



Lowe Plastic Surgery (LPS)
Dr. Lowe's Facts about Sun Protection

Why should I block out the sun, isn't good for you?

The sun has many benefits, but the sun has many more negatives than positives. The sun will not make your skin look younger; to the contrary, consistent sun exposure makes skin look prematurely old. Many of the harmful effects of sun are not immediate. Sun exposure or artificial sun exposure (tanning beds) significantly increase the risk of skin cancers that include: basal cell carcinoma, squamous cell carcinoma, and melanoma. Patients are not only at risk right now, but in the future. Many of the harmful effects of over-exposure to sun are not reversible and can be deadly. Certain skin types such as light or pale skin are at higher risk of developing skin cancer. Some patients have genetic traits that almost guarantee a deadly skin cancer with over-exposure. Skin cancers result in deforming scars and in some cases the cancer may be deadly!

Can I really control the sun?

Board certified Dermatologists and Plastic Surgeons routinely give recommendations to patients on skin care and protection. For young patients it might be controlling acne or skin texture. For older patients it is usually about reversing the effects of damaging sun. Sun exposure is one of the few things that every patient with limited resources can control. It is not easy to avoid the sun particularly when you are young and involved in a great deal of outdoor activities. Nevertheless, the fact is the sun and sun tanning will make you look older than you should either now or in the future. Avoiding the sun involves behavior modifications, mechanical cover, and sun screen. The real success of such programs is dependent on a consistent commitment to avoiding the harmful effects of sun, day in and day out.

Is my tan dangerous?

Protecting your skin from the sun will reduce the likelihood of skin cancer and wrinkles. There is no such thing as a safe tan. A tan is visual evidence that skin has been damaged. To produce a tan, your pigment cells have to mutate themselves to create a darkening of the skin that they think will protect themselves from further damage. There is no such thing as a safe sunburn. Sunburn means that the rays of the sun have burned your skin. Those people with fair skin, hair light eyes, many freckles, and lots of moles are at an increased risk for melanoma and other skin cancers

Does a base tan at a tanning salon protect me?

.A "base tan" offers no protection. There is no evidence that getting a tan will protect your skin in any way. Tanning beds do cause sun damage! The American Cancer Society reports that people under the age of 35 who use tanning beds regularly have a risk of melanoma eight times higher than that of people who never use tanning beds. Even occasional use nearly doubles the risk of developing the disease. And a recent study published in the Journal of the National Cancer Institute indicates that the use of tanning devices may also contribute to the incidence of non-melanoma skin cancers. They cause premature aging too. Sunless tanning solutions do not protect from sunburn.

Do you think sun make skin look healthier and younger?

The quality of a person's skin is often related to a number of factors. Many of the factors are out of the control of individuals and include: skin color, skin type, genetics, age, and environmental factors. A patient's skin quality can be positively impacted by lifestyle modifications, skin care, diet, and hormonal manipulation. Everyone eventually has wrinkles. Overexposure to the sun will substantially speed up the wrinkling process. If you want your skin to look better stop smoking (if you smoke). Cigarette smoking is the number one preventable cause of death in the U.S. Smokers have an increased rate of certain skin cancers and skin conditions. Smoking causes wrinkles too! Minimize sun exposure, especially 10 A.M to 2 P.M. when UVB intensity is highest. Seek shade. Sun bathing, even wearing sunscreen, is still harmful!

How do I prevent over exposure to sun?

Wear sun-protective clothing when outside; this means a hat with at least a 4 inch circumferential brim, long sleeved shirt, and long pants or skirt. Baseball caps don't protect the ears, back of the neck, or even most of the face. Straw hats are unlined and loosely woven, which allows the sun to go directly through the hat. The fabric must also be sun-protective; a light cotton material does not protect well from the sun. Some lines of clothing are marketed today with an SPF rating. Typical shirt fabrics only offer SPF of 6.5. Weave tightness is the most important factor in sun protection of fabrics followed by the fabric type. Darker color fabrics provide greater protection from UV rays than do lighter color fabrics. It is also important to note that fabrics are significantly less sun protective when wet.

How exactly does sunscreen protect me?

