

Support for Yale Cancer Answers comes from AstraZeneca, a global biopharmaceutical company that has developed 4 FDA-approved cancer medicines in the past 4 years for a variety of tumor types. Learn more at astrazeneca-us.com Welcome to Yale Cancer Answers with doctors Anees Chagpar and Steven Gore. I am Bruce Barber. Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer. This week, it is a conversation about testicular cancer awareness month with Dr. Preston Sprenkle. Dr. Sprenkle is an Associate Professor of Medical Oncology at Yale School of Medicine and Dr. Gore is a Professor of Internal Medicine and Hematology at Yale and Director of Hematologic Malignancies at Smilow Cancer Hospital.

Gore Preston, thanks for joining me tonight.

Sprenkle Happy to be here.

Gore I am laughing because I cannot tell you how many months there are that I did not realize that testicular cancer was common enough to get its own month, I mean maybe a weekend or something.

Sprenkle It is not real common, in young men it is a pretty rare tumor. So, it is not one that everyone needs to be worried about necessarily.

Gore But really important, right?

Sprenkle It is. And it is very easy to detect with self-exam. So, it is something that young men should definitely be looking out for, and when it is detected early, it is very curable, with minimal treatment.

Gore That's great. What ages are at risk for testicular cancer?

Sprenkle It is typically post-pubescent boys and young men. So, from mid-teens, 15 to about 35, is the highest incidence of testicular cancer, so usually men in their 20s and early 30s should be on the lookout.

Gore And being on the lookout means what?

Sprenkle It means, doing self-examination. About once a month in the shower, just doing a testicular self-exam to feel for anything that seems to be growing or any hard nodules, which can be anything from the size of a pea to a grain of rice to something that grew all of a sudden, the testicle is twice the size than it was a month before. Those are potential signs of testicular cancer.

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Gore We know that many young men pay a lot of attention to the contents of their scrotum, I am told, and I also found just in my medical practice that a lot of men do not really understand the contents of their scrotum.

Sprenkle Yeah. This is true. There are resources online, you can Google search testicular self-exam, it is really easy to, there are some simple videos and

diagrams looking at the contents of the testicle, I mean the testicle is the main thing, but there is the epididymis which is behind the testicle and the vas, and that is why self-exams are important. You feel what is there and you get used to what you feel, and really what we are looking for with the testicular cancer, there is a change.

Gore I would think that if it were me and I felt a change, my initial response would be, well that is probably nothing and I am not going to go running anywhere just because I felt a little change, I am going to probably want to assume that it is going to go away.

Sprenkle Right. And unfortunately, we do see a delay on an average of about 4-6 months from the time someone has identified something.

Gore Oh months! I was thinking maybe a couple of weeks.

Sprenkle Right. And that is a problem to wait that long. So, if you feel something that is abnormal, it is worth getting it checked out right away because when these tumors are smaller, they can be treated with surgical removal alone. However, if you wait those 4-6 months, we definitely do see an increase in the need for things like chemotherapy, radiation and other more intensive treatments.

Gore But most young men I would think do not have a urologist right, I mean that is for older guys like me.

Sprenkle Sure. They do not need to have a urologist. They can go to their pediatrician, go to their primary care physician, even a nurse if they feel something abnormal, they should have someone else examine it and the first step is typically an ultrasound, so a noninvasive imaging test, no radiation involved, it is not anything to be scared of, it is pretty simple, cheap and very diagnostic.

Gore So you get your ultrasound, a sonogram, right? And that shows maybe a cyst?

Sprenkle It could. That's why we do the sonogram. So, if it shows that there is a mass that is abnormal, then we would usually do a quick outpatient surgical procedure to remove the testicle.

Gore Wait, you did not say what I heard you say. Quick outpatient procedure to remove my testicle, forget about it.

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Sprenkle Yes. Correct. If there is something concerning, which the ultrasound can reassure us if there is.

Gore No way you are doing an ultrasound on me buddy. I am joking, but you say that pretty glibly and I am sure that most of your patients react like I do?

