that has a protective role from the sun's ultraviolet rays. For Caucasians, the amount of melanin present in the skin is directly related to sun exposure. However, it is not so much the total sun exposure that seems important, rather it is the history of sunburn , (especially if it was severe or at an early age), that correlates with the increased risk. On this basis populations of fair-skinned people living in areas of high sun exposure such as the southwest United States or Australia are subject to increased risk. Malignant melanoma also affects non-Caucasians—though sun exposure probably does not play a role—at a rate of 10% of that of Caucasians. The most common form of melanoma in African Americans is acral lentiginous melanoma.

Malignant melanoma may arise in the skin anywhere on the body. It is estimated that 50% to 70% develop spontaneously while the remainder start in a pre-existing mole.

How do I know if I have skin cancer?

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Most people are alerted to the possibility that they have skin cancer because they notice a difference in the appearance of their skin. Some common signs of early skin cancers are:

- A firm lump or nodule that is red or pink. In dark skinned people it can be brown and can be confused with a mole.
- A small pale area on the skin where the skin appears to be smooth, shiny or waxy and appears to be taut.
- A sore that won't heal, begins oozing or bleeding, becomes scaly or crusty or is red and swollen
- A mole that suddenly changes in appearance. If grows or changes color.

What are the most common causes and risk factors?

- Frequent overexposure to UV light **.** Sunlight is the main source of this exposure. Tanning lamps and tanning booths are other sources of UV exposure.
- People with fair skin. Caucasians are 20 times more likely to develop skin cancer than African Americans, in particular fair-skinned individuals with red or blonde hair and skin that freckles or burns easily are at the greater risk. People with skin type 1 or 2 are most susceptible.
- Men. Men are two times more likely than women to develop basal cell carcinoma and three times more likely to develop squamous cell carcinoma.
- People with a family history of skin cancer.
- Reduced immunity **.** Individuals who have received medications that suppress the immune system, such as organ transplant recipients or people who are HIV positive.
- Exposure to radiation **.** Individuals who have undergone radiation treatment are at a higher risk to develop non-melanoma skin cancer in the irradiated area.
- Psoriasis treatment **.** Patients receiving psoralen and UV light treatments also known as PUVA may be at a higher risk.

In addition we need to pay attention to moles, birthmarks or beauty marks that suddenly change in outline, texture, size or color.

Know the ABCD rules of moles:

- A - Asymmetry: half the mole starts to look different than the other half
- B - Border: the edges of the mole become irregular or ragged
- C - Color: the mole suddenly changes in color. Goes from brown to black for example.
- D - Diameter: A normal mole is typically smaller than a quarter inch in diameter.

It is not in your job description to diagnose skin cancer. The rapport you build with your clients can result in questions from the client about skin conditions. Your response to this should always be – Go see your doctor or dermatologist.

You should, however, pay attention to your skin. If you fall into any for the risk categories then check your skin often.

Take Quiz 8 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.

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Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

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To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 9 – Equipment Components for the next lesson .

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Module 9 - Tanning Equipment Components

The objectives in this module are:

- Understand the function and operation of the key components of the equipment.
- Understand regulatory issues related to those components.
- Understand common failure points related to those components.

There is a wide variety of equipment in our industry. Tanning units come in all shapes and sizes, from the familiar lay down bed to stand up booths, some with facial units and even facial only and legs only units. Our equipment can require as little 2400 watts of electricity to as much as 24000 watts.

No matter what the shape or size, tanning equipment is based on a set of similar components. We will get familiar with these components in this module.

The Labels

Certain labels are required by the FDA and state regulations. The manufacturer is required to attach these labels to all new equipment. The tanning business must ensure that they are present and legible. These labels include:

· The UV warning

· Recommended exposure schedule

· Type of lamp recommended by the manufacturer

· Maximum exposure time for the unit

The labels are like decals. Between the customer touching the labels with lotion on their hands and vigorous cleaning methods, they can become unreadable. Use cleaning materials and techniques recommended by your equipment manufacturer to avoid damaging these labels.

What should you do when a label needs to be replaced?

You have a couple of options.

1. You can contact the manufacturer to purchase a replacement.
2. Many of the larger distributors will keep labels on hand for various types of equipment. You can contact one of them to purchase a replacement.
3. If all else fails, there is a copy of the required label in the owners' manual. Make a copy of the required information and attach it to the tanning unit.

