

Yale CANCER CENTER *answers*

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Welcome to Yale Cancer Center Answers with your hosts doctors Francine Foss, Anees Chagpar and Steven Gore. Dr. Foss is a Professor of Medicine in the Section of Medical Oncology at the Yale Cancer Center. Dr. Chagpar is Associate Professor of Surgical Oncology and Director of the Breast Center at Smilow Cancer Hospital and Dr. Gore is Director of Hematological Malignancies at Smilow. Yale Cancer Center Answers features weekly conversations about the research diagnosis and treatment of cancer and if you would like to join the conversation, you can submit questions and comments to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC. This week is a conversation about skin cancer with Dr. Jennifer Choi. Dr. Choi is Assistant Professor of Dermatology and Director of the Yale Oncodermatology Clinic. Here is Dr. Anees Chagpar.

Chagpar We are getting to the end of a very long winter and approaching summer and everybody is going to be getting out in the sun and when we talk about oncodermatology and skin cancers, it has a lot to do with that right?

Choi Yes absolutely. Most of the skin cancers that occur are directly related to how much sun exposure you have gotten cumulatively throughout your life and in particular, a history of sunburns and intense sun exposure.

Chagpar You are talking about sunburns when you were a child?

Choi Yes, absolutely, that is definitely one risk factor for both melanoma and non-melanoma skin cancers, the most common being basal cell skin cancers and squamous cell carcinomas as well as melanoma. A history of a single blistering sunburn in your childhood or adolescence will more than double your risk of getting a melanoma later in life.

Chagpar This is a word to the wise for all of those parents out there to make sure that your kids do not get those blistering sunburns. What should parents be doing? What is some practical advice to protect their kids because making sure that your kids do not get sunburn could seriously reduce their risk of getting skin cancers later in life, so what should parents be doing?

Choi That is an excellent question, the most important thing for parents is from the minute they are born to protect them from the sun. The major things are starting at the age of 6 months you want to actually apply a sunscreen that is SPF30 or above. There are two major types of sunscreens, there are chemical sunscreens, and these are things that you would see at the back of the bottle that include avobenzene, oxybenzone, or ecamsule, or there are physical blockers called titanium dioxide or zinc oxide. There is no proof that the chemical sunscreens are dangerous but for children I do prefer that they use physical blockers since these are not absorbed into the skin and the way they work are to reflect the sun rays off of the skin, so applying a sunscreen SPF30 or above, reapply every 2 hours because remember it does wear off, and if they will tolerate it, put a hat on them, a wide brimmed hat so that it protects their face, their ears and their neck and if they will stand it, make sure they wear sunglasses as much as possible also.

3:25 into mp3 file <http://yalecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

- Chagpar Does the number on the SPF matter? Is 70 better than 60, which is better than 40 that is better than 30, or anything 30 and above is okay?
- Choi Anything 30 or above is good. SPF30 means that it blocks out approximately 97% of UVB rays and if it says broad spectrum, it does block out both UVA and UVB, which is SPF30. SPF50 will block out 98% of the UVB rays. So there is only a 1% difference. However, SPF15 will block out only 93% which is why we recommend SPF30 or above. Anything above 50 really makes no difference at all and is really just more of a marketing scheme.
- Chagpar What about those that say broad spectrum protects against UVA and UVB versus the ones that do not say that? Is it worth the extra money to get the protection from both?
- Choi That is a great question. It is absolutely worth the money. If you are using a sunscreen, you definitely want it to say broad spectrum because that means that it does not necessarily protect against UVA rays. Most sunscreens now are required to be broad spectrums, so just make sure that when you see it on the shelf, it says broad spectrum.
- Chagpar So sunscreen, not just the sun tan lotion type stuff, but true sunscreen, SPF30 and above, and you have to reapply every two hours.
- Choi Correct.
- Chagpar And when you get out of the pool.
- Choi Yes, so every two hours, means just when you are out and about. If you are getting wet either from sweating a lot or swimming, you want to reapply even more often, so anytime you get wet when you towel off, you are taking the sunscreen off, so you want to reapply at that time.
- Chagpar Let's talk about the sunglasses that you mentioned. You do not have skin in your eyes, so why sun glasses?
- Choi There is some variable literature out there. There is some evidence that sun exposure to your eyes may increase the risk of ocular melanoma although that is a little bit questionable right now, more research needs to be done. We do know that chronic sun exposure to the eyes will increase your risk of cataracts, so for all those reasons, it is important. In addition to the fact that covering our eyes are the eyelids and actually eyelid skin cancers are quite common especially basal cell skin cancers, even squamous cells, although not as common but it definitely can involve melanoma as well, so that is another reason why.

