1. Can indoor tanning beds help clear up my pimples or make my scars fade?

Tanning beds may initially make your acne better, but this is a short term, temporary effect. Indoor tanning beds do not heal acne or help scars to fade; in fact, tanning beds can make both conditions worse over time. The drying effects of ultraviolet (UV) rays can cause your skin to overproduce oil (sebum) and this can actually make you break out more. You may notice that the day or two after using a tanning bed your pimples seem to be clearing, but by the third to fourth day new pimples will form. As for scars, exposure to UV light can make new wounds scar with a darker color and become raised. It can also make old scars stand out white against tan skin.

2. My tanning salon says that tanning beds are safer than the sun because they use only ultraviolet A (UVA) rays. Is that true?

Tanning beds give off at least 3-8 times as much ultraviolet (UV) radiation as the noon day summer sun. Natural sunlight is composed of ultraviolet A, B, and C wavelengths. Ultraviolet C (UVC) rays do not presently reach the earth’s surface. Ultraviolet B (UVB) rays reach the surface and are partially blocked by the atmosphere. UVB rays are the “burning” rays. UVA rays are the “aging” rays. Both UVA and UVB rays increase the risk of skin cancer development.

The rays from the light bulbs of a tanning bed are composed primarily of UVA rays with approximately 2-6% UVB radiation. This is so the tanning salon patron doesn’t leave with a burn. Unfortunately, there is no early warning sign of skin damage with UVA rays since they don't burn your skin like UVB rays do, but they do penetrate deeper into your skin and cause more permanent damage (early wrinkling, loss of elasticity, freckling/dark spots, and skin cancers). Additionally, most tanning beds have a special rectangular insert to tan the face which can emit up to ten times the radiation of the bed’s bulbs.

Tanning salons also have different level beds that emit higher amounts of radiation as the level increases. Level three beds emit higher radiation doses than level one beds. High-pressure tanning beds release UVA doses that are 10-15 times that of natural sunlight. Studies have shown that not only do patrons exceed recommended limits but they also begin tanning at maximum doses usually reserved for maintenance tanning. Think about it . . . if you’re spending less time in a higher level bed, you’re receiving a higher dose of radiation over a shorter time period to get the same amount of color from a lower level bed. Remember that tanning is the skin’s way of protecting itself from UV rays whether those rays are produced by the sun or by light bulbs. Overexposure to natural or artificial UV rays can cause eye injury, premature aging of the skin, rashes and inflammations, and can increase your chances of developing skin cancer.

3. The tanning salon I go to sells tanning lotions to use in the tanning beds. Won’t these protect me from the UV radiation?

These lotions are called tanning accelerators. They are primarily composed of moisturizers with added colorants like henna, carrot oil or dihydroxyacetone (self-tanner) that dye your skin a light orange-brown to give the appearance of a darker tan. Some tanning accelerators add a chemical that causes a heated skin tingling in reaction to the tanning bed lights to create the illusion of heat so that you feel like you are getting a good tan. They do not contain sunscreen and will not protect you from the UV radiation.
4. **But skin cancer happens to old people and not teenagers. Can children and teenagers get skin cancer too?**

Skin cancer is uncommon in children. However, damage that later results in skin cancer is accumulated in childhood and during the teenage years. Skin cancer is becoming a problem for more and more young people—especially those in their late teens and early twenties. Most of the sun damage that causes skin cancer occurs before age 18 and melanoma is the leading cause of cancer death in young women aged 25-30 years. This means that it is important for you to protect yourself from the sun now.

5. **Is it okay to take infants out in the sun?**

Infants under the age of six months should not be directly in the sun; they should always be shaded and protected. Whenever a baby is outside, they should be protected with large brim hats, sunglasses with Velcro cloth closures that wrap around their changing head diameter (instead of arms), and clothing. Sunscreens are not recommended for infants six months and under. Physical (barrier) sunblocks containing titanium dioxide or zinc oxide are considered safe for young children. The chemicals in some sunscreens may cause a young child’s skin to react with redness and irritation, so look for a barrier sunblock with zinc oxide.