Broad-spectrum sunscreen (UVA and UVB) means that the sunscreen has components that absorb or reflect UVA as well as UVB. The SPF refers only to the capacity to screen UVB; there are as yet no guidelines, comparing how well a sunscreen filters UVA. The most effective sunscreens contain only Parsol 1789 or micronized titanium dioxide or micronized zinc oxide. UVA – Aging rays of sun; causing wrinkle formation and skin cancer. UVB – Burning rays of sun; the cause of sunburns and skin cancers. Car and house windows only protect against UVB, not UVA. That's why sun protection should not be limited to just sunny days. Use SPF 15 or higher sunscreen on all areas of skin not covered by clothing. SPF = Sun Protection Factor. SPF rating is calculated by comparing the amount of time needed to produce a sunburn with sunscreen vs. without. SPF does not mean how many hours you can stay in the sun; it simply means that if skin turns pink in 30 minutes without protection, application of an SPF of 10 will delay the onset of pinkness, given the same exposure, for 300 minutes. What is the index number exposure level? The UV Index Describes the Next Day's Likely Levels of Exposure to UV Rays: 0 to 2 Minimal, 3 to 4 Low, 5 to 6 Moderate, 7 to 9 High, and 10+ Very High.

How should I use sunscreen?

Use sunscreen on all parts of your skin exposed to the sun, including the ears, back, shoulders, and the back of the knees and legs. Apply sunscreen to the face every morning if you want thorough protection against sun-related aging and discoloration of the skin. It should be a habit, like brushing your teeth. Remember that such changes are not only induced by intense sun exposure, but also by cumulative, mild, brief exposures to the sun. Also apply on neck, ears, hands and arms. It will help prevent "liver spots" which are really sun damage. SUN SAFETY is not just a summer issue – it is a year round issue. Don't forget the importance of protecting your eyes and lips from sunlight. Moles that can degenerate into melanoma can form at the back of the eye. Sunlight can cause problems like cataracts. Lips can get cancerous growths. Lipstick does not contain sunscreen! You should always apply sunscreen at least 20 minutes before going out, this gives it time to absorb, or setup. This is especially important with chemical sunscreens. An application for the body should be 1 oz. (a shot-glass full). An 8 oz. bottle of sunscreen should last only 8 applications! Reapply sunscreen every one - two hours if you are out in the sun, and reapply after swimming or excessive perspiration.

Why do I sunburn when I don't expect it?

Reflective surfaces (snow, water, sand, concrete) increase exposure. Mild cloud cover offers little protection from sunburn. Higher altitude intensifies exposure. Even shade is not complete protection when there is significant reflection from surroundings. Again, SUN SAFETY is not just a summer issue – it is a year-round issue! Keep a bottle of sunscreen (hats, etc) handy you never know when you might need it! Eg. skiing (as stated above), and those first football games of the season. I will never forget at an O.U. football game, starting at noon in September, watching all those fair Sooner fans walking out looking like lobsters and in pain. Not me! I had my sunscreen and my hat!

What do I do if I get a bad sunburn?

Cool off as soon as possible, you can use cool compresses, or soak in cool bathwater with ½ cup of baking soda. Take ibuprofen every 4-6 hours as directed on the bottle to help with the inflammation. Try over the counter hydrocortisone applied a few times a day. Use lotion or cream, not ointment. If this is not

adequate, you may need to seek medical attention. **LEARN YOUR LESSON:** Avoid more sun and wear sunscreen!

Is there anything else I should know?

Infants under 6 months generally should be kept out of the sun. If sun exposure is likely, use titanium dioxide- or zinc oxide-based sunscreen. Some medications cause serious sun-sensitivity, as do some diseases, such as lupus erythematosus. It is possible to become allergic to sunscreen products. If you think this might apply to you, you should discuss it with a dermatologist or plastic surgeon. Even if you have very sensitive skin, it is always possible to find a sun-protective regimen. Check your skin and moles once a month or so. If you do a monthly breast exam, this is a great reminder to check your skin. You can use your partner or a mirror to help you see your back. It is a good idea to get a yearly skin check.

Skin cancers only happen to old people, right?

Skin cancer is not, and never has been only a disease of age. It is true that as patients age they become more susceptible to skin cancer. As a patient ages his skin's immune system is unable to fight the negative effects of excess exposure to sun. Most patients develop skin cancer when they get older due to the exposure that occurred when they were younger. Clinical studies have proved that skin cancer is on the rise in every age group but increasingly in younger patients. This increase in skin cancer is multifactorial relating to environmental changes, lifestyle modifications, and sun tanning beds. The populations increase in artificial tanning is also increasing the number of cases of skin cancer more in the young than the old. Patients who start aggressively tanning in their youth are almost guaranteeing a skin cancer while they are still young adults.

Are skin cancers really cancers?

Skin cancers at best will require freezing, biopsy, or topical treatment. Most invasive skin cancers require surgical removal or radiation. Skin cancers form in areas that are the most exposed such as the face or extremities. Surgical excisions or radiation even in the best hands will result in a significant deformity or permanent scar. If you are lucky enough to get a treatable skin cancer you most likely will get another one within the next several years. Therefore, if skin cancer is a real cancer, then what is the best way to prevent it? Best way to prevent lung cancer is to stop smoking. The best way to prevent skin cancer is to wear sun screen and change behavior.