5:57 into mp3 file <http://valecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

- Chagpar Is that risk also when you are a child or is the risk associated when kids get sunburns for getting later skin cancers really associated with skin cancers and not an ocular thing, so in other words, if you have a child who gets exposure to the sun because it is hard to find sunglasses for 6 month olds, is that a problem?
- Choi We really recommend sunglasses for kids mainly because we know that most of the skin cancers, particularly non-melanoma skin cancers, are a result of cumulative sun exposure. So if you start young, you are decreasing your risk as you are getting older, so that is really the main reason why and then even the cataracts and all that kind of stuff that happens as you get older, it all starts when you are young.
- Chagpar When you are out buying sunglasses, do you have to look for the sunglasses that actually say that they protect against UV rays?
- Choi Yes, you do. You would think it is a sunglass if it just dark.
- Chagpar Dark, yeah.
- Choi But the ones that actually do protect from ultraviolet rays are required to say on the label, either part of the label or even they will have a little sticker on the glass that says UV protection, so you definitely want to look for that.
- Chagpar So we have got the sunscreen, we have got the sunglasses, how important is it to make sure that you are completely covered up? I mean when we are starting to get nice warm weather you might not always want to wear a long sleeve shirt and pants. Do you have to or is sunscreen enough?
- Choi In general clothing is better than no clothing, we do say as much as you can cover up with light clothing that protects your arms and legs, long sleeves. However, we know that when it gets really hot that can sometimes not be tolerated, so clothing is always better than no clothing. There are now a whole slew of SPF clothing, so there is clothing and swimsuits and hats that actually have SPF in them.
- Chagpar So the clothes have got like a sunscreen built in?
- Choi Yes, absolutely.
- Chagpar But the clothes can go into the washing machine and they do not need to reapply their SPF.
- Choi Correct, it is built into the clothing, yes.
- Chagpar That is wild and you can get these clothes at your regular department store?

8:17 into mp3 file <http://yalecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

- Choi Most of them are usually sold online right now, so if you look on the internet, SPF clothing, you will see a whole bunch of options that you can chose from. Most of them are very affordable. They do not lose their SPF. It is important to remember though that a regular T-shirt even though you are covered will only provide an SPF of 8, so some people will come in with a basal cell or melanoma or something on their buttocks for example and they say they have never gone tanning nude; however, it can sometimes just go right through your swimsuits, right through your clothing.
- Chagpar Wow, good to know. So if you are going to wear regular clothes, non SPF clothes, you should be putting on your sunscreen all over your body.
- Choi Technically yes, especially if you are going to be outside for a long period of time.
- Chagpar Good to know. This is why we listen to Yale Cancer Center Answers. Moving along now, so we know that sun exposure increases your risk of skin cancers. There has been a lot of talk about tanning, indoor tanning, people are getting ready to go to the beach and they want to look like they have already been there for a while. Okay, or not okay?
- Choi The bottom line is that it is not okay. There have been numerous studies now that have shown that tanning will increase your risk of both non-melanoma skin cancer and melanoma. Tanning both naturally from the sun and being outside as well as indoor tanning and artificial sources of light are both dangerous. They found that indoor tanning and artificial sources like sun lamps, have just as much radiation in terms of dangerous radiation as natural sun and in some cases even more, so we do not recommend tanning at all, we always say there is no safe tan. As you get tan, the DNA defects, the damage to your skin starts and builds up, and you increase the aging of your skin, so the wrinkles form a lot faster than if you were not to get tanned and in addition, as you keep getting cumulative sun exposure, the risk of you getting skin cancer just increases.
- Chagpar Jennifer, you are going to make a whole bunch of really pale people really sad. So there is nothing that people can do to get tanned in a safe way?
- Choi The only safe way of getting tan is to actually use the artificial sun lotions, the tanning lotions, and there has been no evidence that it is unsafe, so you can go ahead and get one of the over-the-counter tanning lotions and if you want to seem as if are a little tanned, just go ahead and use that. There is no danger to that. In addition, there are spray tans that are offered in various places, so you can actually safely get a spray tan that is temporary. It is not permanent, it lasts a couple of weeks, just make sure that when you get the spray tan you are covering your nose so that you are not inhaling the particles.
- Chagpar Okay and always use SPF when you go outside whether you have a spray tan or not.