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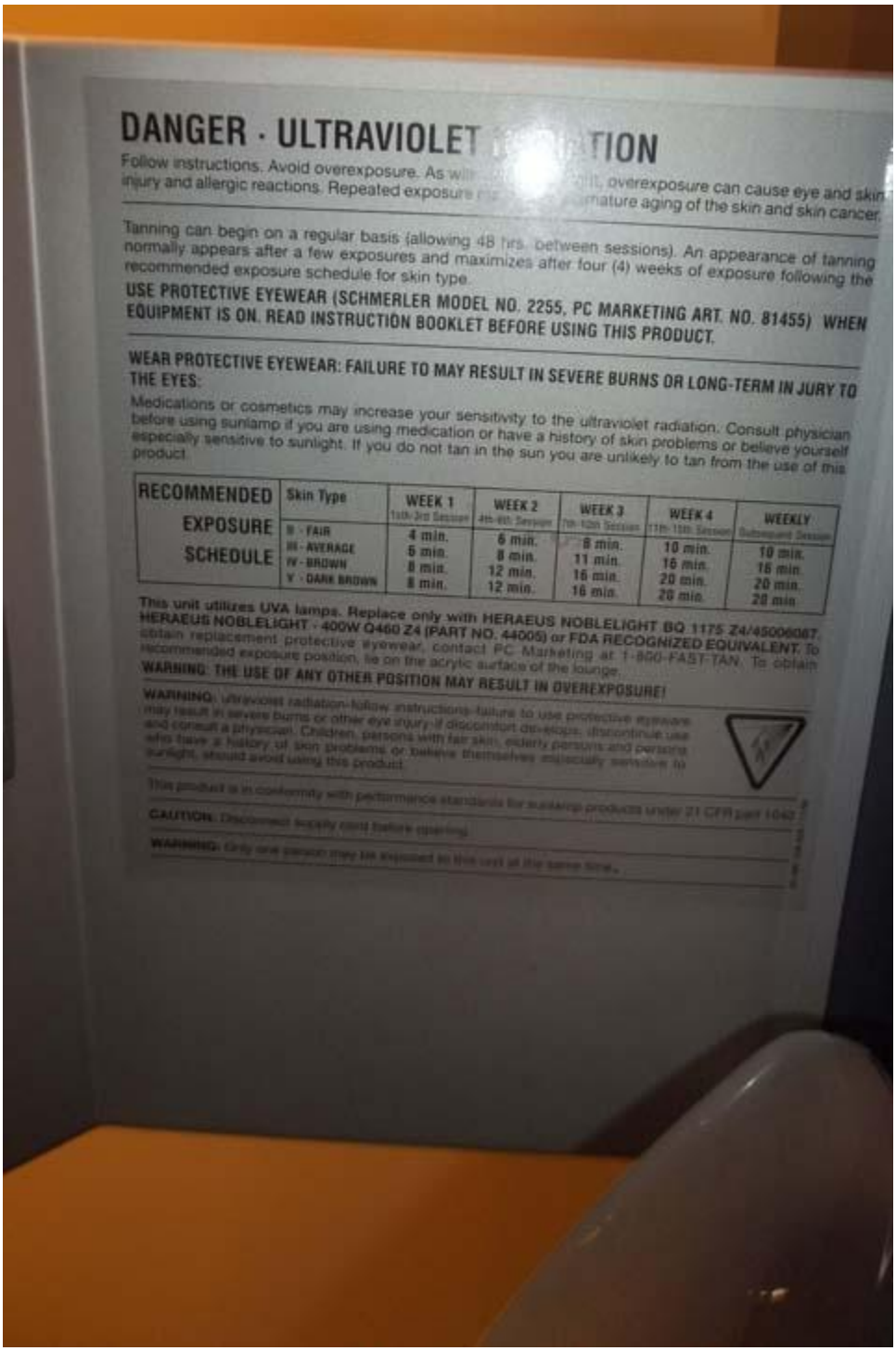

This is an example of the label, there is a copy in the owner's manual.

The Tanning Lamps

There are two primary types of lamps used in tanning equipment. They are:

1. The fluorescent tube lamp. This lamp is the most common type used in tanning equipment and is referred to as a “low-pressure” lamp. It is called low-pressure because all the air is removed so it operates under a vacuum.
2. The second type of lamp used in tanning equipment is the quartz halide discharge or HID lamp. In tanning it is referred to as a “high-pressure” lamp because it is pressured with nitrogen gas.

All tanning lamps ability to produce UV diminishes over time. When the output declines to a certain percent, we replace the lamps.

To help us determine when a lamp should be replaced, the lamp manufacturer has suggested a “rated life” for each lamp type. The rated life is based on the number of hours it takes for the lamp to decline in UV output to about 70% of it’s designed output.

How does the output decline over time?

The answer to that depends on the type of lamp.

- A low-pressure lamps output declines because the “phosphors” in the lamp break down over time. The phosphors used in a lamp produce a certain amount of UV-A, UV-B and visible light. We’ll talk more about phosphors later.
- A high-pressure lamps output declines because the quartz glass that makes up the shell of the lamp degrades and absorbs the UV.

This is an example of a high-pressure lamp with wire leads. This is a 2000 watt high-pressure lamp. The wires attach to a connection block that supplies power to the lamp.

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This image shows a tanning unit that uses low-pressure lamps.

Up to this point we have given you a brief over view of the types of lamps used in tanning units. There are also sub-types within the lamps we have discussed so far.

For example in the fluorescent tube or low-pressure lamp there is a range of wattage, reflective paint and specific phosphors that set each of these types of lamps apart from one another.

A tube lamps' wattage can range from 80 watts to 220 watts. The wattage in a standard tanning lamp is 100 watts.

Lamps with a higher wattage, 160 watts or higher, will usually produce more intense UV-A output and are often referred to as VHO or Very High Output lamps. Some of these higher wattage lamps have a reflector built into the lamp that causes all the UV energy to come out one side of the lamp, which contributes significantly to lamp intensity, these are called VHR lamps or Very High Output Reflector. Tube lamps have a rated life between 400 to 1200 hours depending on the wattage and phosphors used in the lamp.

Tanning lamps look and work like ordinary fluorescent lamps used in lighting fixtures.

It is a glass tube that contains a small amount of mercury and an inactive gas typically argon. The inside surface of the glass is coated with a chemical called a phosphor. At each end of the lamp there is an electrode that provides current to operate the lamp

The current that flows through the lamp excites the mercury atoms. The excited mercury atoms emit UV-C. The UV-C strikes the phosphor coating, causing the phosphor to glow and produce UV-A, UV-B, and visible light. All UV-C is absorbed by the phosphor.

The chemical phosphor in a tanning lamp determines the mix of UV-A, UV-B, and visible light that will be produced by a lamp.

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It may take roughly an hour to an hour and a half to completely re-lamp a low-pressure unit.

This is a picture of a VHR lamp. You can see that the top half of the lamp is totally white, this is the back of the reflector. The bottom of the lamp is clear glass with the phosphor coat underneath.

The Quartz Halide or HID Lamp

You will find HID lamps used in facial tanners and “High-Pressure” equipment. HID lamps look and work like street lamps or the indoor lighting used in gymnasiums and arenas.

A quartz halide lamp consists of a quartz based glass envelope. This envelope is filled with nitrogen gas under pressure to exclude air. It has a pair of electrical contacts that connect to metal halide elements inside the envelope. An electrical arc between the halide elements is produced to create the light and energy.

They emit a broad band of UV, including some UV-C. Filters cover these lamps to block the UV-C. If the filter plate is missing or damaged, the unit must not be used. Exposure to UV-C can cause a disfiguring burn.

When you handle high-pressure lamps use cotton gloves or a cotton cloth. The oil from your hands will cause the glass to overheat, which can cause the lamp to fail. If you do touch the lamp with bare hands, clean it immediately and thoroughly with rubbing alcohol and let it dry before reinstalling.

A Halide lamps’ wattage can range from 400 watts to 2000 watts each. The rated life ranges from 400 to 750 hours.

It can take up to 5 hours to completely re-lamp a high-pressure unit.

It’s time to re-lamp!