6. **I tan really easily, so I don’t need to worry about skin cancer, right?**

Even if you don’t burn when you’re out in the sun, the sun’s rays are still causing damage to your skin—this damage is what causes skin cancer. The damage is also cumulative (it adds up over time) so you may not notice much damage until it’s too late. How well you tan isn’t the only factor in causing skin cancer. The number of moles or nevi (dark spots) you have on your body is also a risk factor for melanoma.

7. **Do I need to wear sunscreen while I’m in the car?**

Yes. Windows and car windshields somewhat reduce exposure to UV radiation. Clear window glass in most vehicles absorbs UVB rays, but not UVA. The Federal Motor Vehicle Safety Standard #205 states that tinted glass used in cars protects us from at least 70% of the visible radiation, but only front car windshields are partially treated against UVA rays. Many older vehicles have tinted windows but these do not necessarily shield from UV radiation, they shield from glare. Additionally, side windows are often not UV protected. For these windows, a UV protective film can be applied.

Kullavanijaya P, Lim H. Photoprotection. *Journal of the American Academy of Dermatology.* Volume 52 • Number 6 • June 2005

8. **Can I catch diseases like AIDS or herpes from a tanning bed?**

No. Very few sexually transmitted diseases (STD’s) survive for long in the open air. Although some STD’s can live in a hospitable environment (such as warm, wet towels) for a brief period of time, they can’t survive on a tanning bed. In fact, ultraviolet radiation is very effective at killing many bacteria and viruses. Sometimes, however, you may develop a rash (usually red and itchy) wherever your body has touched the tanning bed from the chemicals they use to clean the tanning bed’s acrylic surface. Additionally, if you are taking certain medications (tetracycline, doxycycline, sulfa antibiotics, birth control pills, Differin or Accutane are just a few) they can cause a skin reaction from exposure to UV light. They can also cause other problems, most notably sunburn and itchy rashes.
9. Won’t a healthy tan protect my skin?

A tan might look good to some people, but it really means your skin has been damaged. Producing melanin, which makes your skin look darker, is your skin cells' response to damage from the sun. A tan is only equivalent to an SPF of 2.

10. If I wear sunscreen, can I stay in the sun as long as I want?

Sunscreen doesn’t last forever, must be reapplied, applied in the proper amount, and used in conjunction with other sun protective methods. Studies have shown that applying sunscreen once may give you a false sense of security that you are well-protected and thus can stay in the sun longer. This is a fallacy. There is no such thing as an all-day or 8-hour sunscreen, except a tent. Sunscreens must be reapplied every 1-2 hours, in the proper amount of one full ounce to the body, and with an SPF of 30.

The SPF (Sun Protection Factor) number is meant to reflect how many minutes you can stay in the sun. For example, a person with skin type 1 can stay in the sun for 10 minutes before they will begin to burn. If that person applies a sunscreen with an SPF of 15, they should be able to stay in the sun for 150 minutes without burning (10 x 15). This equation allows a skin type 1 (most susceptible to skin cancer: fair skin, blond hair, blue eyes) to stay in the sun for 150 min if using an SPF of 15. That’s longer than 2 hours which is how often sunscreen should be reapplied. Waterproof sunscreens last only a maximum of 80 minutes, and they are the longest lasting sunscreen.

Unfortunately, this doesn’t reflect the reality of the situation. The SPF number is based on applying a full ounce to your body, which the rare person does. In addition, the SPF was calculated in labs using a full ounce of sunscreen under solar simulators that use mostly UVB light and little or no UVA light. About 20 times the amount of UVA light reaches the earth’s surface as UVB, so natural sunlight has a lot more UVA compared to a laboratory solar simulator that uses mostly UVB light. Studies have shown that putting on half the appropriate amount of sunscreen does not decrease the protective coverage by half, but by 75%. Sunscreen protection does not decrease in a linear fashion. Additionally, the different types of sunscreen adhere and apply in different amounts based on their viscosity and spreadability (lotions cover best because they spread easily; sticks are best for small areas – lips, tip of nose, ears but spread poorly due to their wax matrix; gels spread easily and cover well but are full of alcohol and if used on the face burn the eyes so people often put on less; sprays can have less coverage due to the fact that much of it may be lost on other surfaces). The real answer is to limit your time in the sun between 10am-4pm. If you can’t do that, then cover up, reapply using the right amount of sunscreen, seek shade or use other sun protective methods. Sunscreen use needs to be combined with other protective methods, it should not stand alone.

