

Healthline with Yale Cancer Center

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WTIC Newstalk 1080

An Update on Skin Cancer

Guest Expert:

David Leffell, MD

*Professor of Dermatology and Surgery,
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*Healthline with Yale Cancer Center is a weekly broadcast on WTIC Newstalk 1080
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This is Healthline. A joint venture of WTIC NewsTalk 1080 and Yale Cancer Center. Yale Cancer Center is a resource for cancer programs throughout Connecticut, developing new advances in prevention, screening, diagnosis and treatment. On Healthline you will hear from some of the leading doctors in the country. Healthline is not intended to provide medical advice. Yale Cancer Center urges you to consult with a qualified physician in your community for diagnosis and for answers to your medical questions. And now, our co-hosts Oncologists Ken Miller and Ed Chu.

Miller Good morning and welcome to Healthline. My name is Dr. Ken Miller and I am the Director of the Survivorship Program at the Yale Cancer Center in New Haven. I am here in the WTIC Studios with my colleague and co-host, Dr. Ed Chu, who is the Chief Adult Oncologist at the Yale Cancer Center. Good morning Ed.

Chu Good morning Ken. Healthline with the Yale Cancer Center is our way of providing you with most up-to-date information on cancer care every Sunday morning 8:30 a.m. here on this station WTIC NewsTalk 1080. Our Healthline program features some of the nation's leading oncologists and cancer specialists who are in the forefront of the battle to fight cancer right here in our state of Connecticut.

Miller Each week Ed and I will be joined by a different expert from the Yale Cancer Center. Together we will discuss the myths about cancer, the latest treatment available to people with cancer and advances in clinical research. Our goal is to give you help by providing information, but we also want to give you hope in the battle that is being fought with cancer throughout our country. If you would like to submit a question about cancer to Healthline, please email us at Healthline@Yale.edu or you can also call us and I would ask you to write down this number, 1-888-234-4-YCC, and we will try to answer your questions on the air today or in the future broadcasts.

Chu Today, our program focuses on skin cancer and this is an especially relevant topic as May is Skin Cancer Awareness Month. And, our special guest is Dr. David Leffell, Professor of Dermatology and Surgery and Chief of the section of Dermatologic Surgery and Cutaneous Oncology at the Yale School of Medicine and author of the book "Total Skin," which is a definitive guide to whole skin care. David, thanks so much for being with us today on Healthline.

Leffell It is good to be here.

Miller David, I want to start up by asking you, what are the different types of skin cancer?

Leffell They are really two broad categories of skin cancer. The first is [melanoma](#), which is a cancer of the pigment cells of the skin. The second category is what we call non-melanoma skin cancer, and that is by far much more common than melanoma and includes [basal cell cancer](#), the most common cancer in humans and [squamous cell cancer](#).

- Chu How do these non-melanoma skin cancers arise?
- Leffell Current scientific evidence suggests that the vast majority of basal cell cancers and squamous cell cancers are actually caused by [ultraviolet radiation](#) that comes from the sun.
- Chu And, is there an association between any the sunspots and/or moles on our skin and people developing skin cancer?
- Leffell There are growths that people develop as a result of long-term sun exposure called [actinic keratoses](#). It is a tough word to remember, but it really reflects and refers to pre-cancerous growths that people who are prone to skin cancer develop on sun-exposed areas, such as the face and the back of the hands. These actinic keratoses or pre-cancerous growths often are little rough bumps, sometimes they are reddish or pink in color.
- Chu And how long does it usually take for skin cancer to eventually develop?
- Leffell Well, that is a great question. We used to think that it took many, many years for skin cancer to develop and that is why we used to see it most commonly in people in their 60s and 70s. But, over the past decade, I would say, we have seen a change in the incidence of skin cancer and in the types of people that get it. So, to zero in on your question, we think that if you get enough sun exposure, skin cancer can take just a few decades to develop.
- Miller David, there is something I don't completely understand. Years ago, most of us did not know about sun block, in fact people used to put on a special lotion to get a suntan or get a sunburn. There is obviously much more of an emphasis on using sun block now. I know that with my kids, I have been obviously very religious about it. So, given that, why is it that we are hearing more and more about skin cancer and especially about non-melanoma skin cancer?
- Leffell I think, in fact that non-melanoma skin cancer is probably an epidemic in this country. We understand so much more now about how the sun causes skin cancer. In fact, a lot of the work done to understand the genetics of skin cancer and how ultraviolet radiation causes skin cancer was done by researchers at the Yale Cancer Center. Specifically, we know that ultraviolet radiation causes a mutation in a cancer gene and when you get repeated exposures to the sun those mutations accumulate almost like compounded interest over time. If you get sun exposure in childhood and then get it in your teen years and then in young adulthood, you will eventually get enough mutations to lead to these pre-cancerous growths or directly in some cases to basal cell cancer or squamous cell cancer. I think that the reason that we are hearing more and more about skin cancer now is because those people that were of the postwar generation, when there was increased leisure time, more opportunity to take vacation and go in the sun, have now come of age. So now it is the

baby boomers who are getting skin cancer and notably even people that are in their 20s and 30s are getting the disease never before seen in such young people.