11:31 into mp3 file <http://valecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

- Choi Correct, that is actually a very good point, any fake tan does not protect you from sun damage so make sure you are using sunscreen on top of any fake tans.
- Chagpar Is indoor tanning particularly dangerous in kids, we were talking earlier about hats and sunglasses and the effect of sunburns in kids really being one of the key determinants of getting skin cancer later on. Is it the same thing for indoor tanning? Is that why it is important that kids do not go to indoor tanning?
- Choi Absolutely, studies have shown that if you have any exposure to tanning before the age of 30 even if it is just once, you will increase your risk of melanoma by 75% later on.
- Chagpar Even once, wow.
- Choi They have done several studies trying to determine the amount of tanning that you need to get to increase it, but any exposure to indoor tanning will increase your risk by 75%, and it is estimated that 1 million people go to tanning beds a day and it is also estimated that annually 30 million people go to indoor tanning beds and the majority of them are actually young women and teenagers, mostly girls and young women.
- Chagpar I have to clarify something here. Let us suppose you are listening to our show tonight and you have already been once, does that mean that your risk has already increased, so you can go multiple times and it will not increase your risk further or is it still that cumulative dose, so stop while you are ahead.
- Choi Absolutely the latter, definitely stop while you are ahead because we know that all this damage continues to cumulate and your risk increases with cumulative exposure. If you have gone tanning in the past just stop now because then you will decrease your risk that has already increased, so definitely just stop now, do not do any types of indoor tanning or artificial sources and in addition, if you start sun protection now from the natural sun in terms of sunscreen and clothes and hats, you will definitely help yourself.
- Chagpar What great information about the risks of developing skin cancer. We are going to take a short break for a medical minute. When we come back, we are going to talk more about what happens when you get skin cancer and how we treat it.

*Medical
Minute*

Breast cancer is the most common cancer in women. In Connecticut alone approximately 3000 women will be diagnosed with breast cancer this year and nearly 200,000 nationwide but thanks to earlier detection, noninvasive treatments and novel therapies, there are more options for patients to fight breast cancer than ever before. Women should schedule a baseline mammogram beginning at age 40 or earlier if they have risk factors associated with breast cancer. Clinical trials are currently underway at federally designated comprehensive cancer centers such as Yale

14:32 into mp3 file <http://yalecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

Cancer Center and at Smilow Cancer Hospital at Yale-New Haven to make innovative new treatments available to patients. Digital breast tomosynthesis or 3D mammography is transforming breast screening by significantly reducing unnecessary procedures while picking up more cancers and eliminating some of the fear and anxiety men and women experience. This has been a medical minute brought to you as a public service by Yale Cancer Center and Smilow Cancer Hospital at Yale-New Haven. More information is available at yalecancercenter.org. You are listening to WNPR, Connecticut's Public Media Source for news and ideas.

Chagpar Welcome back to Yale Cancer Center Answers. This is Dr. Anees Chagpar and I am joined today by my guest Dr. Jennifer Choi. We are talking about skin cancer today and before the break, we talked all about how you can protect yourself from developing skin cancer and more importantly how you can protect your kids because children who get sunburns are at the greatest risk of developing skin cancers later on. Jennifer, I want to start back with what kinds of skin cancers there are because before the break you were tossing around terms like basal cell carcinoma and squamous cell carcinoma and melanoma. Tell us a little bit more about all of these different kinds of cancer and how we find them. Which ones are better, which ones are worse?

Choi The most common skin cancers are the non-melanoma skin cancers and the two most common are basal cell carcinomas and squamous cell carcinomas of the skin. Basal cells comprise approximately 80% of all skin cancers and 20% of that is squamous cells. In terms of the non-melanoma skin cancers, approximately 3.5 million cases in the US are diagnosed per year. The important thing to know about these are that they are basically curable and that a very small percentage can actually become metastatic, so basal cells are usually characterized as either like a pink or maybe translucent white little bump that can be somewhat pearly if you look at it and if you look very closely they can have what you call telangiectasias or broken blood vessels. Sometimes people will think that this is a little pimple but it does not go away and then sometimes it can start to bleed, which is what brings in a patient. These are curable just by getting them off the skin. I should also mention there is another type of basal cell called superficial basal cells and sometimes these can actually look like eczema, like a dermatitis, so if you find that you have a patch that looks scaly and kind of pink but again it does not go away or starts to bleed or itch, have the dermatologist look at it. Squamous cells are less common and these tend to look like pink or red larger bumps that are more scaly or hard and then these also can start to ulcerate or bleed and they tend to come up more quickly so they will sometimes come up and they do not go away but they can grow faster as opposed to basal cells which grow very slowly and these are also taken out by surgery and they have a slightly higher risk of actually becoming metastatic than basal cells but again the rate is very low.

