

Hi everyone! I am really excited to be teaming up with the great folks at Zealios to help out with Ginger Awareness Month! I have been asked to talk a little bit about what I do as a Dermatology PA and some of the ways all of us, including Gingers, can make more informed decisions regarding sun protection.

A typical day in the office...

I am very fortunate to work in an office with a great team of physicians and PA's. Most of what I do is medical and surgical dermatology and I generally see between 30-35 patients a day. I see and treat a wide variety of skin conditions but a large part of what I do involves skin cancer screenings. On my surgery days, I remove skin cancers as well as benign growths like cysts and lipomas. I also assist in MOHS surgery which is a specialized surgical procedure that is typically reserved for skin cancers on the face.

A little science...

I want to make it clear that I love the sun. Nothing on our planet could exist without it! Even so, it is important to have a healthy respect for the role it plays in causing both skin cancer and premature aging. If you think back to science class, we were taught about the electromagnetic spectrum. A very small portion of the spectrum involves visible light, and when these wavelengths of light are reflected, we perceive them as colors. However, the vast majority of what makes up the electromagnetic spectrum is invisible to the naked eye and this includes ultraviolet or UV light. UV light can be divided into UVA, UVB, and UVC light. The majority of UVC light is absorbed by the ozone layer and doesn't reach the earth but UVA and UVB both penetrate the atmosphere and are the main cause of sun damage to our skin.

So, how does UV radiation ultimately cause skin cancer? By definition, cancer is abnormal cells growing at an abnormal rate. These cells become abnormal because UV radiation damages cellular DNA. These changes to the DNA lead to genetic mutations which ultimately lead to skin cancer.

Differences between UVA and UVB rays...

Both UVA and UVB radiation can cause skin cancer. UVA rays have a longer wavelength which is why they penetrate the skin more deeply than UVB, and although they are technically less intense, they account for nearly 95% of UV radiation. They can penetrate clouds and glass and their intensity is pretty consistent during all daylight hours. UVA rays are the primary "tanning rays" which is why most tanning beds use UVA radiation.

A tan is the result of injury to skin cell DNA. The skin darkens as a way of trying to protect the DNA from further damage. According to the Skin Cancer Foundation, tanning beds emit a dose of UVA that is approximately 12 times the amount of the sun. Not surprisingly, this places tanning bed users at a significantly higher risk for skin cancer, including melanoma.

UVB rays play a significant role in causing skin cancer and are primarily responsible for skin reddening and sunburn. UVB affects the skin more superficially than UVA and are the strongest between 10am and 4pm. UVB cannot penetrate glass but can reflect up to 80% off of surfaces like water and snow and are particularly strong at high altitudes.

You are scaring me! What should I do?!...

So, here's the thing. I may be a Dermatology PA spending my days removing skin cancer, but I am also an endurance athlete who spends a large amount of time training in the Florida sun. How do I reconcile this?? Is it possible to find a balance? Of course! No one should ever make you feel bad for enjoying the outdoors. However, it all goes back to a healthy respect for the sun.

Here are some recommendations:

1. Regardless of whether or not you are planning to spend time outside, get in the habit of a daily sunscreen. You would be surprised how much sun you are exposed to during the day simply driving your car, walking through parking lots, or sitting near a window. My three requirements for sunscreen are an **SPF of 30 or higher, preferably zinc and/or titanium based, and one that you actually like to use.** You'll be a lot less likely to use something that feels thick or greasy, so find one that feels good on your skin. Zinc and titanium are considered physical blockers which is great for sensitive skin, much better for the environment, and, best of all, they protect against both UVA and UVB radiation. There are some decent chemical blockers out there but many do not protect against both UVA and UVB radiation.
2. Try to exercise or enjoy the outdoors **before 10am and after 4pm.** I get it. This is not always practical. When I am training for a full Ironman and need to get in a six-hour ride, there is little chance of this. However, I do my best. When I know I am going to be out in the sun I always keep sunscreen in my bike box and reapply every two hours. I also use UPF arm sleeves (Zoot Sports makes really good ones) that I wear even in the heat of the Florida summer. Believe it or not, they actually keep my arms cooler.
3. I am particularly aware of the skin on and around my face so I always wear a **hat or visor, sunglasses** and I also **apply sunscreen** to my face, ears, neck and chest. Women tend to experience a lot of sun damage on their chest so don't forget to apply sunscreen there too.
4. When I am racing a triathlon, I always take advantage of on course sunscreen. Most longer events will have sunscreen in transition and I always keep sunscreen in my transition bag so I can easily reapply. It only takes a few extra seconds and it makes a big difference. There's no reason to be both sore and sunburned after a race.