Miller I want to follow up with that for again the next generation, for people that are now in their teens and their 20s, would your guess be that the incidence of the skin cancer might decrease or is it going to go the other way?

Leffell We hope that the public education efforts that have been going on now for a couple of decades are having an impact. We know that in Australia, which used to have a very high incidence of melanoma, public education -- recommending caution in the sun, has been paying off. We know that the majority of sun exposure occurs in the first 18 years of life. I have already mentioned how the damage that you are exposed to then accumulates over time. So, if we are able to educate people, parents out there, to protect children from the harmful effects of the sun, I think going forward we'll see a decrease in skin cancer.

Chu David, in terms of sun exposure, we hear a lot about the use of sunscreen versus sun block. Can you perhaps explain to our listening audience the difference, and which one you recommend?

Leffell There are really 2 different categories, sun block represents chemicals that function as a literal block. Examples are ingredients such as [titanium dioxide](#) or [zinc oxide](#), which everyone is familiar with as that white cream that you used to put on your nose and hopefully still do in some fashion when you are out in the sun. These sun blocks actually prevent the ultraviolet rays from getting to the skin in first place. Sunscreens are products that contain chemicals that actually absorb the ultraviolet radiation of the sun and in a sense prevent it from getting to your skin cells and causing genetic damage there.

Miller Here is a very practical question, when someone chooses to use a sunscreen, what number SPF should they use if they are going to the drug store and have a lot choices?

Leffell We should talk for a moment about [SPF](#). SPF stands for Sun Protection Factor and it is a rating that tells you how much ultraviolet B rays are blocked from the skin. The SPF that is normally recommended is 15 as a minimum, and that means that if you have the type of skin that turns pink after 15 minutes in the sun, you will be able to get 15 times 15 minutes protection before your skin turns pink again. If it has an SPF of 20, it is 20 times 15. But, it is important to realize that SPF ratings just tell you about protection against ultraviolet B. There is another important type of ultraviolet radiation called ultraviolet A and these waves that also come from the sun penetrate deeper into the skin. We believe these rays can cause cancer as well, but importantly for many listeners, they are also the major cause of premature aging and wrinkling of the skin.

Chu David, we think obviously of sun exposure as being the main risk factor for skin cancer. Are there any other risk factors that one needs to think about?

Leffell There really are. As you are listening to this show now, I want you to think about the list I am going to give you. If you have red or blond hair, if your eyes are blue, green or gray, if you have fair skin and tend to burn when you go out in the sun rather than tan, if you have a family history of melanoma or if you yourself have had skin cancer you are at increased risk for developing non-melanoma skin cancer and should definitely take special precautions when you go out in the sun.

Chu And what about the issue of tanning salons and tanning parlors, which obviously have become very fashionable, especially for the youngsters in the audience and also perhaps for those of us who may be getting ready to go to warmer climates and want to get a little preparation before being exposed to the real sunlight. What are your thoughts on that?

Leffell Tanning parlors are a major public health problem. They use light bulbs that emit ultraviolet radiation that is a very similar to that emitted by the sun and can cause the same type of mutations, the same type of injury, and the same type of sunburn that natural sunlight can cause. Here is the problem. I mentioned earlier that we used to see skin cancer primarily in people in their 50s, 60s and 70s. It is not infrequent now for those of us who specialize in skin cancer to see someone in their 20s come in with a basal cell cancer or a squamous cell cancer. This used to be unheard of, and although the cause of this is not clear, we do know from our own experience that almost every one of these patients, that I am familiar with, has used a tanning parlor in their teen years. Some states actually regulate access to tanning parlors by minors. In Connecticut, we haven't had success in doing that, though the [Dermatology Society](#) continues to lobby for ways to protect children from the harmful effects of the sun.

Chu So, in your view David, is there such a thing as a healthy tan?

Leffell There really is not. In fact, a tan is your body's response to the injury caused by ultraviolet radiation and certainly people who have the risk factors I mentioned earlier are at greatest risk, but if you have darker skin, if you tan, you are not out of the woods. You should still use sunscreen and protect yourself from the harmful effects of the sun. We frequently see individuals who tan coming in with skin cancer.

