

# Mayo Clinic Q & A Dr. Dawn Davis - Skin Cancer

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## SUMMARY KEYWORDS

skin cancer, skin, skin lesions, lesion, patient, sunscreen, dermatologist, aging, melanoma, dawn, basal cell carcinoma, spf, ultraviolet light, biopsy, benign, squamous cell carcinoma, mayo clinic, exposed, important, photo

## SPEAKERS

Dr. Halena Gazelka, Dr. Dawn Davis, Narrator

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**N** Narrator 00:00  
Coming up on Mayo Clinic Q&A,

**D** Dr. Dawn Davis 00:03  
We all want to be on the earth longer, and we appreciate time and aging. But the older we are, the higher our risk for skin cancer.

**N** Narrator 00:10  
Skin cancer most often develops on skin exposed to the sun, but at times it can occur on areas of your skin not ordinarily exposed to sunlight. The good news, if detected early skin cancer can be highly treatable.

**D** Dr. Dawn Davis 00:23  
Prevention is just as helpful sometimes, as cure. Wear sunscreen and photo protective measures because a lot of skin aging is due to ultraviolet light. Make sure that you moisturize your skin. So, moisturizing the skin frequently such as two to three times a day, is very helpful. And then, last but not least, it's important to stay hydrated. The skin is the largest body organ, and it does need moisture, and it makes a lot of the moisture itself which takes internal hydration to make that happen.

**D** Dr. Halena Gazelka 00:52  
Welcome everyone to Mayo Clinic Q&A. I'm Dr Halena Gazelka. Skin cancer most often develops on skin exposed to the sun. But this common form of cancer can also occur on areas

develops on skin exposed to the sun. But this common form of cancer can also occur on areas of your body that are not typically exposed to sunlight. There are three major types of skin cancer, basal cell carcinoma, squamous cell carcinoma, and melanoma. Early detection of skin cancer gives you the best chance for successful treatment. Here to discuss skin cancer and skin cancer protection is Mayo Clinic dermatologist Dr. Dawn Davis. Good morning, Dawn. Thank you for being here.

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Dr. Dawn Davis 01:28

Hi Halena. It's great to see you. Thanks for inviting me, and thank you for championing skin health and skincare.

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Dr. Halena Gazelka 01:35

Wonderful. Well, it's an important topic that affects all of us. Tell us about all the different types of skin cancer and how they differ Dawn.

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Dr. Dawn Davis 01:43

There are multiple growths on the skin that can be neoplastic or cause concerns, including various cancers. The three most common skin cancers that we educate the public about include basal cell carcinoma, squamous cell carcinoma, and melanoma. And skin cancer is one of the most common cancers in the United States. And the incidence is rising. We know that there are a few things that we can all do to help ourselves decrease the risk of skin cancer, and that includes photo protective measures to the skin, such as wearing broad brim hats, sunglasses, and either photo protective clothing or sunscreen when we are outdoors. Basal cell carcinoma is the most common form of skin cancer, and it's often found in sun exposed parts, although it can be anywhere, but it's common on the head and neck as well as on the trunk and extremities where we typically have exposed skin. It can look like a small pearly papule or a nodule on the skin, and oftentimes it has very prominent blood vessels, which we call telangiectases. Another common form of basal cell carcinoma is to present as an erosion or ulcer on the skin, plus or minus those prominent blood vessels. So, just if you see a new lump on your skin, it's important to have that evaluated by a professional, or a dermatologist, so that we can assess whether or not it needs to be investigated further, perhaps with a biopsy.

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Dr. Halena Gazelka 03:14

What about the other two types of skin cancer, Dawn?

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Dr. Dawn Davis 03:17

Squamous cell carcinoma is the second most common form of skin cancer, it oftentimes will look like a roughened area of skin with some extra drying and scaling. Sometimes people confuse it with a bug bite or a localized area of dermatitis. It can also cause erosion and oozing squamous cell carcinoma tends to be red and inflamed. And we need to be mindful that based