What should I look for on my skin?

Any new spot that appears on your skin that doesn't seem to match the rest of what you make is reason for closer inspection. Dark lesions that are new or growing are especially concerning because they could be an early sign of melanoma, which is the most dangerous form of skin cancer. The **ABCDE's** of melanoma include **A**symmetry, **B**order irregularity, **C**olor (especially if there are multiple colors in one mole), large **D**iameter, and **E**volving. Melanoma can occur anywhere on the skin and can grow and spread throughout the body if not caught early. However, when detected early, melanoma is almost always treatable.

Occurring more frequently than melanoma are basal cell carcinoma (BCC) and squamous cell carcinoma (SCC). These skin cancers tend to appear in areas of sun exposure and typically take much longer to develop than melanoma. These often present as pink to red lesions that may be painful, itch, bleed easily or resemble a wound that just doesn't seem to go away.

Bottom line, if something appears on your skin that just doesn't seem like it belongs, see a dermatology provider. I would much rather have a patient come see me for a benign lesion than put off seeing me for a malignant one. In all cases of skin cancer, the prognosis and treatment are always better when caught early.

Skin Cancer Screenings

In the world of triathlon and endurance sports, sun damage runs rampant. We spend so much time trying to balance our training with everything else going on in life that we often neglect to take care of ourselves, and our skin, the way we should. As hard as we may try to use sunscreen, hats, sunglasses and protective clothing, the best thing we can do is have our skin checked yearly by a dermatology provider.

I have friends who feel some anxiety about having their skin checked and I suspect they are not alone. Allow me to walk you through what to expect...

To prepare for a skin check, try to arrive with as little on your skin as possible with regard to jewelry, make-up, tinted moisturizer, or nail polish. You will be asked to change into a paper gown or drape and you will have the option of leaving on your underwear. I recognize that although I perform multiple skin checks a day, my patients may be feeling nervous and vulnerable. I do not take this for granted and always try to put my patients at ease.

I start with a patient's scalp and work my way down from there. We will evaluate everywhere skin is found, including the inside of the mouth and between the toes. I will ask my patient if they have any concerns in the genital area and if a patient doesn't feel comfortable, I will respect their modesty. However, I would encourage them to perform self-exams as melanoma is an equal opportunist when it comes to location.

I will use a hand held dermatoscope to help illuminate and magnify skin lesions and will point out and name various lesions for charting purposes. If something looks a little different, I may

choose observe of the lesion over time or we may opt to biopsy. This depends on what is observed and the history obtained from the patient. A biopsy typically involves numbing the skin with an injection of lidocaine or similar local anesthesia and removing the suspicious lesion by shaving or removing a small plug of skin. A thorough skin check will usually take between 10-15 minutes. We will conclude by reviewing the visit, answering patient questions, and discuss possible ways to step up sun protection if needed. It is recommended to have your skin screened yearly for skin cancer.

As a Dermatology PA and an avid endurance athlete, I work hard to bridge the gap between what would seem like two very different worlds. I will never make a patient feel bad or guilty for hobbies and interests the take them outside. I simply encourage them to do the best they can with sun protection and, at the very least, obtain a skin check once a year. I hope this has helped bring a little more insight into the importance of protecting your skin and having your skin checked.