11. Do I still need to wear sunscreen during the winter or on cloudy days?

The sun may not feel hot during the winter or on cloudy days, but the UVA and UVB rays are still there and being absorbed by your skin. According to the CDC, 32% of the UV rays still reach the earth’s surface on an overcast day. UVA rays penetrate glass so they can easily pass through water vapor (clouds). So remember your sunscreen and protective gear even when the weather is not sunny. Protect your skin 365 days a year by storing a bottle of sunscreen by your toothbrush. Just as we brush our teeth daily, we should get in the habit of applying sunscreen daily, all year long, especially to the face.
12. I'm going skiing in the mountains, not to the beach, so I don't have to use sunscreen, right?

In the mountains, the sun's rays are more intense because the air is thinner at higher elevations (fewer atmospheres to protect you), you are closer to the sun rays, and there is more reflection off snow and ice surfaces. Studies have shown that the reflected rays from snow and ice are nearly equivalent to that of water. Plus, you’re not hot in the mountains, so you tend to stay in the sun longer. You need to wear sunscreen any time you’re out in the sun, no matter what the climate!

13. Are sunless tanning lotions really safe?

Yes. Sunless tanning lotions, otherwise known as self-tanners, are a great alternative to tanning beds or lying out in the sun. Sunless tanning lotions contain 3-5% DHA (dihydroxyacetone), a simple sugar that dyes the topmost layer of the epidermis (stratum corneum). This layer is composed of mostly dead skin cells that slough off every 4-5 days which is why you have to reapply sunless tanning lotion once a week.

If you go to an indoor spray-on tanning booth or use airbrushing to get a tan, there are precautions you should take because the self-tanner is aerosolized. Precautions include not inhaling (holding your breath is usually fine since the session lasts only 15-30 seconds) or using a nose filter, protecting your eyes (wear goggles), protecting your lips (use an SPF balm), and protecting your nails (with Vaseline) and hair (with a shower cap). Most tanning salons supply a shower cap, goggles and a towel to wipe off excess self-tanner.

14. What about tanning pills?

Tanning pills contain a vitamin mixture of carotenoids, which are similar to vitamin A, and antioxidants, such as vitamin C and vitamin E. Tanning pills tint the skin an orange color, especially the palms, but don't produce a "real" brown tan. The color change is due to the accumulation of carotenoids (found in carrots) in the skin. The color is temporary and usually fades within a few weeks after discontinuing the pills. Other pills called psoralens are used by dermatologists to treat skin conditions. Psoralens are given only with a prescription and are to be used under a physician’s guidance. Improper use of psoralens not only exposes you to higher doses of radiation but can cause ocular damage and definitely causes premature aging, drying, elastosis (loss of elasticity), lentigenes (brown age spots), and skin cancer.

Tanning pills do not protect against sunburn. When your skin is exposed to ultraviolet (UV) light, it stimulates cells known as melanocytes, which make a brown pigment called melanin. This is your skin's way of protecting against UV damage. Tanning pills don't increase production of melanin, so they don't provide the same protection. Unfortunately, tanning pills are not regulated by the Food and Drug Administration, the main agency that protects us from the harmful effects of many drugs. Therefore, we don’t really know if these pills are safe or not.

15. So, how do I apply self-tanning lotion without it looking fake?

Most self-tanners today do not cause the same orange discoloration of the old formulations if applied properly. As stated earlier, self-tanners contain a simple sugar called dihydroxyacetone (DHA). This sugar reacts with amino acids to produce yellow-brown pigments called melanoidins and only colors the topmost layer of the epidermis known as the stratum corneum. It is essentially harmless.