Sprenkle There are definitely some that do, but I think that the important thing to remember is you have 2 testicles, one of them is definitely enough for you to maintain sexual function, to maintain potency, to be able to have kids, so the concern is that if this testicular cancer is not identified and treated it can kill you, and so we see this in young men and it is a success story in that we are very successful in treating it, but without doing that, it does seem like a big step and men are very attached to their testicles. Gore And vice versa.

Sprenkle And vice versa, but removing one can be curative, so that treatment alone can be curative of testicular cancer, especially if identified early.

Gore We know that we tell women to do breast self-exam, although I know that is not as much in favor as it used to be, but let us just say people are screened for breast cancer and something abnormal is found and they do not go out there and say I am going to do a quick outpatient procedure to remove your breasts, they put a needle in it under ultrasound or something like that, why can't we do that?

Sprenkle Correct. Well, we do not use needle biopsy because it is often wrong, and there is concern that by using a needle biopsy, it actually can spread the tumor because it changes the drainage of the lymphatics associated with a testicular tumor. And we are not doing this, so I think the difference is there are many things on self-exam that are detected in a breast self-exam that are we call false positives. So, you feel something but it is not a cancer. With testicular cancer, if you feel something abnormal and the ultrasound shows that it is abnormal, it very likely is a testicular cancer.

Gore So once you have had the ultrasound, the ultrasound says you've got a problem. And again, because the guys in the audience are like still clinging to the ceiling, not everything that they feel that is abnormal or changed is going to be cancer right?

Sprenkle Absolutely not. A large number of them are cysts. So, just because you feel something abnormal does not mean you are going to lose the testicle. If you feel something abnormal, it is important to take the next step of having your physician evaluate you and have an ultrasound because doing that early means that if there is something there, you have a high chance of cure and also, we can put your mind at rest earlier. So, it is important to have the evaluation early to figure out what is going on. There are many men with cysts, there are many men with testicular pain, there are even men with blue balls, like you can get something like that.

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Gore It is a real thing.

Sprenkle It is a real thing. It is congestion of the vas deferens, actually. So, you can definitely have that. Those kinds of things do not mean you have testicular cancer, but if you notice something, if you have a cyst on your testicle

and it changes in size or you want to just get checked out, it is very reasonable to get checked out. Ultrasound can say, yep, this is just a cyst there is nothing around. And ultrasound is very good at determining what is a cyst and what is something more concerning.

Gore And many men have varicose veins around the testes right?

Sprenkle Yeah. That is another very common thing. It is kind of a bag of worms feel, and it definitely feels different in that it surrounds the testicle. The shape of the testicle itself should not really change based on that, but varicocele is another abnormality within the scrotum.

Gore Got it. So now that we are calm and we have decided, okay I am going to go get this ultrasound, I am hoping it is one of the cyst things, which are probably going to leave alone right, unless you have trouble with fertility or something like that?

Sprenkle Yeah, the cysts most often are in the epididymis, they are benign, we do not treat those unless you have symptoms and it bothers you, so those do not typically affect fertility.

Gore Gotcha. And so now, we are going to do this quick outpatient procedure, which shall not be named, I believe it is called orchiectomy right? S prenkle That's correct.

Gore It sounds a lot prettier than it is. It sounds like a flower, like an orchid.

Sprenkle Yes, it does.

Gore And I do not think people know how that is performed. People would usually think it is yank a testicle out from the bottom of the scrotum, that is not what happens right?

Sprenkle No, it is not. It is actually similar to a hernia procedure. We make a small incision in the groin. Gore Like the top of the leg groin, not the scrotum at all?

Sprenkle Not the scrotum at all. That is one of the reasons we do not put needles, do the biopsy, we don't want to go through the scrotum because there is a different lymphatic and vascular drainage from the scrotum than there is from the testicle. The testicle embryologically originates near the

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kidneys, and so then as it descends, its veins and lymphatics come from around the kidneys. So, as it descends it goes into the little pocket of the scrotum but we try to get a little bit higher where it enters the scrotum up in sort of the abdominal cavity.

Gore And that is where you take it out?

Sprenkle And that is where we take it out and that is how we prevent it from spreading as much as we can at the time of removal.

Gore Now, some testicular cancer, if I recall, is related, at least we were taught it was related, to guys whose testes did not descend normally when they were babies. Is that still thought to be the case?

