Lauren: Welcome to Living Beyond Cancer. I'm Lauren Hixenbaugh, your host for today's episode. Living Beyond Cancer is a series of podcasts created for cancer patients, survivors, and their caregivers. This series is brought to you by the WVU Cancer Institute's Cancer Prevention and Control in collaboration with West Virginia Cancer Coalition Mountains of Hope. I'm happy to introduce Dr. Kyle Chapman. Dr. Chapman, could you tell us a little bit about yourself and your role at the Cancer Institute?

Kyle: Of course, Lauren. I'm excited to be here and talk with you today. My name is Kyle Chapman. I'm a pulmonary and critical care physician at Ruby Memorial Hospital here in West Virginia. So I do a lot of different things clinically, but one of the things that I'm most excited about is my work with the Cancer Institute. So I'm heavily involved with our screening program to try to detect lung cancer at early stages.

Lauren: Well, we're really glad to have you here today, and I often have the privilege to work with Dr. Chapman on lots of different projects. So I'm especially excited to get to talk with him today and talk to him about the problem of lung cancer in West Virginia. So, I think we'll start out today with just kind of talking about that: what are some things that are happening and where does West Virginia sit, and what the most common causes of cancer death are and outcomes for lung cancer screening? But maybe start out with the problem and we'll move to outcomes.

Kyle: Sure. Yeah. So lung cancer in the mountain state is a big problem. Unfortunately, this is one of the areas where we lead the country in the worst way possible. Looking at adults that have a history of tobacco smoke, we are number one in the nation. We're even beating out our neighbor Kentucky, which is the close second. So not surprisingly, there's a strong link between most forms of lung cancer and tobacco smoke. So kind of going along those lines, because we have a high rate of smoking in the state, we also have a very high rate of lung cancer. Lung cancer is one of the worst cancers as far as outcomes and mortality. So if you break it down, lung cancer is a very common problem. It is second only to prostate cancer in men and second only to breast cancer in women as far as incidence, but actually the cancer mortality from lung cancer, so folks that are dying of disease, is actually higher than prostate and breast cancer combined. So it's the number one cause of death amongst patients from cancer.

Lauren: Yeah, it's certainly a problem for lots of our programs here. That's why we're here and that's why we're working hard to combat that. Do you want to talk to the folks a little bit about what the risk factors are? I know there's some additional factors beyond cigarette usage.

Kyle: First and foremost, in the mountain state, 80% of our lung cancer cases are directly linked to that tobacco smoke exposure. So make no mistake, that's the number one cause. But there are some other significant causes too. The number two cause of lung cancer is actually radon, which is a colorless odorless gas. Most of us don't think about radon unless we're buying a new house, and it's something that's required in the inspection process, but there is a lot of naturally occurring radon in West Virginia. So that's another risk factor. Other types of lung disease and exposure also increase the risk of lung cancer. So things like pulmonary fibrosis, things from occupational

exposures, especially like coal dust and silica dust, increase that risk of lung cancer as well. Another thing that doesn't get talked about a lot in West Virginia has to do with air pollution and quality of the air we breathe. We're fortunate in that we have standards to decrease that air pollution, but around the world it's not always that way. So air pollution can be another factor contributing to lung cancer risk.

Lauren: So next I kind of want to talk about outcomes, but I don't want people, I don't want to lose people here with us thinking that it's only going to be talking about the negative things that are happening with lung cancer. We're also going to talk about some cancer prevention and some positive things that are happening in lung cancer today. So we'll start out with those outcomes and then we'll move to what we can do to for cancer prevention and early detection.

Kyle: Sure. So I think one of the big challenges we have in lung cancer is the fact that we are bad at diagnosing it. And what I mean by that is we often don't recognize the disease until it's already at a later stage, meaning it's spread beyond the lung into other areas of the body. Part of that has to do with how incredible the lungs are. So part of my job is I get to teach students and resident physicians about the pulmonary system and pulmonary physiology, and one of the concepts that I like to talk about is pulmonary reserve. So we have lungs way more than we need until something bad happens. What I mean by that is, it takes a lot of disease processes involving the lungs to really cause a lot of symptoms. So you could potentially have a tumor in your lungs and you may not have a lot of shortness of breath or a bad cough. It's really only if it was invading an airway and causing some irritation or up against the chest wall that you may notice it at an early stage.