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You have learned that the lamps that came with the tanning unit are the lamps that the manufacturer specifically chose for that unit. We have also talked about the rated life of the lamps and that the manufacturer of the lamp determines that.

You will want to, and some state regulations require, to replace the lamps on the rated life specified by the manufacturer.

Federal and many state regulations require that the lamps be replaced with the type designated by the equipment manufacturer. You also have the option to replace the lamps with a lamp that is “compatible” or “substantially equivalent” to the labeled lamp.

What does that mean?

According to FDA policy, lamps are compatible if the meet the following guidelines:

- The bed must operate the same way with the replacement lamps as it did with the labeled lamps. For example if you are re-lamping a 20 minute unit, you can not use lamps that would be intended for a 10 minute unit. These lamps would cause the unit to operate in a different manner.
- Within plus or minus 10%, the replacement lamps must produce the same amount of UVB. This is to guarantee that the MED remains the same.

Compatibility is also referred to as “substantially equivalent”.

If lamps are replaced with a lamp that is not the labeled lamp the company that sells you these lamps MUST provide equivalency documentation or compatibility paperwork. If they are unable to provide this documentation, do not purchase lamps from this supplier.

See a sample of compatibility paperwork at the documents link on the resources menu at the bottom or here: http://campus.educadium.com/sunfocus2/file.php/1/Certification_Resources/Compatibility_document.pdf

Let your clients know when you replace lamps. The unit will have about 50% higher output with the new lamps. The clients tanning time might need to be adjusted accordingly.

The Ballasts

What exactly is a ballast and what does it do?

A ballast is a combination of transformer, inductor and capacitor elements intended to limit the amount of current in an electrical circuit. They stabilize the current through an electrical load. If there was not a ballast attached to the lamp, the lamp would burn out immediately because of negative resistance. There are many circuit variations used for the operation of one or more lamps from a single ballast. Each type of lamp requires a ballast circuit designed to match the lamps requirements in terms of voltage, current, and wattage.

There are three different ballast types in different designs that are used in tanning equipment:

- The “Choke start” or “Pre-heat” ballast. The choke start ballast requires a starter to start or pre-heat the lamp. Choke start ballasts is one lamp per ballast, they are lighter and less expensive. They only have 2 wires making them easier to replace. They have a short life-time, are more difficult to trouble shoot and always require a buck-booster.
- The Magnetic ballasts. They are called rapid start because they cause the lamps to start more quickly. They power two lamps at a time, are usually larger and heavier than choke start and are more expensive. They are connected by no less than 8 wires making them more difficult to replace. They are easier to troubleshoot and do not require a buck booster.
- The “Electronic” ballasts. This ballast uses solid state electronic circuitry to provide the proper starting and operating electrical condition to power the lamps.

Do ballasts have a rated life like lamps?

No, they generally need to be replaced when they fail. It’s a good idea to have a couple of ballasts on hand to eliminate down-time.

How do I know when a ballast has failed?

- If you have one or more lamps out, the first thing you should do is reposition the lamps. Take a lamp that is lighting in another position and move it to the spot where the lamp failure has occurred.
- If no other lamp will light in that particular spot, change the starter for that lamp (if your unit has starters)
- If the lamps still will not light, check the lamp holders. Lamp holders are the sockets on each end of the tanning unit that your lamp "plugs" into. If the lamp holders appear to be black, melted, loose, or have a loose wire, then replace the lamp holder.
  If the problem is not with the lamp, the starter, or the lamp-holder, then the problem is probably a failed ballast.

Here is an example of a “choke start ballast. The 2 wires at the left, attach to screws.

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This is a rapid start ballast. Rapid starts are often pre-wired with a plug-in connector as seen here.

Lamp Starters

“Choke start” or “Pre-heat” lamp circuits require a lamp starter. The starter you use is based on circuit wattage. Lamp starters are frequent failure points. They are typically recommended to be replaced every other re-lamping.

Lamp starters. On the left is a conventional analog starter and on the right is an electronic starter.

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Lamp Holders

Lamps in tanning equipment are held in place using lamp holders. It is through the lamp holder that electrical contact is made.

Occasionally lamp holders will fail. This can happen if the lamp end is not well seated in the lamp holder. When this happens the holder and the lamp end will overheat.

Low pressure lamps use two types of lamp holders. They are Bi-pin and RDC.

What's the difference?

· With a Bi-pin lamp holder, one of the pair used will also hold the lamp starter. You need to turn the lamp to lock it into the lamp holder.

· Recessed Dual Contact or RDC holders will have one end that is spring loaded. This end will compress to snap the lamp in between it and the passive end.

This is an example of a bi-pin with starter. The lamp at the top of the picture leaning against the frame of the bed is the bi-pin end. You will also notice in this picture that this tanning unit has closely packed reflector lamps and does not use an aluminum reflector behind the lamp. At the top of each lamp is where the starter is located and attached to the holder.

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This is and example of an RDC lamp holder and lamp end. The lamp holder on the left is the passive end and the one on the right is the spring loaded end.

High-pressure lamps also use two types of lamp holders. They are:

- Snap-in have a spring loaded end. These will be on both ends of the pair.
- Plug-in have a single holder per lamp.

The top of this example shows the snap-in lamp holder to the left and the end view of the lamp to it's right. A full view of a snap in lamp is shown on the bottom of the picture. Snap-in lamps are usually mounted horizontally.