In order to obtain a good coloration from DHA, you should first purchase a self-tanning lotion that is colored or tinted so that you can visually apply an even coat and prevent streak marks. It is also a good idea to buy
a box of inexpensive disposable gloves. Wearing these will prevent your palms from turning dark. If you don’t have gloves, wash your hands immediately after applying self-tanner. Next, prepare the skin surface by shaving (if it an area that will be shaved, like females’ legs), exfoliating to remove dead skin cells (the dead cells uptake more of the self-tanner and will appear blotchy as dry areas are usually concentrated in one spot), and then moisturizing the shaved and/or exfoliated skin (allow the moisturizer to sink in for about 3 minutes). Some studies suggest not moisturizing as this may decrease the amount of self-tanner absorbed by your skin. Other studies show that moisturizing hydrates the skin allowing a more even absorption. Finally, apply the self-tanner in even strokes and with a lighter application on wrinkled areas (knees, elbows, ankles, around eyes and mouth) which will uptake more tanner and turn darker. For a more natural looking tan, wipe the wrinkled areas with a paper towel to remove a little of the self-tanner. Those areas of your body are naturally a lighter tan than other parts and will shout “fake tan” if darkened. Since this skin layer sloughs off every 4-5 days, this is how often self-tanner needs to be reapplied.

Applying self-tanner daily in an effort to get a dark tan quickly will create an abnormal coloration. It is best to only reapply it no more often than every 2-3 days and to start with a light to medium formulation rather than dark. The resulting color is also dependent upon your skin type and natural coloration. Blonds and brunettes have the best color results. Darker haired persons, especially those with lighter skins like Asians, and redheads do not have as “natural” a result. Many people purchase the “dark” formulation and apply it daily which will eventually turn their skin orange. Self-tanners work well for Skin Types II and III if you start with the “light” or “medium” formulations, apply it no more often than every three days, and allow yourself to “tan” over a period of about 1-2 weeks. Trying to get an overnight tan will turn you an abnormal color.

Self-tanner is also found in many moisturizers at a lower percentage than in the tubes of straight self-tanner. These may be applied on a daily basis depending upon your skin type.

16. Is it OK to tan if you are wearing sunscreen?

Tanning indicates a defensive change in your skin, so no tan is healthy or safe. Use a broad-spectrum sunscreen that blocks both UVA and UVB rays with an SPF of at least 30. Remember you need to apply sunscreen 20-30 minutes before going out into the sun. This allows the chemicals in the sunscreen to bind with the skin’s cells and not be as easily washed off by the chlorine in the pool or the salt in the ocean. Reapply sunscreen every 2 hours, and more often if you are swimming, sweating, exercising or toweling off.

17. Don’t I need sun exposure to ensure I get adequate levels of Vitamin D?

You only need about 5 to 15 minutes of sun exposure two to three times a week for your body to produce a sufficient supply of Vitamin D. In addition, milk and other Vitamin D-rich foods as well as multivitamins are excellent sources of Vitamin D. If needed, it is better to take a vitamin D supplement than to expose yourself to ultraviolet radiation.

18. Doesn’t a tan help you look healthier?

Too much sun actually ages you prematurely. Compare skin on your face and hands with skin on a part of your body that is not regularly exposed to the sun and see the difference. A tan is a short-term bronzed look that can easily be achieved by self-tanners, bronzing powders, tinted sunscreens and other cosmetics. The
use of these methods will prevent early signs of aging. Early aging is another compelling reason to protect your skin from the damaging effects of sunlight.

19. **My mom’s doctor told her to go to a tanning bed. Why can’t I?**

Rarely, an individual may have a medical condition — such as certain types of eczema or psoriasis — for which a doctor recommends exposure to special kinds of UV light. In these people, the UV exposure helps treat their skin condition (the benefits outweigh the risk of the UV light causing skin cancer). The treatment is done in a medical setting where the UV light output is both wattage-regulated and time-controlled. Most indoor tanning is not as stringently controlled and is thus much more dangerous.