What is the best way to handle a skin cancer?

Early detection is key! Melanoma starts in the melanocytes, or pigment producing cells in the skin. It is these cells that cause a "tan", acting as partial protection against the sun. Melanoma cells usually continue to produce pigment, which accounts for most melanomas appearing as spots that are a mix of tan, brown and black. Occasionally melanomas do not produce pigment and can be white or red. It is normal to have moles, or nevi. It is not normal for our flat moles to change once we are in our late 30's. **SEE YOUR DOCTOR IF:**

You have a sore that does not heal

A new mole (after the age of 30) or one that is an "ugly duckling"

A mole that persistently itches or bleeds

A mole that has A – asymmetry, B – border irregularity, C – color variations – black, bleeding, more than one color, D – diameter >6mm (bigger than a pencil eraser), E – evolution changes, growth, itch, bleeding, or a new elevated area of an existing mole.

Can I just reverse the effects of sun later?

The negative effects of sun exposure or tanning are not reversible in most cases. A variety of products are available to improve the cosmetic appearance of sun damage skin. Most of these treatments will not significantly decrease the risk of skin cancer. There are a number of topical creams that can be prescribed by your Dermatologist that may decrease your chances of getting certain types of skin cancer. The best policy is to avoid excessive sun exposure or tanning. Limit your exposure of skin surface burning and even chronic low dose exposure and tanning. Burning the skin is bad, but continued chronic tanning can in many cases be worse.

I messed up in the past, but what can I do now?

Skin quality is often the result of age, skin type, genetics, and the environment. Aging skin can be improved with variety of techniques that include: topical medical treatments, cosmetic skin care, chemicals, micro-dermabrasion, surgery, or lasers. The topical medications are highly effective at decreasing the long term risk of skin cancer. These products target pre-cancers or developing cancers, but are associated with some risk and down-time. All skin care lines have products that may or may not be effective over time. Unlike other treatments for aging many skin care regimens are not supported with scientific fact but more on antidotal reports. Many over-the-counter skin products are completely ineffective while others many provide only temporary improvements. Most skin care lines are successful not because of their results, but because of marketing. The vast majority of medical skin care relays on medications that require a physician prescription. Skin lines can allow healthier skin to regenerate and color to decrease. It can improve skin texture and other discolorations of the skin over time. Skin care will in no way provide patients with an instant result no matter what anyone may claim or advertise. Review Dr. Lowe's "Healthy Skin Guide" or the manufactures materials for further details involving skin rejuvenation. Severe sun damage can be very difficult to treat effectively in with skin care alone, and treatment modalities such as chemical peels or lasers may be required to treat areas that do not improve. All these modalities should be avoided and even harmful in patients who are unable to utilize proper sun protection. Your board certified plastic surgeon or dermatologist can assist you with choosing the treatment that is right for you.

What is the best sun screen for me?

Sunscreens allow us to enjoy the sun while limiting but not eradicating damage from ultraviolet rays. Choosing a sunscreen involves personal taste (how greasy, pleasant etc.) as well as ingredients. Listed later are quality brand names but experimenting is the way most people find their favorite. Get used to reading ingredients so you find out what you like and what causes problems. Men tend to prefer sprays and gels, which are also preferred by acne patients. **REMEMBER:** The best sunscreen is one that is out of the bottle on your body! See below list of protective clothing companies, sunscreen categories, and sunscreen recommendations.

What are Dr. Lowe's take home points?

1. Prevention of excessive sun exposure is the best policy.
2. Understand limited risks of excessive sun exposure (premature aging, skin cancer, and death).
3. Sun does not make you or your skin more healthy.
4. There is no such thing as a safe sun tan or sun burn.
5. The sun will make you look older, and reversing the effects of sun time consuming and expensive.
6. Routine sun avoidance, mechanical cover, and sun screen is highly effective. .
7. Sun screen produce scientifically proven results when re-applied and utilized consistently.
8. Skin care or lasers can rejuvenate sun damaged skin, but it will not decrease the risks of skin cancer.
9. Choice a sun screen should meet your lifestyle and pocket book. Make it part of your daily routine.
10. All natural sun or artificial over exposure is bad & increase the risk of skin cancer. All of it!