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Reflectors

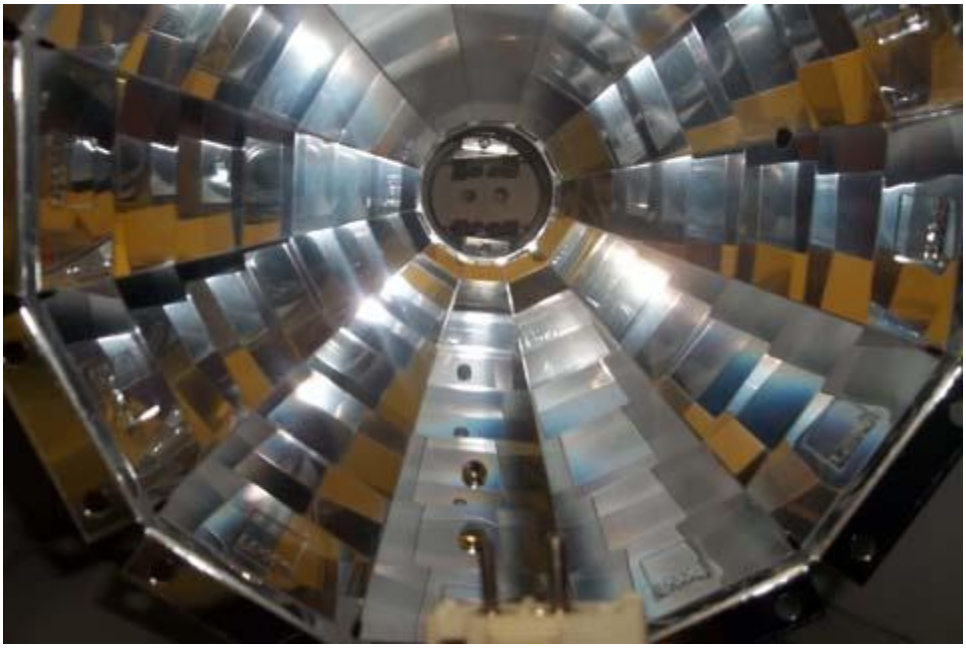
Tanning units use reflectors to direct most of the lamp output towards the consumer. In low pressure equipment they are a polished sheet of aluminum behind the lamps.

VHR lamps, the type of low pressure lamp with the reflector built in, does not require a separate reflector but one is typically still used to give a familiar appearance

Reflectors used in high pressure units are a very important part of the unit design. They are used to reflect a large portion of the UV from the lamp towards the customer. At the same time they help dissipate the heat from the lamp.

There are 2 different types of reflector systems used in high-pressure units. They are:

- One is the stamped aluminum reflector. They are generally used with a “horizontally mounted” lamp. With the horizontal mount the lamp is parallel to the customer and the filter glass is in front. Half of the UV produced by the lamp goes directly to the filter glass. The other half goes to the reflector, where the heat is dissipated, then back to the filter glass.
- The other is the parabolic reflector. They are usually used with a “vertically mounted” lamp. With this type of mount the lamp end is pointing to the customer and the filter glass is in front. Most of the UV produced by the lamp goes to the reflector, dissipating heat, and then back to the filter glass.



This is a parabolic Fresnel reflector. The plug-in lamp holder is at back center. In this example the lamp will be “vertically” mounted. At the bottom of this picture you can see the plug-in lamp pins.

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This is a stamped aluminum reflector. The lamp mounts horizontally inside the reflector. This is a wire lead lamp so the lamp is held in place by clips on each side of the lamp. The wire leads attach to a connection block behind the reflector.

Filter Glass

Filter glass is used in high-pressure units. It is located between the lamps and the customer to control the energy the customer is exposed to. They are used to:

- Filter out and eliminate all UV-C.
- Remove heat.
- Filter the UV-B output so the desired maximum exposure can be reached.

In most units, two layers of glass are used; one blue and one clear. Air is circulated between the layers to help remove heat.

Filter glass is very important in the performance of the unit. The filter glass must be replaced with an original factory glass replacement. Improper glass can introduce the risk of severe burning and physical injury if the glass shatters.

After the glass has been cleaned and prior to re-installing it, never handle it with your bare hands, only use cotton gloves or a cotton cloth. The body oil or fingerprints left behind will cause the glass to overheat. Filter glass should only be cleaned with rubbing alcohol then dried with a lint free towel.

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This picture shows a single sheet of blue filter glass. This glass is used in the HP mattress bed shown earlier in the course.

This picture shows a single sheet of clear filter glass. In this example, the glass is lightly frosted. This is glass is also used in the HP mattress bed shown earlier in the course.

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Here is a “cassette” of filter glass. A cassette is a holder used in high-pressure units that holds both blue and clear filter glass.

This person has removed the blue glass from the cassette above and is cleaning it with rubbing alcohol. Notice that he has a glove on one hand and a lint-free towel in the other. This is to ensure he does not touch the glass with his bare hands.

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This person is now cleaning the clear glass from the cassette with rubbing alcohol. Once again, notice that he has a glove on one hand and a lint-free towel in the other. This is to ensure he does not touch the glass with his bare hands.

Acrylic

What is the purpose of acrylic?

Acrylic protects the client from touching and potentially breaking the lamps. The acrylic used in our tanning units must be strong enough to support our clients and "transparent" enough to allow the UV to penetrate through it.

When our acrylic is exposed to UV it causes the acrylic to solarize. Solarization is an internal breakdown of the acrylic. When the acrylic becomes solarized it is less transparent to UV. It also becomes physically weaker and brittle. Exposure to heat is also detrimental to the acrylic. The heat will cause it to lose strength. Solarization, weakening from heat and aging are all reasons why acrylic must be replaced.

Other reasons acrylic can become less transparent to UV are:

- The client scratching it with their jewelry, fingernails or toenails.
- Using improper cleaning materials
- Lotion buildup.

Cleaning the Acrylic:

There is a difference between sanitizing the acrylic between clients and cleaning the acrylic. When you are sanitizing the acrylic, follow these simple instructions:

- Spray an industry-approved sanitizer on the canopy, the bench and the pillow.
- Spray a small amount of the sanitizer on a damp cloth
- Wipe the tanning unit completely, canopy, bench and pillow.

In addition:

- Only use acrylic safe cleaners and germicides that have been purchased from a distributor. This will ensure that you are not using a product that can cause an adverse skin reaction.
- Do NOT use paper towels, they are made out of wood and contain wood fibers. These fibers will scratch and eventually ruin the surface of the acrylic.
- Do NOT use a dry cloth. A dry cloth can create a static charge which will attract dust.
- DO NOT USE **ANY** HOUSEHOLD CLEANERS ON YOUR ACRYLIC. No Mr. Clean, 409, Windex or anything of that nature.
- If the client has used a hot action or tingle product in the unit, you should also spray the unit with a combination of water and mild dish soap to eliminate that hot residue.

If you are sanitizing a stand-up unit where the lamps are protected by acrylic:

- Spray an industry-approved sanitizer on the floor and walls.
- Spray a small amount of the sanitizer on a damp cloth
- Wipe the tanning unit completely, floor and walls.