Chagpar So if you have any of these things, you should go and see your dermatologist and have them look at it?

Choi Yes, absolutely.

18:06 into mp3 file <http://yalecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

- Chagpar So those are the vast majority and you said that the majority of those are curable.
- Choi Yes.
- Chagpar Great, so why do we worry so much about skin cancer then?
- Choi The other type of skin cancer which is the dangerous type, or we should say, could potentially be dangerous, are the melanomas. These account for only 4% of all skin cancers. There are approximately 140,000 new cases per year, so compared to 3.5 million that is a lot less; however, it accounts for 75% of all skin cancer deaths, so these are the ones where early detection is absolutely the key. If it is detected early before it has spread, then in general if it is a thin melanoma, 98% will survive at the five year mark. However, if you pick a melanoma that has already spread to the lymph nodes, that percentage goes down to the 60% at the five-year mark and then if it has spread to the lymph nodes with other organs that goes all the way down to 15-16%, so it is one of those things where if you detect it very early, you have a much higher chance of being okay later, and these can look like various things. In general, we talk about the A, B, C, D, and Es. A stands for asymmetry, so if you see a mole or a lesion that looks asymmetrical; B stands for border, border irregularity, the borders look kind of funny; C stands for color variation, so within a single lesion you have some brown and then parts of it are black or white or red; D stands for diameter so in general those that are bigger than 6 mm which is the size of a pencil eraser tend to be a little bit more potentially dangerous; E stands for evolving means you just kind of have a gut sense that it is changing, so these are all things that you can look for either in an existing mole or in a new lesion that comes out of the blue.
- Chagpar Before the break, you were talking about sunglasses and you were talking about ocular melanoma, so you are not going to see any of those in your eyes.
- Choi I should mention that ocular melanoma is not common, thankfully, it does account for a very small percentage of melanomas that we see, but you are right in that these are not the type that we can identify ourselves. Sometimes these are picked up on a routine eye exam where they will see something in the back of the eye with a special exam of the eye. So people who actually have a lot of moles or nevi, we do recommend to them that they get a yearly eye exam to make sure that there is nothing that they need to watch out for in the eye.
- Chagpar And the other thing that you mentioned before the break was that people will sometimes present with a mole on their buttock. Is this something that people should be going for annual skin checks for, or is this something that if you notice something, go to your doctor?
- Choi I always say that it does not hurt for somebody, anybody, but particularly those with a history of blistering sunburns and a lot of sun exposure and also a family history of melanoma and also those who are more at risk, so light skin types, light hair, such as blonde or red, light eyes including blue or green eyes and also an inability to tan and easily burn, these are the ones that are at higher risk

21:38 into mp3 file <http://yalecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

that I would recommend that you see your dermatologist and then at least get a baseline exam and then let them tell you if you need to come in every year and what is helpful is if you do something called a self-skin exam. You disrobe and on the parts that you can see, just look very carefully and then use a mirror or have somebody that you are comfortable with take a look at your back and back side, places that you cannot necessarily see and just look for anything that might look suspicious.

Chagpar One of the things that you said was that people who are at increased risk include fair skin people, and some of my friends who have natural tans and have darker skin feel that they have got a “natural sunscreen” and so they do not need to use sunscreen, true or false?

Choi That is false. A lot of people with darker pigmented skin including African-Americans and Hispanics and Asians, they think that they are maybe not as prone to skin cancer and in general that is actually true, however, melanoma occurs in all races and they have actually shown that people with darker pigment actually have a higher death rate from melanoma, mainly because it is picked up when it is already advanced and sometimes they are not aware that they need to be careful. In addition, in these patients, you may see that they develop what you call acral melanoma, so melanoma on their hands and their feet, and if they are not aware that it could be something they need to look out for, then it is more advanced by the time it gets diagnosed and these are reasons why we recommend sun protection for all ethnicities and races but in general it is true that the lighter skin type needs to be more careful, but this is something that all ethnicities should be aware of.

Chagpar Melanoma can occur on your feet, so you need to put sunscreen on your feet too?

Choi You do need to put sunscreen on your hands and your feet, absolutely. A lot of people actually get burned on their feet because they forget and it is completely exposed when they are wearing sandals, so it can definitely occur on the feet. With acral melanoma, there are genetic studies that are being done that perhaps this is not 100% due to sun exposure per se, so there might be a genetic component or a higher rate of certain mutations that lead to this, but we know that in general sun protection is important, so you should definitely be putting sunscreen on your hands and your feet.

