

But Why: A Podcast for Curious Kids

[Why Do People Get Cancer?](#)

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[00:00:22] [Jane] This is “But Why: A Podcast for Curious Kids” from Vermont Public Radio. I'm Jane Lindholm.

[00:00:30] On this podcast, we take questions from kids, kids just like you and we find answers. We've done episodes on all kinds of things, like why do we need sleep?

[00:00:40] How do fish breathe? Why do our feet and hands get all wrinkly in the bathtub? And we've also talked about more serious topics like how babies are made and if it's ever OK to break a rule and then lie about it. In this episode we're talking about a serious and sometimes scary illness. We're going to answer questions that you've sent to us about cancer. We're going to talk to a doctor and get the science behind cancer. How it happens and how to treat it. When someone you care about is really sick, it's not just the science that's important to talk about. There are a lot of emotions you might have too. Our next episode after this one is going to be with twin sisters who are 11 years old. One of them has a type of cancer in her brain. So we're going to talk to the two of them about their lives and feelings and experiences. But for this episode we're going to stick mostly to the science questions you've been asking. Adults, there shouldn't be anything scary in this episode, but if cancer is something your family or your little ones have been dealing with you might want to give it a listen first just to make sure it's appropriate. Here's who we're talking with today.

[00:01:49] [Dr. Small] My name is Don Small and I'm the director of pediatric cancer at the Johns Hopkins University's School of Medicine.

[Jane] Pediatric means kids,

[00:01:58] [Jane] so pediatric doctors, or pediatricians, are doctors who work to help children get and stay healthy. Another big word you might want to know is “oncology.” That's the study of cancer. So a pediatric oncologist, which is what Dr. Small is, is a doctor who researches and treats children's cancer. OK, here are our first two questions.

[00:02:22] [boy] My question is, “How do you get sick not from other people?”

[00:02:29] [Kinsey] Hi my name is Kinsey and I'm six years old, and I live in Nockborn, Illinois, and my question is, “How do people get cancer?”

[00:02:38] [Jane] Now some illnesses are what are called “contagious” like a cold, where germs get passed from one person to the next and that's how you get sick. By the way, washing your hands frequently really is the best way to try to avoid catching a cold or getting other common germs. But some illnesses are not passed from one person to another through germs. Cancer is one of those illnesses.

[00:03:01][Dr. Small] It's hard to imagine how you can get a disease that you don't get from other people or from dirty things. But it turns out that when we're growing, our cells have to divide and that's how we get bigger and sometimes the cells make a mistake and they grow out of control and that's all that cancer is, is a disease of the cells growing out of control.

[00:03:29][Jane] If that's what happens, that the cells are growing out of control, how does that start? How do people get it?

[00:03:35] [Dr. Small] That's a great question and it's something that there's a lot of people doing research on but it turns out that with children, their cells are growing so quickly for us to go from being a tiny baby in our mother's belly to an adult that the cells have to divide over and over again to make more and more cells.

[00:04:01] And sometimes the cells make an error when they're dividing. And if that error lets them grow faster than other cells, they outgrow the normal cells. And so just these abnormal cells growing fast is what cancer is.

[00:04:19] [Jane] You mentioned that kids are growing so fast. A lot of adults get cancer and they're not growing quite the same way that kids are, but it's the same process?

[00:04:28] [Dr. Small] So in adults, it's actually is a very different process by which they get cancer.

[00:04:34] Their cells are not growing so actively except for some cells like the cells that make up the blood, but their bodies also are being exposed to things like cigarette smoke and other things in the environment and over many, many, many years these can cause damage to the cells and sometimes the damaged cells end up growing when they shouldn't be growing. And so that's why the adults that get cancer have their disease. And so it's actually very different in adults versus children. But there are ways that children can decrease their chance of getting cancer, and that is to never do things like smoking and to make sure that they wear sunblock when they're out in the sun and these kinds of things can decrease the chance of children getting cancer.

[00:05:28] [Jane] So there are some things that we can do whether we're children or adults to help prevent cancer. But I want to be clear you're not saying, Dr. Small, that when someone gets cancer it's their fault.

[00:05:39] [Dr. Small] No no. It's never their fault when they get cancer. And there are many, many cancers that we do not have the ability to prevent at this time. And so in those patients, it's a matter of the cell getting damaged because as the patient gets older and older there just tends to be more damage to the cells and sometimes they start growing out of control. So there are some cancers we can prevent by not being exposed to things like cigarette smoke. But there are other cancers that we can't prevent no matter what we do.

[00:06:18] [Jane] We're talking about cancer but sometimes people will hear certain names for cancer whether it's lymphoma or pancreatic cancer or breast cancer or other words. What's the difference between different kinds of cancers?