To avoid lotion buildup that can cause the acrylic to become less transparent to the UV, the acrylic should be deep cleaned at least once a week or more often depending on the circumstances. When deep cleaning the bed you should:

- Get a bucket of hot water
- Squeeze an ample amount of mild dish soap into the hot water, enough to create suds. (Our recommendation is Dawn because of it's grease cutting ingredients)
- Apply this mixture to the canopy, then spray the canopy with sanitizer, wipe the canopy with another cloth
- Repeat this process on the bench.
- Completely clean the frame of the bed.
- Wipe the outside of the canopy.

Go beyond just cleaning the tanning unit, spend some time cleaning the room. For example you should also:

- Wipe down chairs, tables and shelves
- Check the walls and doors for lotion splatters and remove them.
- Check behind the tanning unit and remove any litter you find.
- Using a swiffer or broom, remove the dust from the walls.

The time spent removing the environmental dust and dirt will keep that dust and dirt out of the tanning unit.

When should the acrylic be replaced?

Acrylic MUST be replaced when it's transparency to UV becomes too low or when it is physically cracked. Usually an acrylic will crack before the transparency becomes too low. Cracked acrylic is weakened and it's a danger to the client. If a client is laying on a bed with a cracked acrylic, the weight of the client can cause the acrylic to break in half causing injury to the client and the equipment.

Timer Systems

Timer systems are a critical component of the equipment. The timer controls and manages the clients exposure. The modern timer systems are very stable and accurate.

Timer systems are regulated by the FDA; these regulations have some of the following requirements:

1. The timer system must match the maximum exposure time on the bed label. For example if you have a tanning unit that is labeled with a maximum exposure time of 20 minutes, then the timer attached to this unit cannot be set for more than 20 minutes.
2. The timer must be accurate within (+/-) 10%. Using the example of a 20 minute timer, when set to the full 20 minutes it must measure between 18 and 22 minutes to be acceptable in the + or – 10% range

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Most timer systems use in-bed or in-room timers for each tanning unit. The in room timer is attached to a “central timer” which sends time to the in-room timer. The in room device allows the client to start and stop the unit. Often the “central timer” is controlled by computer based salon management software.

This is an example of a timer that is built into the tanning unit.

This is another example of a timer that is built into the tanning unit. In this example the client will press the red start button to start the bed or the red stop button to stop the bed.

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This is an example of an in-room timer. This timer can be mounted on the wall or the bed frame, in this picture the timer is mounted on the bed frame. The client presses the blue button to start the bed.

This is another example of an in-room timer. It is mounted on the wall. The client presses the start stop button before they get into the tanning unit.

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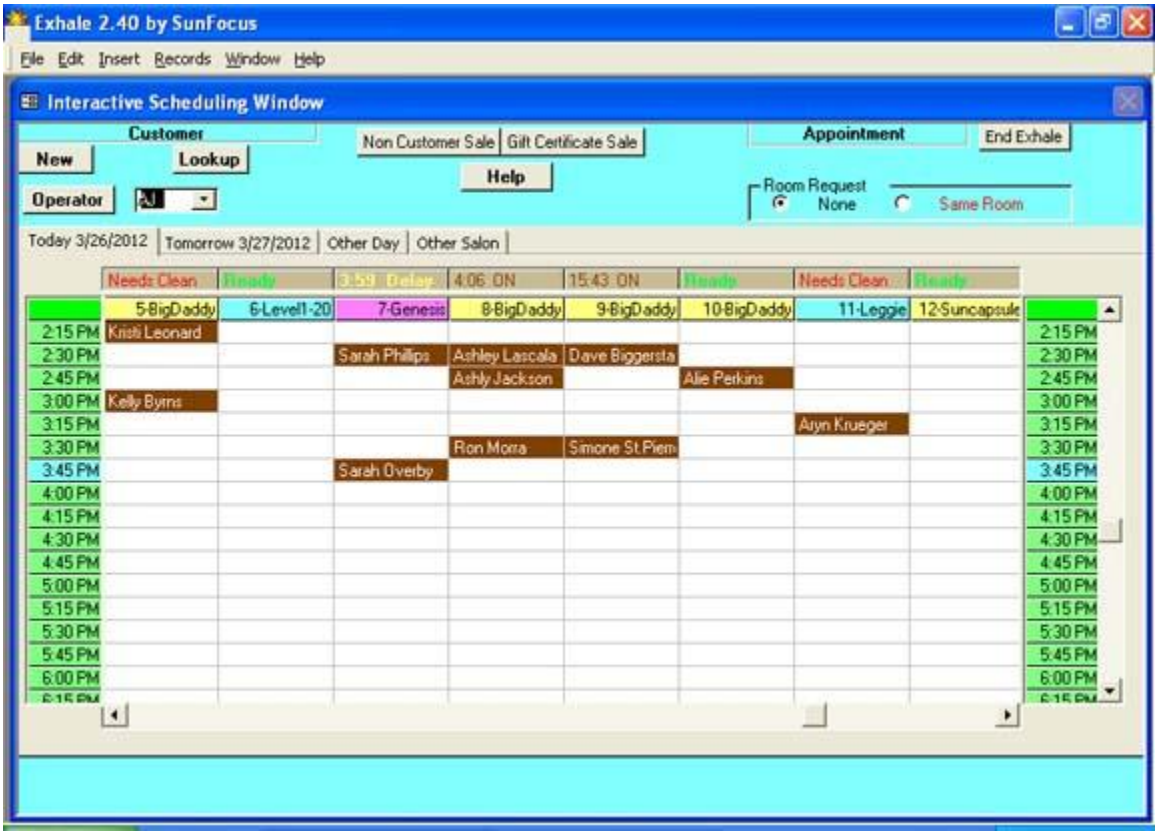
Here is a central timer. The black power cable at the top left supplies power to the timer. The tan serial cable beneath the power cable is attached to a computer and the telephone cord below that is part of a network based system that communicates with the in-room or in-bed timers.



Here is an example of computer software that controls time sent to a tanning unit. The display across the top of each tanning room gives the customer service representative the current status of the timer. As you can see, this information indicates when a bed is ready, when it needs to be cleaned, how much time is remaining on the tanning session and if the unit is in delay mode. The information displayed comes from the central timer. The in-room or in-unit timers have sent this information to the central timer.