on our skin color, or what natural color our skin has, redness or inflammation on the skin looks very different in skin of color populations than it does in Caucasians. So, it's helpful if the patient is aware of what inflammation and redness looks like on their natural skin tone. And then as healthcare professionals and dermatologists, it's our job to be mindful of the manifestations physically on the exam of inflammation across the entire range of color of skin. So, if you see something that you think is scaly and eroded and perhaps inflamed, this should be assessed by a healthcare provider or dermatologist for non-melanoma skin cancer or squamous cell carcinoma. And then, last but not least, is malignant melanoma, or melanoma. And this is the most concerning form of skin cancer. It has the highest morbidity and mortality. And this can present differently in children relative to adults. Children and adults both get melanoma. Melanoma is more common in adults than it is in children. For adults, we use the melanoma alphabet remembering the letters A, B, C, D, and E. A stands for asymmetry, meaning essentially that all the moles and freckles and skin spots on our skin should be symmetric. They should be a circle or an oval, not only from side to side, but also from top to bottom, they should match one another. B stands for borders. The borders should be very crisp and well circumscribed. You should be able to take a pencil or a pen and draw around the outline of the skin lesion. If you notice some feathering, or branches off of the lesion, or perhaps a streak instead of a clear, crisp border that would be of concern. C stands for color, and also in my mind for crusting. So, we like for skin lesions to have a certain color that matches the moles, freckles and skin lesions of the rest of the body. So, we say look for the swan amongst the geese, or zebra amongst the horses, if you will. If a skin lesion changes color or has an unusual color relative to your other skin lesions, that would be of concern. And then of course, we don't like things on the skin to be crusty, or to have a lot of scale. So, if something starts to bleed or ooze and develop crust, that would also be of concern. D stands for diameter. Most benign skin lesions are less than a pencil eraser in diameter, which is approximately six millimeters. So, if you have a prominent skin lesion that is larger than that, we would be interested in evaluating it. And then last, E stands for evolution but also from my mind elevation, meaning that if you have a skin lesion, and it appears pretty stable, and then it changes that can also be of concern. I always tell my patients that the skin lesions that they have should be small, and they should be a shade of brown that is normal for them, and they should be boring. And if for some reason they deviate from those rules we should investigate. Now, if you don't mind, we'll pause for a moment and talk about pediatric melanoma. Pediatric melanoma does occur. And oftentimes it's not on everyone's radar because we don't believe that children can have skin malignancy, but that is not true. It's simply less common. At Mayo Clinic we see pediatric melanoma commonly because we are a referral center. When children get melanoma, they can present with the same signs and symptoms as adults. However, they can also have different symptoms. Pediatric melanoma tends to be skin colored or amelanotic more commonly than dark or pigmented. So, if you have a bump that arises de novo, or that is new, that is skin colored or a shade of pink or red, that would be considered amelanotic or without color and to be of concern. Also, children tend to grow more nodular growths of melanoma instead of flat melanomas. So, if you develop a bump, or something that used to be flat and then becomes raised, that would be of concern as well.



Dr. Halena Gazelka 07:50

Interesting. I wasn't really familiar with the pediatric melanomas, Dawn. It's very good to be aware.



Dawn 07:56

**D** Dr. Dawn Davis 07:56

Yeah.

**D** Dr. Halena Gazelka 07:57

You talked a lot about the appearance of these different types of skin cancer, but how ultimately do you diagnose them when you see something that's concerning on a patient?

**D** Dr. Dawn Davis 08:07

I like to remind my patients that we do a very good job, or we try very hard to educate the public on screening the skin lesions they already own. And knowing what they look like so that if they change, you can come to the dermatologist or healthcare provider for evaluation. But this is when we need to pause and just remember a couple of other tips and tricks. Firstly, as we age from birth towards adulthood, we are allowed to grow benign growth over time. So, children will grow freckles, called ephelides, and moles, called nevi, as they age, and you can develop those into your early 20's. And then if you're a female and you get pregnant, you can also develop new moles and eruptive skin lesions that are benign during pregnancy. That doesn't mean they're always benign, but for the most part they typically are. Then once we hit our middle 20's and beyond, we can have signs of wisdom on our skin, if you will, and develop signs of photo aging and skin aging on the skin, which can look freckle or mole like but aren't necessarily typically ephelides or nevi in strict definition. So, we go from growing benign growth due to development, to benign growth due to aging and time. We do a really nice job of telling people what to look for, for what already exists. But it's very important for the public to understand that oftentimes when a skin cancer arises, it arises from where the skin never had a pre-existing lesion, which we would call de novo, meaning of or from the new. And so, it's just as important as a patient when you do your self-examinations to understand where your skin is uninvolved. So, that way if you get a new lesion you can have your health care provider assess it. So, I would say anything that is new, anything that is causing symptoms like itching, bleeding, irritation, or oozing, and then something that changes, it used to look one way and now it looks another, or the lesion on your skin that just looks different and doesn't match the others. These are things we would look for first.

**D** Dr. Halena Gazelka 10:11

And then how do you diagnose?