Otherwise, you may have no symptoms. And that's really our challenge is by the time someone comes into the clinic and they're coughing up blood, that's usually a more advanced state of disease. So again, the early symptoms may be kind of mild or even nonspecific, and it may make it harder to find it if you're not looking for it. As you can imagine, Lauren, when it comes through these advanced stages of disease, the outcomes are worse, the treatments are not curative, and they tend to be a little bit harder on the patient to tolerate. So that's why when we recognize lung cancer at an advanced stage, the outcomes are poor. But if we are lucky enough to catch it at an earlier stage, then we can potentially cure it and the treatment is actually a lot easier to tolerate too. So I can talk a little bit more on that if you're interested. So we have different types of surgical techniques. What we really like to do with lung cancer screening is find a stage one or stage two disease, and we could then have you see a thoracic surgeon where you could have a minimally invasive robotic surgery that spares a lot of the normal lung and you have quicker recovery and then you cure the disease. There's also improvements in radiation for patients that can't undergo surgery. Radiation for early stage disease is non-inferior to surgery, meaning if for whatever reason you couldn't undergo surgery, but you get radiation at the right time and in the right dose, then the outcomes could be similar. And then perhaps the most exciting advance in oncology or cancer research has to do with immunotherapy. So new types of medicine that allow your own immune system to engage and fight off the cancer. So those are some of the advances in treatment that are very encouraging.

Lauren: Thanks, Dr. Chapman. That was great information on the new advancements happening with lung cancer. One question I get a lot is about robotic surgery. Could you just give us a little information on what that is?

Kyle: Sure. So robotic surgery, we're using robotic technology to be minimally invasive, but it is still a human operator, a surgeon that's directing the robotic elements of the surgery. So again, it is an advance that allows us to do more precise treatments without doing as big of incisions and shorter recovery time. So it's the future and it's here.

Lauren: That's great. I love hearing about all the new things that are happening, but one of the big positives of lung cancer is that we can prevent a lot of lung cancer. So can you talk to us about how we can do that?

Kyle: Absolutely. Yeah. So the number one thing that we can do to decrease the rates of lung cancer and to prevent it from happening is to help with smoking cessation. So if you're out there and you've been on cigarettes and you're smoking, it is a difficult habit to break. There's a lot of research that supports that. So it's not just something that's as simple as you wake up one morning and decide to stop. So I think that's part of our challenge in medicine is how do we meet patients where they are and help them with this? This is a big challenge, but it's the best thing we can do to decrease that risk of lung cancer over time is help people get the resources they need to get off cigarettes. As a pulmonologist, when I see someone in clinic, I tell them about the risks and the dangers associated with smoking, but I try to meet them where they are and if they have a pack-a-day habit, I set some realistic goals of instead of saying, okay, no more cigarettes after this clinic visit, right, I say, what if we go down to 10 cigarettes, a half a pack a day and set that as a goal, and then we'll see if we can get there. And then maybe next time we meet, we'll talk about decreasing that goal further. And then there's some other strategies we can use, motivational interviewing, nicotine replacement with a patch or a lozenge, something like that to decrease some of that craving. So without a doubt, smoking cessation is the best thing we can do to decrease lung cancer, but even cutting back is helpful for health outcomes. So smoking is number one cause of lung cancer.

Lauren: And we do offer a telehealth services here at the Cancer Institute for people that are interested. We'll add that resource to the link in the podcast if they're interested in working with somebody here at the Cancer Institute. And there's also all sorts of different services for tobacco cessation, but we do offer that here for folks that are interested through telehealth. Just want to throw that in.

Kyle: Thanks for adding that, Lauren. The other thing that I like to talk about to decrease or prevent the risk of cancer is lung cancer screening. So I can talk a long time about this if you let me. What is lung cancer screening and how do we do it? It's an annual low-dose CT scan. So low dose means it's done with less radiation than a typical CT scan. It's done without IV contrast, and it's done once a year if the results are normal. So, this is a way where we can find cancer before there's symptoms of active disease and hopefully catch it at an earlier stage. So that's one of our big focuses here in the Cancer Institute.

Lauren: And another good thing about that scan is as we were just talking about tobacco cessation, you do not have to quit utilizing tobacco to actually get that screen, which is an often-common misconception. So we of course want to encourage that cessation, but you do not have to do that to get that screening. So who's eligible? Let's talk about eligibility and who should and should not get screened.