Fans and cooling

There are cooling fans that start when the unit starts and that continue to run after the unit stops. These are fans scattered throughout the equipment. The fans are an important component of the equipment. The purpose of these fans is to keep the equipment cool. Excessive heat will cause a loss of UV output, higher energy consumption, and shortened equipment life.

If a client reports to you that a quadrant of the bed seemed physically hotter, this is an indication of a fan not operating properly.

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This is an example of the most common style of cooling fan used in tanning units.

What makes the canopy stay up?

Canopy lifters are what make the canopy stay up. Some canopy lifters are controlled by an electric motor others are raised manually by the client.

Manually raised canopies can be assisted by any of the following:

- Springs.
- Hydraulic pistons, also called gas shocks, hydraulic cylinders and hydraulic shocks.
- Or a combinations of springs and hydraulic pistons.

Here is an example of lifter springs. They come in various sizes, depending on the unit and canopy where they are being used.

This is a hydraulic piston.

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This is a hydraulic piston mounted on bed.

The owner’s manual:

A very important and often overlooked component of tanning equipment is the owner’s manual. It includes instructions for removing the acrylic, removing and inserting lamps, location of the equipment hour meter, and the location of

access covers and how to safely remove them. Some owner manuals also include electrical connection and wiring diagrams. The manual also contains copies of all labels that are required on the equipment.

Regulations require that you have an owner’s manual for each model of equipment in use.

This concludes the equipment module.

Take Quiz 9 below to complete this Module

- At the bottom of each quiz page are two options:
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Module 10 - Maintaining your Equipment

In this module you will learn the following:

- Why it's important to maintain equipment
- What records should be kept of all maintenance
- The break down of maintenance for each component
- The proper procedure for safely taking a unit apart for maintenance.

Why is it important to keep our equipment properly maintained?

This is an image industry and your equipment is the biggest image you show your clients.

A statement was made in an earlier module that clients spend disposable income with us. If this were your money would you spend it in a salon where the equipment was old and out of date, a lamp or two was out in the unit or the acrylic was cracked? The answer is no. It's all about the image.

Properly maintained equipment will reduce your operating costs. Let's say there is a layer of dust on the unit's ballasts. This dust layer will cause them to operate at a hotter temperature. This increases your electrical consumption by adding heat to the room, it shortens the life of the ballast and it reduces the UV output. It's about money.

Minimum standards for equipment maintenance are required by federal and sometimes state regulations.

Play it safe – perform your maintenance in a safe manner. Follow these guidelines when it comes to unit maintenance:

- Read and follow all safety precautions in your equipment-operating manual.
- When performing maintenance tests with the equipment turned on always wear protective eyewear. Clear or tinted industrial UV-protective eyewear is available from your distributor in a "safety glass" design that meets or exceeds FDA minimum requirements.
- Take precautions to avoid overexposure.

Record Keeping – in some regulated states, the inspector may want to see this.

When you are performing any type of maintenance on your equipment, whether it's preventative cleaning, lamp replacement or a repair, you must keep complete and accurate records of these activities. You should have the following on hand:

- The owners manual for each piece of equipment
- A log of all maintenance, testing, and repairs to each piece of equipment.

The maintenance log should contain the following information:

- The date maintenance was performed
- The initials or the signature of the person who performed the work.
- A description of the work performed.

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- The number of operating hours (from the meter) on the unit on the date the maintenance was performed.
- The test results or measurements taken
- Current run hour meter reading (if unit has a run hour meter)
- Documentation (receipts or work orders) for all replacement parts installed. Make sure that all replacement parts used are identical to the ones being replaced, or get documentation from the supplier to establish that non-identical parts are equivalent to the manufacturer's original.

Sample Maintenance Log:

Equipment		Manufacturer / Model Number
Tanning Bed (Room 6)		
Lamps Replaced every	Acrylic Replaced every	Serial Number(s)
Every 750 Hours	Every 3750 Hours	

Maintenance Schedule Information:

Next Lamp cleaning at	Next Reflector polish at	Next Lamp replacement	Next Acrylic replacement
375 Hours	500 Hours	At 750 Hours	At 3750 Hours

Work Performed:

Date	Unit Meter Hours	Signature / Initials	Work Performed / Test Results
12/13/93	0	FEV	New Bed put into service, Lamp test with UV meter Without acrylic: Top -Back 16.5 -Center 16.8 -Front 16.6 Bottom - Back 16.6, Center 16.7, Front 16.7 With acrylic: Top -Back 15.3, Center 15.5, Front 15.4 Bottom -Back 15.4, Center 15.4, Front 15.4
1/24/94	125	FEV	Cleaned lamps & acrylic. Fans OK.
2/21/94	250	FEV	Cleaned lamps & acrylic, polished reflectors. Fans cleaned & OK. Timer - 20 minutes 6 seconds on 20 minute setting. Lamp test with UV meter without acrylic Top -Back 15.3, Center 15.5, Front 15.3 Bottom -Back 15.4, Center 15.4, Front 15.3

Lamp test with acrylic
Top -Back 14.1, Center 14.3, Front 14.1
Bottom -Back 14.2, Center 14.3, Front 14.2

You can get a copy of this log from our resources and downloads on the resources menu at the bottom of all lesson pages This sample log represents a maintenance program in line with recommended procedures.

Going over the log, you can see that a new bed was put into service on 12/13/93. The person who put the bed into service tested the UV output using a UV meter. The numbers are from the UV meter reading. The test was performed without the acrylic on and with the acrylic on. This will serve as a benchmark for later readings to determine base output and how UV is being absorbed by the acrylic.

The lamps & acrylic were cleaned at 125 bed hours and the fans were checked to make sure they were operating correctly.

At 250 bed hours the unit was taken apart again and the lamps & acrylic were cleaned, the reflectors were polished, the fans were cleaned and checked for proper operation and the timer was verified to be accurate within + or – 10%. Meter readings were also taken and recorded.

Measuring the output of the bed and the lamps.

Today technology is available to measure bed and lamp output. Hand held UV meters are available at a moderate price to perform those measurements. Different models measure different types of UV output. These models include:

- UV-B only output
- UV-A only output
- UV-A and UV-B combined.
- MED per hour output

Using metering technology can be an important part of an equipment maintenance program.