Miller We would like to remind you to email your questions to us at Healthline@Yale.edu. We are going to take a short break for a Medical Minute. And, please stay tuned to learn more information about skin cancer with Dr. David Leffell from the Yale Cancer Center.

Medical Minute:

This year over 170,000 Americans will be diagnosed with Lung Cancer. More than 85% of lung cancer diagnoses are smoking related. Quitting smoking, even after decades of use, can significantly reduce an individual's risk of developing lung cancer. Each day, patients with lung cancer are surviving the disease due to increased access to advanced therapies and specialized

care. New treatment options and surgical techniques are giving lung cancer survivors more hope than they have ever had before. Clinical trials are currently underway at Yale Cancer Center, Connecticut's only Federally Designated Comprehensive Cancer Center to test innovative new treatments for lung cancer. Patients enrolled in these trials are given access to newly available medicines, which have not yet been approved by the Food and Drug Administration. This has been a Medical Minute, brought to you as a public service by Yale Cancer Center. For more information visit our website at YaleCancerCenter.org.

Miller Welcome back to Healthline. This is Dr. Ken Miller and I am in the WTIC Studios with my co-host Dr. Ed Chu and our guest Dr. David Leffell from the Yale Cancer Center who is a well-known expert in the area of skin cancer. David, I want to start up the second part of the program by asking you, what should our listening audience look for? How would they recognize if they had a skin cancer?

Leffell That is a great question, because so often people develop spots on their skin and if they are knowledgeable about skin cancer, certainly if they are in one of the high risk groups with fair skin, blue, green or gray eyes, blond hair, they have special reason to want to know whether that growth on the tip of their nose or on their cheek is concerning. Basically, you want to look into any growth that bleeds, then heals up and comes back again. I would actually say that in my experience that is the most common complaint. When you ask a patient, "When did you first notice it?" They will tell you, "Well, it started to bleed. I noticed blood on my pillow and then it healed up." So, what happens is, they make an appointment to see the dermatologist, it heals up, they cancel the appointment, but the skin cancer is slowly growing beneath the surface. It is important to point out here that basal cell cancer does not spread in the blood stream like a melanoma, it just grows locally, but it does grow slowly if untreated. The other thing that people might notice is a new bump that develops – sometimes it might look like a pimple. But pimples go away after a couple of weeks. So, if you have a new growth that is red, that does not resolve, that is rough, you should have it checked out by a dermatologist or your local physician.

Chu If any of these suspicious lesions should pop up, I know a lot of individuals might initially seek medical care from their primary care provider, would you suggest going directly to a dermatologist skilled in treating skin disorders?

Leffell Fortunately, more and more primary care doctors are getting exposure to dermatology in their training and internists understand what basal cell cancer and squamous cell cancer look like. So, certainly when you see your primary care doctor for your annual exam, make sure that you ask them about any specific areas of concern. Similarly, if you feel that a dermatologist would be able to provide you with more direct information, by all means ask for a referral to a dermatologist.

Miller You started talking little bit about how basal cell cancer does not spread and that truly the prognosis for people with skin cancer is very good. Can you say a little bit more about? If

someone is concerned they have skin cancer, should they be afraid to go to the doctor, should they be worried about the prognosis?

Leffell I think that it is quite true that basal cell cancer grows very slowly and does not travel in the blood stream as a general rule, so the prognosis is superb. If the lesion is properly removed, the odds of it coming back are very low. It is true that if you have had one basal cell cancer and you have the type of skin that puts you at risk and you have had exposure to sun, you will probably have a 40% chance of getting another one within 5 years. But overall, it is really to be viewed as a cancer that is easily treated and easily removed with relatively few complications. Squamous cell cancer similarly, when diagnosed early, falls into the same cure category as basal cell cancer. Very rarely, if squamous cell cancer of the skin is neglected, it can travel to the lymph nodes. But, if you are diligent and if you are able to overcome any hesitancy to see your doctor and get it diagnosed, you should be in great shape.

Chu David, to follow up on your last point, how is skin cancer diagnosed?

Leffell All diagnoses in the skin begin with looking at the skin and assessing the growth or lesion. If your doctor has a suspicion that the growth is a skin cancer, he or she will recommend a biopsy, which is a very quick and easy procedure. It involves injecting a small amount of local anesthetic that does pinch a bit when you do it, but instantly the skin is numb and a small shave or punch biopsy is done. That little sample of tissue is then sent off to the laboratory and a diagnosis is then returned. That is when we learn whether it is a basal cancer, a squamous cell cancer or in fact nothing to worry about. If the biopsy reveals that it is a skin cancer then additional treatment is usually needed.