Kyle: Oh, sure. Yeah. So for screening, we like to start at age 50 for patients that have had a significant smoking history. So there's some medical jargon that goes around this, but the short version is if you're 50 and you've had a lifetime history of significant smoking and you think you would be willing to undergo treatment for the cancer, then you might be eligible. So the medical jargon has to do with this number called pack years. So if you smoke about a pack a day for a year, that's one pack year. So if you've smoked two packs a day for 10 years, that's 20 pack years. If you smoked one pack a day for 50 years, that's 50 pack years. So if there's a significant smoking history, which we quantify by 20 pack years as kind of a minimum starting point, and then you've either quit smoking within 15 years or you're still actively smoking and you're within that age range of 50 to 80, then you're likely eligible for lung cancer screening. If you've managed to quit and it's been more than 15 years, congratulations. But your risk of lung cancer is now that of someone that never smoked or close enough to it, that doing these screening with low dose CT is unlikely to be of a benefit. So that's eligible for who is not eligible. It's the opposite of that. Okay. So if you are either too young, under 50, too old, over 80, or you've quit smoking more than 15 years ago or you don't meet that minimum smoking history, then it's unlikely that this test is going to be beneficial. But if you are worried about something, talk to your doctor, there may be other testing that they may want to do. One of the challenges, Lauren, I'll talk about is working in West Virginia. I grew up in the state is sometimes folks come to me and they say, even if I have cancer, I don't want any treatment and I wouldn't want to fool with this, and this is cancer killed everyone in my family. So it's inevitable. I try to explore that a little bit more and see where folks are coming from when they say something like that. If you really feel that you would not want any kind of treatment, then maybe screening isn't for you. But again, with some of our advances in treatment and better outcomes and options, finding things at earlier stage, it really may be of benefit.

Lauren: So, if somebody's interested in screening, what are their options?

Kyle: Yeah, so the best thing I would say is talk to your primary care doctor. They're going to know what resources are available close to home because it's a CT scan, it's usually done at a facility. So if you're going to a clinic where they have a scanner, they're likely able to do it. There are sites all across West Virginia where you can get this done. There's several here in Morgantown. That's one option. The other option is if you're coming from a more rural area and maybe there's not a good established stationary program, we do have a mobile option as well. So we can put some information in the links to LUCAS, which is our Cancer Institute mobile lung cancer screening program. And odds are, it's probably in a community close to yours because we go to more than half of the counties in the state.

Lauren: And so there's a lot more to talk about with this topic. But we will provide links, as Dr. Chapman said, we'll provide resources to LUCAS, our mobile program, as well as our standing facility here. And then I'll also add in some resources for those who end up with maybe a positive result and would like some additional information on those abnormal findings and where you can go to find reliable science-based answers for those questions that you might have. And then, just because we're a little short on time today, we didn't get to cover survivorship after a lung cancer diagnosis. And that is something that's very near and dear to both mine and Dr. Chapman's heart. So we'll provide resources for that as well. And they'll also be an email if you have any questions for Dr. Chapman about survivorship or any questions in general. I know he'll be happy to answer. So as we wrap up today, I want to take a moment to visit a couple of points for our listeners. And I always like to ask at the end of a podcast, the speaker, if listeners remembered one tip out of today's podcast, what would you hope it would be? Or one piece of information.

Kyle: Sure. I didn't get really in-depth with this, but I think one of the other challenges in medicine is that even if we're great at screening, the folks who walk through our doors, there's a lot of people we don't reach that never come into our clinic. So, if you have a friend or family member that you think may be eligible for lung cancer screening, please talk to them about it. Just like the way you talk to adults over 50 about, hey, they need their colonoscopy to screen for colon cancer. This is a similar thing. It's actually much less invasive than that, and we don't even need to screen as many folks with the CT to catch an early stage of cancer as you need to do with endoscopy. So think about it in your loved ones if they have that smoking history and your close friends. And if you ever have any questions about lung cancer screening, don't be afraid to ask. That's why we're here.

Lauren: Thank you so much for joining us, Dr. Chapman. We really appreciate you and we're glad to have you here with us today. We do want to make sure we mention our Living Beyond Cancer Facebook page. We have a support group there. People are always chatting about different symptoms or medications or things that they're struggling with as far as their treatments go. There's some caregivers there talking about things that they're dealing with. It's a great supportive environment to connect with other people. And we also, as I said, will have resources available. But if you want to find out more information about Living Beyond Cancer, you can go to wvucancer.org, find out about LUCAS, or our standing lung cancer program, and additional information. Again, thank you so much for being with us today, and we hope you'll join us for our next podcast.