This meter measure both UV-A and UV-B output.

Your Environment and the effect it has on the equipment.

There are many factors in our environment that can affect our equipment and the comfort of our clients. For example:

- Temperature and cooling
- Lint and dust

Both affect equipment efficiency and the level of effort you invest in maintenance activities.

Heat is damaging to tanning equipment, but the equipment produces a lot of heat. The use of adequate ventilation along with air conditioning is important. Ideally we would like our rooms to maintain a temperature at around 78 to 82 degrees. Your equipment distributor should be able to give you an idea of adequate cooling requirements for each unit. As important as it is to have adequate air conditioning, it is just as important to pay attention to ventilation. Find ways for that heat to escape. Using external and ceiling fans, louvered doors, and constructing the tanning rooms with less than full height walls can all aid in maintaining adequate ventilation.

Some of today's units come with air conditioning built in, and some have a ventilation system that allows the heat from the unit to vent into the dropped ceiling.

Dirt and dust collect everywhere on our equipment, on the lamps, in the lamp holders and on the underside of the acrylic. Make your routine maintenance easier by keeping this environmental dust out of your beds. In addition to normal housekeeping, use high efficiency filters on your heating and air conditioning system. Remember to change or clean filters often.

Keeping your Lamps Maintained

Because dust absorbs UV light, you need keep the dust from between the lamps and your customers. Even a small amount of dust on the lamps, reflectors and acrylic can significantly decrease the output of your bed. Routine maintenance involves wiping the lamps with a damp cloth, polishing the reflectors, and performing regular irradiance checks.

Ballast maintenance

Dusting or vacuuming the ballasts and other electrical components will allow the heat to dissipate, extend the life of the ballast and maximize bed output. This can be done when you replace the lamps.

Acrylic maintenance:

An employee using an industry-approved germicide must sanitize the acrylic after each session. In addition weekly cleaning should be performed to eliminate lotion buildup. You may want to do this more often than weekly.

Routine maintenance involves cleaning the underside of the acrylic. This is can be done when you are cleaning the lamps and reflectors.

The acrylic should be periodically checked for physical signs of aging, such as cracking and for solarization. Solarized acrylic will look cloudy. It might look like dried on lotion, but when you try to clean it you realize it is internal, not on the surface. You can also test for loss of UV transparency using a UV meter.

Timer Accuracy checks

Periodically check the timer system for accuracy within the + or – 10% range. Most of us have cell phones. Set the time on the unit at maximum time, and then set the timer on your cell phone. Press start at the same time and verify the results for accuracy.

Fan Maintenance:

First you want to check the fans on a regular basis to ensure they are operating properly. Remember, these fans keep other components cooled down so it is important that they are functioning properly. Clean (dust or vacuum) the fans when you clean the lamps.

A Routine Maintenance Plan

The business owner or manager should establish some type of maintenance plan that is performed on a regular basis. The purpose of establishing this plan is to make sure equipment maintenance is being performed and doesn't fall through the cracks. The equipment owner's manual will offer some suggestions and can help in determining the best plan for your salon.

Here are the some recommendations:

Daily:

Thoroughly clean the tanning equipment and room. Using a damp cloth of mild dish soap solution, wash acrylic to remove lotion and body oil residue. Wipe down top and bottom shell and clean all handles, switches and controls.

Weekly:

- Review maintenance logs for any scheduled maintenance that may be due.
- Check lamps and fans for correct operation.
- Inspect acrylics and filters for damage or cracking.
- Inspect pillows for damage or aging.

At Lamp mid-life or when you can just begin to notice dust accumulating behind the acrylic:

- Vacuum air intake and exhaust grilles (both top and bottom as well as body fan).
- Remove body fan cover and vacuum fan
- Remove acrylic and clean thoroughly on both sides. Inspect for damage or cracking.
- Remove and wipe lamps with a damp cloth
- Inspect canopy lifters and hinges.
- Polish reflectors by wiping with a dampened cloth, then polish with a dry clothe; this is similar to cleaning a window or mirror.
- Reinstall lamps, reinstall acrylic
- Log this activity in your maintenance log.

When the recommended lamp life has been met:

- Check tanning unit timer to ensure accuracy in the + or – 10% range

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- Remove and clean the acrylic (top and bottom)
- Remove old lamps and discard
- Clean and polish reflectors
- Inspect all lamp holder sockets.
- Remove access plates to gain access to the internal electrical components. Using a vacuum brush attachment, carefully vacuum components, including the ballasts.
- Check to ensure all electrical connections are tight, inspect all electrical wiring insulation, if discoloring exists, call your service agent.
- Remove cooling fans and clean the blades, screens and filters. Also clean all vents to ensure proper system ventilation
- Check and tighten nuts and bolts.
- Install new lamps with the type specified on the unit label or with lamps that are documented to be certified equivalent.
- Reinstall acrylic.
- Log this activity in your maintenance log.

In this picture the employee is removing the bench acrylic.

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Before a thorough bed cleaning, you can see the dust that has accumulated on the inside of the canopy acrylic. This is what the customer sees while tanning. This dust is absorbing the UV.

See the layer of dust on the reflector. The reflector will not perform properly with this layer of dust on it.

Cleaning the high-pressure cassettes:

- Remove filter glass and lamp.
- Clean and polish reflector.

- Reinstall lamp.
- Clean filter glass using rubbing alcohol, dry with a soft lint free towel and reinstall.
- Remember do not touch the filter glass or the lamps with your bare hands.

Log this activity in the maintenance log.

Take Quiz 10 below to complete this Module

- At the bottom of each quiz page are two options:
  Click the "Submit All and Finish" button to complete the quiz attempt, submit it for grading and see your results.
  Click the "Save all without submitting" button to interrupt your attempt at the quiz if need to leave and return later.

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To navigate thru this course use the Menu Tabs near the top of the page, the course Main Menu to the left top or the Previous / Next links at the page bottom. You will go to Module 11 – Regulation for the next lesson .

Also note the Resources Menu at the bottom of each lesson. Use it for access to resources that can augment your course experience. Some examples are that you can download a course manual, see Frequently Asked Questions, or post question or comments in our online Forum.