Sprenkle There is an increased incidence in men who have an undescended testicle, that is correct. We still do recommend if the testis is undescended, that is one reason to bring it down into the scrotum. It does not necessarily change the risk if it is not done before the first year of life, but it does make it easier to do self-exams to detect if something is there.

Gore And then do those people need to be scrutinizing themselves more carefully, is that something you teach?

Sprenkle If someone has an undescended testicle and has that pulled down, then their physician, pediatrician, urologist should be talking with them about self-exam and the importance of that.

Gore Got it. Now this is going to sound silly to you Preston, but let's say I am a 25-year-old guy and I am single and you have just done this quick little outpatient procedure and now I feel like I don't look right, because I am used to seeing kind of a nice symmetrical scrotum and feeling a nice symmetrical scrotum and now I have got kind of a lopsided thing, is that not an issue for people?

Sprenkle It can be, but we actually have prosthesis. We have a testicular prosthesis that we can make it so that it is pretty much the same size as the one that we took out or the same size as the one on the other side depending on what your preference is and we can either put that in at the time of surgery or do it later. So, if someone is concerned about body image, that is a realistic concern.

Gore Yeah, I am not trying to make fun of anybody.

Sprenkle No, it is a very reasonable concern and for many men we do that. Some men don't care, but you are right it is more for people who are single and not in a relationship and body image is very important to everyone, we have that as an option.

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Gore And, again, not to be too graphic here, but from a textural kind of qualitative point of view, does it feel like a normal testicle from the outside?

Sprenkle It definitely looks like a normal testicle. If you are doing a very careful exam, you can tell which one is the prosthesis and which one is the normal testicle. It feels a little different, but it looks the same.

Gore So we got past that little procedure and you made me look better, or back to normal, and so I am all done, that is it right?

Sprenkle That can be. It depends on what we found. If we are going to do an orchiectomy, remove the testicle, we often will recommend that men bank sperm first just in case any additional treatment is necessary.

Gore You said that one testicle is enough?

Sprenkle It is, but in case we need to do any additional treatment, it is usually a good idea to do that. If there is a tumor, we want to do imaging to make sure that we got everything out and it was only in the testicle. We take a CAT scan of the abdomen and depending on if there is any evidence of cancer there, we may need additional treatment.

Gore We are going to learn more about that I am sure, but right now we are going to take a short break for a medical minute.

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This is Dr. Steven Gore, and I am joined tonight by my guest, Dr. Preston Sprenkle. We have been discussing testicular cancer. Preston, before the break you shattered my hopes that once I got myself through this surgery and I got my prosthesis, I was all done, and hopefully I am, but now you have gone on and taken me to a CAT scan of the abdomen, why the abdomen?

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Sprenkle As I mentioned, because the testicle originates up near the kidneys, the drainage for the testicle is actually near the kidneys and so we want to check and see if there are any lymph nodes that are enlarged in that area, and if that is negative, fortunately depending on the type of cancer, up to 85-90% of men could be cured with just removing the testicle alone. And that is why for many of the men, again depending on their stage, we can just follow them with surveillance, so repeat blood tests and a period imaging without needing any additional treatment. In men that do have either high-risk features or we do see some of the lymph nodes are enlarged, then additional treatment is needed.

Gore How long do people need this kind of surveillance if it was relatively low risk? How long are they monitored for?

Sprenkle The monitoring is graded, so it is more intensive initially because within the first couple of years is when we would expect to see any recurrence if we are going to, but typically the guidelines continue to change, so I do not know what it is going to be in 5 years, but right now, we use follow-up people for 5-10 years and then intermittently. Gore That is going to be kind of anxiety producing for people.

Sprenkle It can be. And because these things can change quickly, it is important that if you are following up on surveillance that you see your doctor routinely and that is one of the things that we determine. Some men would prefer rather than having to do the intensive surveillance, to do some upfront treatment.

Gore Tell me about that.

Sprenkle There are a few different types of upfront treatments – one can be chemotherapy and that is systemic therapy, but we usually do less of it than we would if there was evidence of metastasis, there is surgery to remove the lymph nodes that are in the abdomen or the back, the retroperitoneum we call it.