[00:06:33] [Dr. Small] So all the different types of cancers really get their name from the type of cells that they come from. And we've actually found now that some of the damage in different types of cancer is actually made up of the same type of damage. But we basically give the cancer the name depending on what kind of cells that it comes from. So cells that come from the lymph nodes, we call lymphoma. Cells that come from the blood cells, we call leukemia. Cells that come from the brain, we call brain cancer. And so that's

how all of the different cancers get their names. And so it's actually not one disease it's actually many, many, many different diseases.

[00:07:14] [Jane] Well that leads us to another question about this idea of treatment and different kinds of cancers. Trustin is 7.

[Trustin] I live in Uber City, California and my question is,

[00:07:27] "Why does cancer not have a cure?"

[00:07:31] [Jane] Why does cancer not have a cure? And you often hear that, Dr. Small, the idea of finding a cure for cancer. But is it just one cure?

[00:07:41] Well I think that's a great question from Trustin and we wish that we had one cure that would cure all of these cancers. But because cancer is so many different diseases it would be impossible really to have one cure for all of them. They're very different from each other and there's much research that's going on to show how we can best cure each different types of cancer. Some of the cancers we actually have very, very high rates of cure almost everyone is cured of certain types of cancer. And we have others where we're not very successful yet and where there's still a lot of research going on to try and improve that rate of cure. But unfortunately I think there will never be just one cure for cancer. It takes a combination of different drug treatments and using the body's own immune system to fight the cancer and many other ways of targeting the cancer. And that will ultimately be the 100 percent success rate that we want to have for each of the cancers, will have to be a little bit different for each one.

[00:08:46] [Jane] Coming up we'll talk about some of the treatments you might hear people talking about when it comes to cancer and how you can support people in your life who are sick. This is "But Why: A Podcast for Curious Kids."

I'm Jane Lindholm and today we're answering questions you've sent us about cancer. Here at "But Why" we believe you should be able to ask any questions you want and get serious thoughtful answers. We're talking about cancer today because you've been asking questions and we want you to have those answers. We hope though that if your family or someone in your life is dealing with cancer, that you have an adult you can talk to about how you're feeling. It's ok to ask questions. Sometimes adults might not want to worry the kids in their lives by talking about a big medical issue like cancer. You can tell them that it's OK and that you want to know more. And sometimes adults don't actually have all the answers either. So you might need to reach out for more help. Cancer is a serious illness. And as we heard earlier there are lots of different kinds of cancer. To repeat the basics, your whole body is made up of cells. Cancer is a disease that happens when the cells in your body grow in an abnormal way, kind of out of control. As these cells continue to grow out of control, they can make you sick. Sometimes the cells are in your bloodstream. Sometimes they're in another part of the body, and they make what's called a tumor. Sometimes the cells are in your bloodstream, or in the center of your bones. Sometimes they're in another part of the body and they make what's called a tumor. And sometimes they can spread to other parts of the body. Sometimes cancer is treatable and sometimes it's not. There are a lot of big words that surround talk about cancer. We're not going to go through all of them but let me help you understand a few words that you might have heard or might hear at some point. Chemotherapy. That's a form of medical treatment that is sometimes used to try to help someone with cancer. It uses powerful drugs, powerful medicine, to try to kill the cancer cells in someone's body and prevent them from spreading. Radiation, or radiotherapy, uses powerful radio waves to target a group of

cancer cells that sometimes form what's called a tumor. It's also designed to kill the cancer cells. Sometimes surgery is also used to try to remove a tumor. A benign tumor is not cancerous and won't spread. A malignant tumor is cancerous and is likely to spread and you might hear the word "metastasis" or "metastasizing." That means the cancer is spreading. And again, oncology is the study of cancer and a cancer doctor is called an oncologist. That's what Dr. Donald Small is. He works at the Johns Hopkins Hospital in Baltimore, Maryland, and he's been answering questions about cancer. We also asked him to talk a little bit about how he discusses this kind of thing with children, when they have a diagnosis of cancer.

[00:11:55] When you talk to children who have a cancer diagnosis themselves, that can be very, very scary and it can sometimes be life threatening. Not everybody survives cancer and the treatment can be difficult. How do you address children who get a cancer diagnosis and are very scared?

[00:12:14] [Dr. Small] Well we understand that the children are scared by that diagnosis. It is a very serious illness. But what we tell them is that we have very excellent means of treating the cancer nowadays and we're actually able to cure most children of cancer. 70 to 80 percent of all children with a cancer diagnosis get cured and go on to live a full life through adulthood into a normal age. And so I think that's something that makes the children feel better that they know they actually have a very good chance of surviving the cancer and living a normal life.