**D** Dr. Dawn Davis 10:14

Diagnosis is based on a combination of history and physical exam. So, we always listen to our patients, and we believe them when they say, this spot, which may look benign to me to my naked eye, was looking like x, and now looks different and looks like y. And we can have patterns that can look benign at the beginning and benign at the end. And if you didn't have the history of change, you wouldn't necessarily investigate it. So, we really rely on the patients to give us that history. We also look at things that arrived de novo, but we look for the signs and symptoms that I explained earlier on the patient's skin. We do an exam from head to toe,

from the scalp all the way to the feet. And we even look sometimes in the oral mucous membranes, we look under the fingernails and toenails, and things like that, because the skin is here, there, and everywhere. We have some tools in the office such as magnifying lenses, and also the dermatoscope, which allows us to see skin lesions magnified so we can see them in a more dimensional view, and also closer up so that we can appreciate the fine details of the lesion. And that helps us rule in growths that are reassuring so that we can spare the patient a biopsy, or rule out that yes, we are concerned that this is a typical, and then we biopsy that lesion. And there are several ways that we do biopsies based on the size and location of the suspicious lesion. We also use serial photography often times in dermatology. We take measurements with rulers. We document that in the medical record so that we know how big a particular lesion is. We oftentimes describe it descriptively in the physical exam and document that as well. And then last but not least, we can describe the dermatoscope patterns that we see with our magnifying lens, so that if something changes from one point in time to the other, that would make us more suspicious and more likely to biopsy. So, really the investigation is based on the patient providing us an excellent history and us taking their word, us doing a clinical exam to look for things that we think are clinically suspicious or don't meet the rules that we like the skin to abide by, and then the serial photography and medical documentation that we have to document change over time.

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Dr. Halena Gazelka 12:26

So, if a biopsy comes back positive for skin cancer, how is it then treated?

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Dr. Dawn Davis 12:31

If a biopsy shows skin cancer, it depends on the type of cancer and the depth at which the cancer is involved. So, if we removed a superficial non-melanoma skin cancer such as basal cell carcinoma, or squamous cell carcinoma, and we did a robust procedure originally to rid the skin of the entire lesion, at times we may not need to do anything further. However, most of the time that we do a biopsy on skin cancer we need follow-up with the patient to further treat it. So, we do a scouting biopsy for diagnosis. and then based on the location and the type of cancer we have other advanced treatments. For example, if you have a cancer on the head and neck area, it is not uncommon to undergo Mohs micrographic surgery, which is a tissue sparing layered procedure where we go down to very specific areas of the skin and analyze it with each particular slice under the microscope to make sure that we are getting all the malignant cells and sparing the healthy tissue. Other types of skin cancer and all their locations can be treated with either curettage and cryotherapy, which is where we use a destructive tool after we numb and clean the skin to scrape the dead and dysplastic cells away, and then freeze the skin to ensure that the remaining cells are destroyed. We also have electrodesiccation and cryotherapy, which is a similar method where we destroy the atypical cells with an electrocautery method or putting electricity behind it so that there's voltage to destroy the cells followed by freezing with the cryotherapy. And then, last but not least, we can also excise the skin in a traditional fashion where we do an ellipse or a football shaped excision of the skin, go all the way down to the fascial layers to ensure that we have safety margins around the skin cancer of concern, but also regarding depth.

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Dr. Halena Gazelka 14:25

Dawn, a little bit earlier you talked about how we can protect our skin. Primarily it sounds like by covering it from exposure and keeping it from exposure to the sun. Talk a little bit more about that. And one of my specific questions is when you see sunscreen, there seem to be numbers everywhere from 20 to 100, and does that matter?