Gore That sounds brutal.

Sprenkle It is a big procedure, but it keeps the surgeons in business, and we have made improvements in the technique and ways of doing the surgery to limit the side effects. That is really what all of this is about, we are dealing with young men who have a very long life expectancy, so we want to have as little impact on their overall quality of life while maintaining as much quantity of life as possible. We now are seeing with longer term follow-up, some toxicity of early radiation and early chemotherapy, so for that reason, we are pushing towards the surveillance as much as we can because now that men are living 30-40 years after their treatment, we see some increased

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cardiac toxicity with some of these increased secondary malignancies. So, we want to not treat unless we have to. But for some men, they do not want to have to come to the doctor every 3 months or every month.

Gore They can get a couple cycles of chemo and they could be all done.

Sprenkle Potentially. We still would follow but it would be with much less intensity.

Gore I think all of us, or many of us, have heard the story of our favorite cyclist, Lance Armstrong, and as I recall when he first hit, maybe it was a relapse, I do not know when he first had testicular cancer, I recall he had tumors in his brain, chest and everywhere.

Sprenkle He did. He had very advanced stage IV disease. He was very fortunate, but still the long-term survival rate is about 75% with men like that. So, our chemotherapy is every effective, it is not as high as the low-grade guys where it is only their testicle, where 10-year survival is 99%, so we definitely have a lot of success by finding it early and then we can treat people who have the advanced disease. So, it is worth knowing if you have it. There definitely are some hiccups, but doing it earlier and not having to go through the chemotherapy stuff that he did, I mean he is a very unique physical specimen.

Gore Sure.

Sprenkle Most people are not going to go through the chemotherapy and then be in the Tour de France again. So, we want to find this early and treat it early to limit people's exposure to treatment.

Gore Do you know if Lance has been public about whether he had a preexisting tumor that he had ignored or whether there is any information about that or he just presented with a really aggressive cancer?

Sprenkle I think he just presented, I have not heard, but he just presented with a really aggressive cancer. I mean we do see that. We see men with very small testicular tumors that can have widespread metastasis.

Gore It sounds like the take home message is that most of these men are being cured and it is easier if you detect things early.

Sprenkle Correct. And finding it early allows us to treat it early, and by treating it early, we can usually use less treatment.

Gore Let's talk a little bit about quality of life. We talked about the cosmetic problem that you already fixed and you talked about banking semen just in case fertility is an issue, but for the guys who do

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not end up needing any radiation or chemotherapy, is it likely that they are going to maintain their fertility with one testicle?

Sprenkle Correct. We do not see really any change in rates of conception between men who have one testicle or two.

Gore And what about erections?

Sprenkle Should really have no impact. One testicle is more than enough to maintain a testosterone level which helps with libido and erections. I am not familiar with any literature that there is a decrease in testosterone or difficulty with erections.

Gore And do men experience orgasm in any different way with the one single testicle?

Sprenkle Not that I have heard. That is a very good question though.

Gore So really their quality of life becomes normal outside of just having to see somebody like you on a regular basis and wait for the good news that everything is still good.

Sprenkle Yes.

Gore Sounds great. You know this is obviously, I think it is one of the less publicized great accomplishments of the last 30 years or 40 years of cancer therapeutics, besides pediatric acute lymphoblastic leukemia, but testicular cancer, guys used to die of this right?

Sprenkle Absolutely. It is a real success story and large credit is due to the early studies on the chemotherapy regimens and they really approached it in a very dedicated and systematic way and there is a lot of data, a lot of information and even now starting with increased information with genetics and genomics, being able to tailor chemotherapy regimens to people based on their responses and some of their markers and genomic classifiers. So, we are still making it better.

Gore Yeah, that's great. And this may not be in your wheelhouse exactly, but as I recall there are some testicular cell cancers that actually do not present in the scrotum at all, like in the chest or something.

Sprenkle There can be, yes. And to take a step back and sort them, there are testicular cancers that are not germ cell tumors. So, there can be germ cell tumors which originate not in the testicle but in the mediastinum or elsewhere. Gore So, they are not really testicular cancer?

Sprenkle Right. They are germ cell tumor of non-testicular origin.