[Jane] If you know someone who has cancer and they're getting treatment,

[00:12:54] sometimes things happen to their body that change the way they look. And one of the frequent ones that people notice is sometimes people who are getting treatment for cancer lose all their hair. Can you explain why that happens and how we might talk to somebody who looks a little bit different, who's going through cancer treatment.

[00:13:12] [Dr. Small] Yeah that's a great question. The drugs that we use, what we call the chemotherapy, kills rapidly growing cells. And some of those rapidly growing cells in our body are the cancer cells, but there are other rapidly growing cells in our body and that includes the hair cells. And so that's why the chemotherapy causes the hair cells to die and the hair to fall out. So it's great when kids can be supportive of other children, their friends, that are going through cancer therapy by not making fun of them, by asking them about what their treatment is and how they're feeling. And I know that makes our children going through cancer therapy feel really good when their friends come and visit them and talk to them about how they're feeling.

[00:13:59] [Jane] Yeah I think can be scary for all of us to know how to talk to somebody who's going through a difficult thing when we don't really understand it or we don't want to say the wrong thing. But it sounds like talking to your friends and being a good friend and checking in with them and maybe they can't do everything that they used to be able to do at least not for now, but you can ask them what they can and want to do?

[00:14:23] [Dr. Small] Absolutely. These children that are going through treatment for cancer, they want their friends to still come and see them and they want to play with them. And most of their days they're feeling pretty good. There might be some days where they're feeling too tired or too sick to be able to play but they love it when their friends still come to visit them and where they still get to play with them and where they ask them

about what their what they're going through and how they're feeling. They absolutely love that.

[00:14:51] [Jane] You deal with treatment and how to address cancer and how to fix it and how to make people well, but I'm sure you've thought about a deeper philosophical question: this idea of why do people get sick and sometimes people say this person this person I love is such a good person. Why did they have to get cancer? When you think about that, what do you decide or what do you think about?

[00:15:19] [Dr. Small] Well first of all we feel obviously that cancer is an incredibly unfair disease because no one is at fault for getting their cancer. They haven't done anything wrong at all. And there's no rhyme or reason as to why someone gets cancer and someone else does not. It's a random event and we wish that no one had cancer and maybe one day in the future there will be ways to look for any signs of cancer developing even before it develops and be able to prevent it. But right now unfortunately we have to just treat it as best we can and as I say for children's cancer we do very, very well and some adult cancers they're doing better but there's still a long, long way to go and that's why research is so important. That's the way that we make treatment better over time.

[00:16:11] [Jane] If any of our young listeners think might want to do that kind of research, what do they need to do in school now to get them on the path to being a cancer researcher?

[00:16:22][Dr. Small] It is a long path to become a cancer researcher. They need to do very well in school and then go to college and study very hard and do very well in college, and then apply to and be accepted into medical school and again work very hard in medical school, and then they need to train in either pediatrics or adult medicine, and then they need to do further training beyond that to become either a pediatric or an adult cancer doctor. And to do research and have their own ideas about how they think they could find out more about cancer, what causes it, why it grows so quickly, and better ways of killing those cells. So it's a long, long path but we definitely need more and more children to come down that pathway and help to completely cure cancer to the point where everyone that gets it gets cured.

[00:17:24] [Jane] That's it for this episode. Big thanks to Dr. Donald Small and Johns Hopkins Medical School for helping us talk about cancer. We hope that knowing more helps you feel perhaps less afraid if you have someone in your life who's getting treatment for cancer. I want to make sure that all of you listening understand that getting cancer isn't someone's fault and it's not something you can catch like a cold. Also, cancer in children is very rare. And as Dr. Small said, most cancer that happens in kids is treatable. 70 to 80 percent of kids who get cancer go on to live long, happy, healthy lives after their treatment. In our next episode we're going to talk to a kid who has gone through treatment as well as her twin sister who does not have cancer. They offered to talk to us about what their experience has been like. So stay tuned for that conversation. And as always if you have questions about anything, feel free to send them our way. Have your adult record you using a smartphone. Tell us your first name, where you live, and how old you are and what you hope we'll answer. Then send the file to "questions at But Why Kids dot org."

[00:18:33] We will always let your adult know before you're in an episode, so you'll get a heads up if you're going to be featured in one of our upcoming episodes. "But Why" is produced at the studios of Vermont Public Radio by me, Jane Lindholm and by Melody

Bodette. Our theme music is by Luke Reynolds. We'll be back in two weeks. Until then: stay curious.