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Module 11 - Regulation and Enforcement

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In this module you will learn about national and state regulations for indoor tanning.
At the national level, tanning is regulated by the Food and Drug Administration. The FDA sets standards for the manufacture, supply and use of indoor tanning equipment.
The FDA regulations cover three broad areas. These areas are:
Exposure Management: This covers aspects of how much UV exposure a person receives and includes:

- The timer system used in conjunction with the tanning unit must match the maximum time on the unit label.
- The timer cannot be set for more time than is the maximum specified on the unit label.
  Note that the maximum amount of time a client is allowed to tan under any circumstance is determined by the labeling on the tanning unit and the client's skin type.
- The timer must be accurate within (+/-) 10% of the maximum exposure time for the unit, and must be adequately marked.
- Clients must be restricted from setting or resetting timers.
- The equipment must include a control that allows the client to stop the bed at any time during their session.
- The determination of maximum exposure time for the tanning unit.
- Replacement lamps must be the same as the unit label specifies or a compatible lamp with compatibility documentation.

Protective Eyewear: This includes

- Eyewear must be available to the customer for use in the equipment
- The eyewear must block 99.9 % of UVB and 99 % of UVA from penetrating the user's eyes.
- The eyewear must remain over the consumer's eyes in all anticipated positions.
- Enough vision must be maintained to allow the consumer to see the location of the on/off switch or the emergency off switch.

Equipment Labeling and other information

- The labeling on the tanning unit must NOT be removed. This labeling provides each user with basic information about tanning in the unit.
- Labels must be permanently affixed in a readable location on the tanning unit.

FDA required labels include the following information:

    - A warning statement beginning with "DANGER-Ultraviolet Radiation"
    - A recommended exposure schedule including duration and spacing of sequential exposures and the maximum time in minutes
    - Lamp type designated for the unit by the equipment manufacturer
    - Each tanning lamp must be inscribed or labeled by the equipment manufacturer with basic information about the lamp, including the manufacturer's name and the date of manufacture.
- Equipment must include a set of instructions (Owner's Manual) for the purchaser that include the following:
    - Recommended exposure positions
    - Directions for achieving those positions
    - Recommended exposure schedules including duration and spacing of sequential exposures
    - Maximum exposure times recommended for each skin type
    - A statement of the time it may take for results to appear.

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About thirty (30) states currently have some form of regulation at the state level. Some delegate responsibility for regulation and enforcement to the county or city level. These state programs vary dramatically in scope of regulation and level of enforcement.

The state regulations generally either repeat FDA requirements or include statements that endorse the FDA requirements and incorporate them as state requirements. State regulations also have requirements in addition to the FDA requirements.

Different states have a different focus in their regulations and the areas of state and or local government tasked with enforcement and oversight. The following government agencies are commonly the focus of state oversight:

- Radiation regulators that oversee other radiation sources such as x-rays.
- Health departments
- Cosmetology boards

You will want to review the details of regulations specific to your state.
List of state regulatory links -

http://www.tanningcertification.com/state-tanning-regulations.html

In the following material we will discuss the most common areas of state regulation. Note that these regulations cover UV tanning services and do not address sunless tanning services. For the specifics of requirements where you live talk to your manager or contact the state government agency responsible for tanning oversight.

Registration: Generally registration of all businesses that offer UV tanning services is required. The registration requirements typically include periodic renewal and the report of changes to the business that impact the original registration.

Fees: Registration fees are usually charged. These fees are structured to cover the cost of regulatory oversight.

Restrictions on claims: No claim can be made that tanning is "safe" or free of risks or that an individual can't burn. This also includes any claims of medical or health benefits. Indoor tanning is approved by the FDA for **cosmetic benefits** only, that is all we can claim or advertise.

Screening of potential tanners: Most regulations require that we screen potential customers for areas of high risk or where regulations would prohibit tanning. These areas include:

- Use of medications that might cause a photosensitive response.
- People with skin type 1 who should not tan.
- People with a history of skin cancer who should not tan.
- Women who are pregnant who should consult their doctor before they tan.

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- People who may be below the required age to tan or may need parental approval according to state requirements.

Warning Statements: Generally regulations require a warning sign to be posted in each tanning room near the tanning unit. The warning sign must be easily viewed by the consumer. In addition, most states require that each consumer read a warning statement. They would also be required to sign an acknowledgment that they have read and understood the warning.

Some states only require a signature once, while other states require it more frequently, commonly every time they purchase tanning. The text of the warning messages is usually very similar to the caution warning on the bed label.

Eyewear Required: All states require the use of eyewear and incorporate the FDA requirement that it must be provided to each consumer. Most states accept the practice of requiring that the consumer purchase and use their own personal eyewear. Several states still require that the business provide free eyewear or shared use eyewear that is loaned to each customer and sanitized after each use.

Customer Exposure Records: Most states require that the tanning provider maintain a record of each tanning exposure for each consumer. That exposure record would include the person's name, date of exposure, duration of exposure and the equipment / tanning room that was used to deliver the exposure.

Injury Reports: Most states require that the tanning provider document any injury that occurs as a result of UV exposure and report those occurrences to the agency that is responsible for tanning program oversight. Usually these requirements impose a time limit in which the injury must be reported and specify the information about the injury that must be included in the report.

Sanitation: Generally state regulations include sanitation requirements. These sanitation requirements should address the following areas:

- Sanitation of the tanning equipment.
- Sanitation of 'Free' or 'Shared Use' eyewear.
- Sometimes general cleanliness and sanitation of the facility including handling of cleaning towels, laundry etc.

Operator Training: Most state regulations include requirements for staff training. Generally the training required includes the following:

- State regulation.
- Equipment operation and maintenance.
- Skin Type determination.
- Injury recognition and reporting procedures.

Training must be documented and records maintained by the tanning business. Some states require more formal training for owners and managers than for the typical customer service representative. Most state regulations will set a minimum age requirement to work as a tanning operator.

Inspections: Many regulated states do periodic inspections of the tanning businesses. Typically these inspections are structured to insure compliance with both state and FDA regulations

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Compliance and Best Practices: Compliance with regulations is important to minimize business risk and potential liability. Besides compliance with minimum regulatory requirements your business may choose to implement "best practices" in the areas discussed above even if they are not specifically required in your state. Note that the insurance provider for the businesses professional liability insurance may require or provided a discounted rate for regulatory compliance and/or implementation of "best practices".

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