Chu How good are doctors in general, whether it be primary care doctors, dermatologists or dermatologic surgeons like yourself, in terms of predicting, based on the appearance, whether something will be a basal cell or a squamous cell cancer?

Leffell Studies have been done over the years and depending on the study that you are looking at and the specialty you are looking at and the doctor's training, those people that treat skin disorders on a regular basis probably have 90% accuracy: when they identify something and suspect it is a skin cancer, a biopsy confirms the diagnosis probably 90% of the time.

Chu David, if you could elaborate a little bit more, once a diagnosis of skin cancer is actually made, what types of procedures, surgery or non-surgical, are then implemented?

Leffell So, the good news is that once a diagnosis of basal cell cancer or squamous cell cancer has been made, the treatments are not only quite easy but also highly effective. For skin cancers that are relatively low risk and that are on the trunk or arms or legs, a simple scraping and burning is more than adequate. If the skin cancer occurs on the head and neck area, especially on the face where

the vast majority of skin cancers occur, surgical excision is often indicated and the Mohs technique, named after [Friedrich Mohs](#) who invented the method, is often selected as a relatively sophisticated form of treating skin cancer.

Miller By the way, I have to make a personal report about a first-degree family member of mine who recently was found to have skin cancer. David, you operated on her and thankfully all is fine. What I learned from this was that this is a fairly simple procedure and very well tolerated and I guess, I would love to spread the message and reinforce what you just said, which is that this is a curable disease and people who are afraid that they have skin cancer should definitely go to their doctor and have it treated. We are going to take a break in just a minute for a Survivor's Minute. Again, I would encourage you to please email us your questions to Healthline@Yale.edu or you can also call us at 888-234-4-YCC. And again, we are going to take a short break and then be back for more discussion with Dr. David Leffell who is the author of the book "Total Skin."

Survivor's Story:

A few years ago, the diagnosis of cancer was a death sentence for many patients, but today thanks to advances in clinical research we are turning the corner in the battle against cancer. There are over 10 million cancer survivors now living in the US. They are the true heroes in the war against cancer. Here is the story of a hero from Fairfield.

I visited a walk-in clinic on Christmas Eve in 1999 because I thought I had flu. The doctor there suspected that it was something more serious, and as he examined my belly he found a mass. I was referred to Dr. Tom Rutherford, a gynecologic oncologist and researcher at Yale Cancer Center where I had surgery and received chemotherapy for stage II ovarian cancer. Because of early detection, excellent treatment and the benefit of the latest research, I recently celebrated 6 years as a cancer survivor. Today, I am a fervent believer that women should pay attention to changes in their bodies and should not be reluctant to tell their physicians any concerns they have, even those they feel might sound trivial. Early detection is the best way to cure cancer.

This Survivor's Story has been brought to you by Yale Cancer Center.

Miller: Welcome back to Healthline. This is Dr. Ken Miller and I am in the WTIC Studios with my co-host Dr. Ed Chu and our guest Dr. David Leffell from the Yale Cancer Center, and we are discussing the risk factors, detection and treatment of skin cancer.

Chu David, in our last segment why don't we focus a little bit on some of the cutting edge treatment strategies and diagnostic strategies that are being explored here at the Yale Cancer Center. Are there new techniques and methods that can scan the body to detect skin cancer?

Leffell There is a lot in the media about machines, imaging devices that can scan the body and detect skin cancer. The reality is that the best computer is still between the two ears of the dermatologist.

Many of these devices are very helpful, they are very impressive, but they don't really make the diagnosis. They are helpful in individuals who have multiple moles, which relates more to melanoma than it does to basal cell cancer.

Miller David, I want to share with you an email we received from Hal who lives in Farmington. He says,
I had a squamous cell cancer of the skin 5 years ago that was treated with surgery and I am doing well, but am I at risk of developing other types of cancer other than skin cancer?

Leffell There have been studies that looked at people that had multiple squamous cell cancers of the skin or basal cell cancers of the skin which suggested an increased incidence of internal malignancies like colon cancer and lung cancer. I don't think that data has been very well established and I certainly don't have the impression from my practice that individuals are at an increased risk.

Chu David, earlier in the first segment of the show we talked about the genetics of skin cancer, can you elaborate on this for our listening audience?