PROTECTIVE CLOTHING COMPANIES

Specialty clothing lines tend to be quite expensive.

www.coolibar.com

www.sungrubbies.com

www.sunprecautions.com

www.sunprotectiveclothing.com

www.sunclothingetc.com

www.sunproof.com

www.solartex.com

www.SolarEclipse.com

www.SunSolutionsClothing.com

www.sunfriendlyproducts.com

www.wallarohats.com

RIT Sun Guard Laundry Treatment UV Protectant in your washer along with your regular detergent provides a SPF 30 with one treatment for up to 20 washes.

SUNSCREEN CATEGORIES

UVB SCREENS: 260 NM TO 320 NM

- PABA (known allergen, and most likely avoided in current sunscreens)
- Octinoxate (aka Octyl Methoxycinnamate)
- Ostisalate (aka Octyl Salicylate or Ethylhexyl Salicylate)

UVA SCREENS: 260 NM TO 400 NM

- Oxybenzone
- Avobenzene (aka Parasol 1789)
- Benzophenone
- Menthyl Anthranilate
- Mexoryl is an ingredient in sunscreen in Europe for UVA protection. It is not FDA approved in the US yet (it will be soon!)

PHYSICAL BLOCKERS: 290 NM TO 700 NM

- Physical blockers used to leave a heavy white color, but most are micronized, so they are clear
- Titanium Dioxide

PHYSICAL BLOCKERS: 290 NM TO 1800NM

- Titanium Dioxide
- Iron Oxide (also blocks visible light)
- Zinc Oxide

SUNSCREEN LIST

Broad-spectrum UVA/UVB sunscreens containing:

- Blue Lizard SPF 30+
- Cetaphil Daily Facial Moisturizer SPF 15
- Coppertone Shade Spray Mist SPF 30
- Coppertone Shade Sunblock Lotion SPF 30
- La Roche-Posay Anthelios "L" Cream SPF 30
- Ombrelle Sunscreen Lotion/Spray SPG 15/30
- PreSun Ultra Lotion/Gel SPF 15/30
- SolBar AVO SPF 32

Oil Free sunscreens for those prone to acne

- Clinique Oil Free Sunblock SPF 15
- Coppertone Shade Oil-Free Gel SPF 30
- Neutrogena Oil Free Sunblock Lotion SPF 30
- Neutrogena Sunblock Spray SPF 20
- Ombrelle Sunscreen Spray SPF 15
- SolBar Gel SPF 30

Sunscreen for lips or eyelids

- ChapStick Ultra SPF 15/30
- Coppertone Sunblock Stick SPF 15
- Coppertone Shade Sunblock Stick SPF 30
- La Roche-Posay Antherpos Ceralip SPF 50
- Neutrogena Lip Moisturizer SPF 15
- Neutrogena Sunblock Stick SPF 25
- PreSun Lip Protector SPF 15

Moisturizer/sunscreen combinations

- Aveeno Positively Radiant / Positively Ageless – Both SPF 30
- Cetaphil Daily Moisturizer SPF 15
- Eucerin Daily Lotion SPF 30
- Lubriderm Daily UV Lotion with Sunscreen SPF 15
- Neutrogena Healthy Skin SPF 15/30
- Neutrogena Moisture SPF 15
- Oil of Olay Daily UV Protectant SPF 15/30
- Purpose Dual Moisturizer Lotion/Cream SPF 15

Waterproof/sweat-resistant sunscreens

- Coppertone Sport spray/stick SPF 15/30
- Elta Block Super Waterproof SPF 30
- La Roche-Posay Anthelios “S” cream SPF 30
- Neutrogena Sunblock spray/stick SPF 20/25
- PreSun Ultra Spray SPF 27
- SolBar cream SPF 50

Sunscreens for very sensitive skin (look for titanium dioxide or zinc)

- Blue Lizard SPF 30+
- California Baby Fragrance Free SPF 30+
- Clinique City Block SPF 15/25
- Coppertone Spectra 3 SPF 50
- DML Facial Moisturizer SPF 25
- Dove Facial Sunscreen SPF 15
- DuraScreen SPF 30
- Elta Block SPF 30/32
- Estee Lauder Sunblock SPF 15/30
- Fallene CoTZ SPF 58 (Contains only Titanium and Zinc)
- Fallene Total Block SPF 65
- Lubriderm Lotion SPF 15
- Neutrogena Sensitive Skin Sunblocker SPF 30
- PreSun Sensitive Block SPF 28
- SkinCeuticals Physical UV Defense SPF 20/30/45
- SolBar Cream and Gel SPF 15/30/50
- Vanicream SPF 15/35/60

All products listed are available over-the-counter, unless otherwise stated, but you may need to ask the pharmacist for a product or to order it. You can also find many of these on the internet. They may also cost a bit more than other products.