Chagpar Let’s suppose you are doing your routine skin exam and you see one of these ABCDE moles, what happens then? Do you go to your dermatologist, they say Aha! you have got a mole and then what? They may take it out?

Choi Sometimes people will come in with something that they are suspicious about and the dermatologist will take one look and say that it is fine. A lot of times it can be something called seborrheic keratosis which is just a benign maturity related spot which can oftentimes look like something dangerous to somebody who is not familiar with it. However, if somebody comes in with a mole or lesion that looks suspicious, then the next step would be that the dermatologist

25:06 into mp3 file <http://valecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

would recommend a biopsy. A biopsy is actually done pretty quickly depending on the size of the lesion, but if it is a small lesion, it could be done right in the office. It takes about 5 to 10 minutes. It is really not a big deal. It requires a little bit of local anesthetic which is a just a pinch and a sting of a numbing medicine and then followed by either what you call a shave biopsy where they take a little razor and just take it right off the skin or something called a punch biopsy where they take a little round tool and take out the lesion, put in a couple of stitches, and then they send the skin to the lab and it takes about a week to get back and then they will call you with the results to let you know if any further treatment is needed.

Chagpar We were saying earlier, that if it is a squamous cell or basal cell carcinoma, usually that is all you need, right?

Choi Yes, but it depends. Depending on the size of the spot, sometimes if it is small enough, the biopsy with a little bit of further treatment such as cautery can be enough to get rid of the lesion. Sometimes, if it is a little bit bigger or it is in a very cosmetically sensitive area, such as the face, then they will recommend that further surgery is done. There is something called Mohs surgery and this is a technique they will do, particularly for large nonmelanoma skin cancers or skin cancers that are on the face, scalp or ears, where they locally numb it up, they take a stage, you wait 30 to 40 minutes and then they will let you know if they have to take out any more depending on these frozen sections and see if anything is still positive in terms of the margins and in that way, they can get rid of the whole lesion and by the time you leave the office, it is pretty much guaranteed to be clear.

Chagpar Excellent, but what if it turns out to be a melanoma? You told me that those are the ones people die from, so it cannot possibly be that easy.

Choi With melanomas, the gold standard treatment is wide local excision, and some dermatologists are surgeons, or they will refer to a general surgeon or to a plastic surgeon, and this is where you need to have it locally excised with surgery, with wide enough margins and then depending on what you call the Breslow depth of the melanoma, it is usually measured in millimeters, they will or will not recommend something called sentinel lymph node biopsy where they have to take out a lymph node to determine if any melanoma cells are in there. Usually that is recommended if the Breslow depth is over 1 mm and then depending on those results, they will let you know if further treatment is needed.

Chagpar So if it is thin, it might be that you only need to have this excised and that is it.

Choi Correct.

Chagpar And if it is a little bit thicker, then you need to have these lymph nodes checked.

28:10 into mp3 file <http://valecancercenter.org/podcasts/2015%200503%20YCC%20Answers%20-%20Dr%20Choi.mp3>

Choi Yes.

Chagpar And if the lymph nodes are negative, then are you done?

Choi If the lymph nodes are negative, it still depends on the Breslow depth and then you would work with your oncologist at that point to determine what the follow-up is. Sometimes the oncologist will recommend imaging, whether that is a chest x-ray or CAT scan with blood work and then even if their sentinel lymph node is negative, it really depends on the Breslow depth in terms of what the recommendations are.

Chagpar What if the lymph nodes are positive? Then what?

Yan If the lymph nodes are positive, it becomes a treatment decision in terms of what to treat with, so at that point, they would do what you call a staging imaging exam which usually consists of a CAT scan plus or minus something called a PET scan which actually shows if there is any activity based on a scan where you use something that lights up if it is active and it will depend on the staging CT results and then if there is any evidence that it has spread to other places. If you have a positive lymph node and there is no evidence of organ involvement, then the oncologist will work with you to determine if you need something called adjuvant treatment, so they will decide with you.

Dr. Jennifer Choi is Assistant Professor of Dermatology and Director of the Yale OncoDermatology Clinic. We invite you to share your questions and comments, you can send them to canceranswers@yale.edu or you can leave a voicemail message at 888-234-4YCC and as an additional resource, archived programs are available in both audio and written format at yalecancercenter.org. I am Bruce Barber hoping you will join us again next Sunday evening at 6:00 for another edition of Yale Cancer Center Answers here on WNPR, Connecticut's Public Media Source for news and ideas.