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Gore Okay. But you can have germ cell tumors in the testis?

Sprenkle Correct. That is the most common. We call them testicular cancer and about 80-90% are germ cell tumors that are in the testicle, and we can have other kinds of tumors and abnormalities in the testicle, but the germ cell tumors are the ones that we have been talking about. They are the most common and those are the ones that require chemotherapy, surgery, etc., and yes some of those cannot present in the testicle.

Gore But the urologist probably does not get too involved with that?

Sprenkle Typically not initially, we would evaluate and make sure there was not a primary in the testicle that had sort of burned out or gone or that was very small and not detected on physical exam, but if there is something in the chest, then their treatment will be chemotherapy, so as a urologist and a surgeon, we typically are not involved initially.

Gore So, what are the other cancers in the testis that are not germ cell cancers?

Sprenkle There can be some benign tumors and those actually can be detected with ultrasound, so cysts, adenomas and then there are tumors that are malignant but they are localized and those are some different cell types within the testicle.

Gore Gotcha. Here on testicular awareness month, is there anything else in terms of genital health that you would like our listeners to know about or think about?

Sprenkle I think maintaining cleanliness is important. We know that there is some irritation that can be involved with infections and so there is a lot of controversy about circumcision versus not circumcising. I think that if you are not circumcised, you need to make sure that you maintain good penile cleanliness with retracting the foreskin and washing well with warm soap and water, that prevents infections like sexually transmitted infections as well as just inflammation and scarring that can occur, which can make it more difficult to have an erection and have intercourse and as well as urinate.

Gore Gotcha. And for men who are circumcised that is less of an issue?

Sprenkle Much less of an issue.

Gore It is still good to be clean though. And in terms of infections that you see, I am sure you probably do see some sexually transmitted diseases in your practice and a lot of men end up getting diagnosed with prostatitis and things like that, is that right?

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Sprenkle Correct. So, those are sometimes related, but not always. The prostate and prostatitis is another sort of enigmatic area. There are a lot of different causes, but mostly we try to treat the symptoms and try to help men through that period of difficulty with urination and sometimes pain.

Gore Testicular cancer itself is in general not painful.

Sprenkle Correct. As we kind of mentioned in the earlier part that you can have pain in your testicles, it can be from a variety of things that very rarely is testicular cancer, that is more common and most often it resolves on its own if you have pain in the scrotum. And so if you have that, it is important to do an exam and see if you have something in your testicle, but it is pain without any abnormality is unlikely to be testicular cancer.

Gore Gotcha. And again, I keep coming back to just thinking that in terms of men's genital health, just because of the anatomy, men are interacting with their penis and their scrotum all the time, so there really is not any reason for people to not really be familiar with landmarks, right?

Sprenkle Yeah and that is a very good point. There is a lot of handling that can be done and it should be done in a directed way, so I think once a month or

once every other month, usually in the shower is easier because it is warm, the scrotum hangs a little bit lower, the muscles are relaxed and soapy water makes everything a little bit smoother and easier to do an exam, but it is a good idea to be familiar with your body and be able to notice things that change.

Gore And you talked about the circumcision issue a little while ago and it seems that in the last 20 years, in the United States and North America, it seems there has been a decline in the expectation that all men, all children be circumcised, but what I am wondering, if there is a significant number of kids whose father is circumcised and the kid is not, do they know how to teach the appropriate genital care because they have never had to do it?

Sprenkle That is a really interesting question. I personally do not, I would have to ask my colleagues that primarily take care of pediatric patients, it remains controversial so I do not want to go out on the limb here too much, but I think there is growing evidence that it probably does not make any difference if you maintain good hygiene, I think that is the main thing. But in terms of how to teach a child good hygiene, I think it is a great opportunity for the pediatrician to educate the parents if they are not familiar with it and the web is an amazing resource.

Dr. Preston Sprenkle is an Associate Professor of Medical Oncology at Yale School of Medicine. If you have questions, the address is canceranswers@yale.edu and past editions of the program are available in audio and written form at YaleCancerCenter.org. I am Bruce Barber reminding you to tune in each week to learn more about the fight against cancer here on Connecticut Public Radio.