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Dr. Dawn Davis 14:49

Yeah, absolutely. So, there are certain things about skin cancer risk that we can help ourselves with and certain things we cannot control. So, the first thing is our genetics. We cannot pick our parents. And so, we cannot control the genetics with regards to our skin cancer risk. But certain skin cancers do have certain genotypes that are more at risk. The other thing is other comorbidities. So, if we have an immune suppressed state, that will make us more likely based on the medications we take, or the immune suppressed state of our disease, systemically to have a skin cancer risk because we know for example, that transplant patients and patients that are immune suppressed have a higher incidence of skin cancer. Those are the things we cannot control. The other thing we cannot control is the passage of time. So, we all want to be on the earth longer, and we appreciate time and aging. But the older we are, the higher our risk for skin cancer. So, I always tell my patients and tease them that the skin cancer bank is the one bank you don't want to make deposits into. So, the things that you can do to help yourself is photoprotection and photoprotective clothing, and just to be aware of your skin. So, that would include broad brimmed hats, particularly ones that are UPF, or ultraviolet protection factor. And we'd like for us to have a 15 or higher rating on that. Sunglasses that are broad spectrum, so hopefully larger so they protect more of your skin, and that are broad spectrum so that they cover UVA and UVB. Then there's photoprotective clothing. So, typical clothing has an SPF factor of approximately two to four just based on the weaved cloth that protects your skin underneath the cloth from the ultraviolet light coming from the sun. We want to make sure that we have a daily SPF of at least 15, preferably 30. And then when we're outdoors an SPF of 30 to 50. So, just wearing clothes is not enough of an SPF factor to protect us with regards to ultraviolet light. So, you can go shopping at big box retailers and also online to find UPF clothes, which is a number equivalent to SPF, hopefully of 15 or higher to help protect ourselves, and those come in short sleeve shirts, long sleeve shirts, jackets, pants, skirts, dresses and things that are good for children and for adults. And then, last but not least, of course sunscreen. No dermatology talk about skin cancer is complete without chatting about sunscreen. We like for your sunscreen to have at least an SPF 15 when indoors, preferably 30, and do an SPF of 30 to 50 when outdoors. It's important to abide by the expiration date on sunscreen because these do chemically degrade. And we need to be mindful that we find a broad spectrum sunscreen that covers UVA and UVB light. So, the two forms of ultraviolet light cause different types of damage to the skin. UVB light is superficial short wavelength light that goes to the top layers of the skin and can cause acute damage, for example with a sunburn. UVA light is longer wavelengths of light, penetrates to the deeper layers of skin, and also increases your skin cancer risk but also causes more long-term damage and photo aging to the skin. So, that's why it's very imperative to have broad spectrum. At times I'm often asked about skin of color. Skin of color at maximum has an SPF of equivalent of 12 to 13, and for fairer skin it can be SPF of two, three or four. So, it's very important that all patients including the skin of color community use photoprotective measures and sunscreen.

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Dr. Halena Gazelka 18:35

What about anti-aging. Dawn? What can we do to keep our skin looking younger longer?

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Dr. Dawn Davis 18:42

Absolutely. So, most of us have an interest in preventing photo aging because we like to look our best and feel our best. There are several tips and tricks that people can do that are inexpensive and readily available to help with that. Once again photo aging is time in the bank. It's helpful not to make those deposits into the bank, and prevention is just as helpful sometimes as cure. So, a couple of things you can do, wear sunscreen and photo protective measures because a lot of skin aging is due to ultraviolet light. That includes wearing sunglasses around your eyes. Make sure that you moisturize your skin. Your skin is open to the environment at all times and especially when the skin is cold and arid, or hot and dry, your skin releases moisture from its natural content into the environment which causes the skin to dry out. I like to relate our skin to a kitchen sponge. So, when we buy a brand new kitchen sponge and we take it out of the package, it is thicker and moist and slightly bouncy, and it looks very healthy, if you will. And over time as the kitchen sponge sits on your countertop and is exposed to air it contracts and becomes dry and scratchy. And a similar mechanism takes place on our skin when it is not hydrated and moisturized. So, moisturizing the skin frequently, such as two to three times a day, is very helpful. And don't forget the parts that are exposed that we don't think about, such as our neck, our upper chest or decolletage, and also the hands. And then, last but not least, it's important to stay hydrated. The skin is the largest body organ, and it does need moisture, and it makes a lot of the moisture itself, which takes internal hydration to make that happen. Another lifestyle modification that we can make for our overall health, but also for our skin health, is to be mindful not to smoke, and not to expose ourselves to secondhand smoke, or to third hand smoke, which is definitely known to accelerate photo aging. And then I'd like to remind everybody that the dermatologist and the plastic surgeon have multiple modalities available by prescription and procedures that can help us with photo aging in the office. So, if you'd like to look your best and feel you're best, please come visit us. We're happy to see you.

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Dr. Halena Gazelka 20:57

Well, that is good news.

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Dr. Dawn Davis 20:58

Yes, it's great news.

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Dr. Halena Gazelka 21:01

I might need to come see you very soon, Dawn. Thank you.

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Dr. Dawn Davis 21:03

Well, I don't think so. But you're welcome anytime, Halena.

**D** Dr. Halena Gazelka 21:06  
Thank you for being with us today, Dawn.

**D** Dr. Dawn Davis 21:09  
It's my pleasure.

**D** Dr. Halena Gazelka 21:10  
Our thanks to Mayo Clinic Dermatologist Dr. Dawn Davis for being here with us today to talk about skin cancer and skin aging. I hope that you'll learned something. I know that I did. We wish each of you a wonderful day.

**N** Narrator 21:24  
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