Leffell This is an area that we are especially interested in. The Skin Cancer Unit at the Yale Cancer Center isn't just focused on taking care of patients, although that is our primary mission. What we have done is taken advantage of the very large amount of patient material and individuals who come to us to pursue research to understand skin cancer better. In 1996, led by Allen Bale, we discovered the gene that leads to skin cancer. It is called a patched gene, and what has been very rewarding is that very recently we concluded a research study that looked at a new topical agent in patients that have a large number of skin cancers to try to determine whether the effects of this gene could be manipulated. So, it is really very cutting edge. We are not anywhere near the point of being able to make this particular treatment available, but it is an important step in understanding how we can take advantage of the research at the Cancer Center and turn it into the benefit of the patient.

Chu Now that we have the gene identified, is there any blood test that can be given in order to identify which patients are at increased risk for developing skin cancer?

Leffell There is a blood test that allows us to see if people have an abnormality in that skin cancer gene, but it is not recommended for people that have the occasional skin cancer. It is more for people where we suspect they have one of the rare inherited forms of skin cancer.

Miller I want to go back to the very exciting information about this topical medication. I realize this may be many years before it is available, but essentially how would something like that work? How would a cream put on the skin eventually help someone who has had skin cancer?

- Leffell The one that I just referred to has an effect on some of the chemical reactions that take place downstream, so to speak, in the cell life cycle. But, the reality is that there is something available today, a topical agent, which we are using for certain types of skin cancers. Its chemical name is imiquimod and listeners may know it as [Aldara](#), its brand name. This a fascinating cream because you put it on the skin and it turns on the body's own immune system. It harnesses your body's own ability to fight cancer and stimulates a reaction in the skin and in certain types of basal cell cancer it has proven to be quite effective. So, under certain circumstances we are able to avoid surgery altogether by using this cream. Most dermatologists are familiar with it.
- Chu It is really quite fascinating. Are there any other clinical trials that either you or members in your group are actively involved with here at the Yale Cancer Center?
- Leffell There is an interesting study that we are doing now. There is a lot of information that suggests that vitamin A has an anti-cancer effect, that carotene which is a form of vitamin A is beneficial in preventing cancer. But, it has been very difficult to do large studies because you have to draw blood and measure it. We are actually doing a study now where we are using a laser; shining it on the skin to see if we can detect levels of carotene in the skin. By using a non-invasive measurement we can go out and do studies and find out whether dietary habits do in fact affect the development of cancer.
- Miller David, I want to share another really quick email with you, but it leads to a broader question. This is from Beth in Bloomfield. She says,
- Is it essential to wear sunscreen in the winter months? May I also add more broadly, is there anything else people should be doing in terms of diet?*
- Leffell The number one thing that you can do, that you should do, to prevent skin cancer is to protect yourself from the harmful effects of the sun. And you can do that; you have to do that really in a comprehensive program. Number one, wear a sunscreen while active outdoors. Reapply it every couple of hours when you are active and certainly after swimming. The question about using it during the winter months largely depends on whether she spends her winter in Florida or not. But, in reality sunscreen should really be worn on a regular basis. Also, when you are out in the sun, you want to wear a broad brimmed hat. A baseball cap will only protect your forehead and your nose and yet we see skin cancer very frequently on the tops of the ears. There is great sun-protective clothing available now that doesn't look like a prison uniform, very stylish and carries an SPF rating. And, importantly you should avoid the sun between the peak hours of 10 and 3.
- Miller We are going to close in a couple of minutes. And again, if you have any questions, we would encourage you to please look at our website which is YaleCancerCenter.org for more information and for more resources that are available to you. Before we sign off, David, can you review for us the 2 or 3 key messages that you would like our listeners to remember about skin cancer?

- Leffell I think that when it comes to early diagnosis, if you have a bump that bleeds and heals up, when in doubt check it out; that is number one. Number two, you want to practice good sun prevention. Obviously, you want to avoid going to tanning parlors. You want to wear sunscreen, sun protective clothing and avoid the sun during peak hours. And, you want to make sure that if you have had skin cancer diagnosed that you are obtaining the most sophisticated and advanced approach to the management of that skin cancer.
- Miller Again, I would like to thank Dr. David Leffell from the Yale Cancer Center for joining us on Healthline.
- Chu David, thanks for such an informative session and especially since May is Skin Cancer Awareness Month, hopefully our listeners out there will pay special attention to all of your wise words. And remember, tune into WTIC NewsTalk 1080 every Sunday morning at 8:30 a.m. for Healthline with the Yale Cancer Center. Our next program will focus on ovarian cancer, a very important topic, and our show will feature Dr. Tom Rutherford, Associate Professor of Gynecologic Oncology and one of the nation's leading GYN Oncology experts at the Yale School of Medicine. Until then this is Dr. Ed Chu.
- Miller And Dr. Ken Miller.
- Chu From the Yale Cancer Center wishing you a safe and healthy week.