20. **My facial foundation has an SPF of 15, so I’m protected, right?**

Facial foundations with sun protection factors are better than those without SPF. Most facial foundations degrade due to accidental removal, perspiration, oil production, and tearing, thereby decreasing the photoprotection within about two hours. It is recommended that foundation be reapplied every two hours if using for photoprotection. Otherwise, apply a sunscreen first and then apply your foundation on top of the sunscreen.

Draelos ZD. Degradation and migration of facial foundations. *Journal of the American Academy of Dermatology.* Volume 45 • Number 4 • October 2001

21. **If I put on a sunscreen with an SPF 15 and then later put on more sunscreen with an SPF 10, do I get a total SPF of 25?**

No, the highest SPF you apply is the highest SPF coverage you will receive. So, in the above case it would be an SPF of 15. Sun protection factors cannot be added mathematically to get a higher level of protection. The best method is to start with an SPF of 30 and apply two coats, 20 minutes apart since most people don’t apply the required amount of one full ounce to receive the sunscreen’s stated sun protection factor.

22. **If I tan pre-vacation, then I won’t burn, right?**

No, a tan is equivalent to an SPF of about 2 - 4 depending upon your skin type. The lighter your skin, hair and eye color, the less protected your skin is from ultraviolet radiation (UVR). A tan is the body’s protective response to a damaging agent -- ultraviolet radiation (UVR). Melanin pigment (the brown color in a tan) is produced to help prevent UV radiation from going deeper into the skin, but there is a limit as to how much melanin your skin can produce and how well it can protect you.

23. **I was at the beach the other day for four hours and started to get a little burned after one hour so I put on a white t-shirt and ended up very sunburned. I thought the shirt would protect me. What happened?**

This is a common misunderstanding. Unfortunately, the same thing happens a lot with moms and young toddlers, too. Once you have a red color change to your skin, you are burned. You should go inside, seek shade, or get out of the sun. A white t-shirt has an SPF of 4-6 until it gets wet, and then the SPF decreases to two. We often put a t-shirt on to protect us from further sunburn and it does little to help. Then we go back in the baby pool or the ocean and it gets wet, further decreasing its protectiveness.
24. What is the difference between a sunscreen and a sunblock?

Sunscreens contain chemicals that absorb the UV light and sunblocks contain barriers or physical blocking agents that reflect UV light. Physical sunblock creams are made of zinc oxide and titanium dioxide, the white stuff. Chemical sunscreens contain active ingredients with the big names like benzophenones, cinnamates, and salicylates. Most sun lotions are a combination of sunscreen chemicals and a sunblock barrier cream. There are also sun lotions that contain only zinc oxide or titanium dioxide which are called sunblocks by dermatologists and plastic surgeons that are used after skin resurfacing procedures such as laser, chemical peels, and abrasion. These sunblock only lotions are also good for sensitive skin and babies. Currently, zinc oxide deflects the widest spectrum of UVB and UVA rays. There is a movement to eliminate the term “sunblock” and use sunscreen since no sun lotion totally blocks all the UV rays.

25. I’ve heard that twenty minutes in a tanning bed is equal to four hours outside in the sun. If that is true, then wouldn’t it make more sense for me to indoor tan because I would be spending less time in the sun?

As explained earlier, tanning beds primarily use UVA lamps with minimal UVB radiation. Outdoor sunlight has more UVB rays and therefore you may burn earlier, as a warning sign that you have had too much sun exposure. UVA radiation penetrates deeper and causes the skin to age more rapidly than UVB, but has no warning sign. Also, when you are outside in the sun, you usually apply sunscreen which affords you some protection unlike in a tanning bed where you don’t wear sunscreen. The bottom line is if it only takes 20 minutes in a tanning bed versus four hours outdoors, consider the amount of UVR you are receiving in a very short period of time plus the fact that it is primarily UVA radiation.