

**About Health TV with Jeanne Blake**  
**Lung Cancer**  
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JEANNE BLAKE: Welcome to *About Health TV*. I'm Jeanne Blake. This year nearly 200,000 Americans will learn that they have lung cancer and most, by the time it's detected, will have an advanced case. There's now a new national trial that's geared toward detecting those cancers earlier, when they are most treatable. The national lung screening trial is being conducted at 30 sites in nearly 30 cities, and a principal investigator of the trial is Dr. Phillip Boiselle. He's from Boston's Beth Israel Deaconess Medical Center, and he's the director of thoracic imaging at the hospital. We're also joined by Chip, who was recently diagnosed with lung cancer after asking his doctor to order a chest x-ray. Mr. Thayer is a board member of the American Cancer Society as well. Thank you, both of you, for coming in to talk with us about this subject today. Dr. Boiselle, why is lung cancer so often so advanced by the time it's discovered?

DR. BOISELLE: Well, Jeanne, unfortunately at present we don't have a recommended screening test for this disease, so unlike most other cancers, for example breast cancer, where women of a certain age routinely undergo mammography, a screening test to look for breast cancer, with lung cancer there is currently no recommended test.

JEANNE BLAKE: What's wrong with a chest x-ray for someone who thinks that they may be at a greater risk?

DR. BOISELLE: That's a terrific question. That question was asked in some smaller studies by scientists back in the 1970s, and these smaller studies did not show that the chest x-ray effectively reduced deaths from lung cancer compared to not doing the chest x-ray. However, those studies were very small. So we're now relooking at the issue of screening for lung cancer, both with chest x-rays and with a newer test.

JEANNE BLAKE: Well, I think that I'm confused. Why wouldn't it show up early enough to save a patient's life?

DR. BOISELLE: Well, it may, and that's what we're looking at with this new study, is whether looking to catch cancers early will actually save lives from cancer. It makes intuitive sense, but it has to be proven.

CHIP: I'm probably a good example as well. A tumor in my lung did not show up on a chest x-ray, and it did show up on a spiral CT scanner.

JEANNE BLAKE: What I find most interesting about your case, Chip, is that you actually asked your doctor as part of a regular screening, a regular checkup, for an x-ray.

CHIP: Yes, I did. I had been a smoker for a long time. I quit ten years in the past, and basically knowing that smoking can damage your lungs over the long term wanted to keep track if that was going to happen. So every other year or so I asked for a chest x-ray.

JEANNE BLAKE: But the doctor just said that they don't show up. Did you know that?

CHIP: Oh, but there are always things that show up on chest x-rays: emphysema, chronic obstructive pulmonary disease, other names that I don't recognize.

JEANNE BLAKE: I see. So you weren't just concerned about lung cancer. You were concerned about the damage that smoking did to your lungs?

CHIP: As well as lung cancer. Both.

JEANNE BLAKE: Okay. But the x-ray did show something, didn't it?

CHIP: It showed that the part of my lung where the airway is attached moved a little bit, and an alert radiologist picked that up by comparing it to a previous x-ray, and that led to a path of investigation where I got a spiral CT scan and that found the tumor.

DR. BOISELLE: I'd like to interject quickly with two things. One is, the chest x-ray can find lung cancer. It just doesn't detect the cancers that are typically as small as those that are detected with the CT scan.

JEANNE BLAKE: I see.

DR. BOISELLE: The other, if the chest x-ray did pick up an abnormality in Chip, it wasn't a normal x-ray. It raised a big red flag that subsequently led to other tests. So I would say in his case the chest x-ray seemed to be effective.

JEANNE BLAKE: I'm just wondering, is it not cost-effective to have everybody at potential risk – a smoker, for example, or a current or former smoker – to get a chest x-ray?

DR. BOISELLE: That's one of the things we're studying in this trial. What we're basically doing is looking at both the chest x-ray, which is sort of the traditional study, and a newer test, the spiral CT scan or CAT scan, and we're going to be studying whether or not the CT scan is more effective than the chest x-ray at preventing death from lung cancer.

JEANNE BLAKE: So the goal of the study is to measure the potential benefit of both screening tests to determine which, if either, should be used for people like Chip who have a history of smoking?

DR. BOISELLE: Precisely.

JEANNE BLAKE: All right. So this was recent that you discovered your lung cancer?

CHIP: That's right. The physical was at the end of July, and it was sort of a rolling diagnosis that culminated in biopsying the tumor after it was removed in the middle of October.

JEANNE BLAKE: And what treatment did you have following the discovery of the tumor?

CHIP: The tumor was removed, and it's pretty standard, so I'm told, although the doctor was able to follow that with radiation. And in this case it was also followed with low-dose chemotherapy, which in some more advanced cases has been shown to improve the effectiveness of the radiation. The radiation is just in case the surgeon missed any cells. You can't find one or two errant cells with laboratory pathology.

JEANNE BLAKE: Dr. Boiselle, how often do you see someone like Chip coming to you and saying, I quit smoking five years ago, ten years ago, I'm concerned, I just want to have some kind of an x-ray or a test to determine whether my lungs are healthy or not?

DR. BOISELLE: Well, I think we're seeing that more and more, and certainly in this trial we've seen many people come forward who really want to know. They want to find out if they have a lung cancer, and many people are also concerned about whether or not they have other underlying lung disease.

JEANNE BLAKE: Well, I could see where this trial would give people the idea, but I found it unusual when I heard Chip's story that he was proactive. I think people generally, as a condition, like to deny their potential risk for anything, so I think it's unusual that he sought out that kind of a diagnostic test that could tell him whether or not there was something there.

CHIP: Well, like I said, it wasn't limited to lung cancer. It was more general. But also from the volunteer work I've done with the American Cancer Society for years, I know that 60% of all cancers are curable if you catch them early. Now, that hasn't been proven yet for lung cancer, that's hopefully what the trial will demonstrate, but it's true for so many other cancers that everybody knows about. It's true for breast cancer, it's true for prostate cancer, and all those cancers have screening tests that everybody recognizes. The whole world has heard of a mammogram, they've heard of the PSA test, and it's because of those screening tests the cure rate is so high.

DR. BOISELLE: One interesting thing that Chip brings up in terms of breast cancer versus lung cancer and the whole idea of screening is, it's interesting that there are over 200,000 cases of breast cancer in the United States each year compared to a slightly lesser number for lung cancer. But the actual cancer death rate for lung cancer is four times that of breast cancer, and I think it really gets to the whole point of the interest in early detection and the hope for a cure.

JEANNE BLAKE: Okay. Just to sort of close the circle on your story, Chip, because of the time at which your cancer was diagnosed, what are you considering the prospects of your not having a recurrence?

CHIP: Well, that's a good question. You get treated by several doctors, and each one of them has a different expectation. These are in a fairly tight range, running from a 20% chance of recurrence to a 35% chance of recurrence.

JEANNE BLAKE: Boy, those are good odds for someone with lung cancer.

CHIP: Yeah, that means a better than two-to-one chance of never hearing about this disease again. It's not as good as if you didn't have lung cancer, but given that you've got it, it's not a bad place to be.

JEANNE BLAKE: Doctor, tell us about the two technologies that are being compared in this trial.

DR. BOISELLE: Sure. When someone enters the trial, they undergo something called randomization, which is by chance going into either one or the other part of the trial. The first part of the trial, or first arm as we like to call it, is for the chest radiograph, and that's a conventional x-ray that I think many people are familiar with. It's a similar technique to if you had a suspected broken bone and went to get an x-ray of it.

JEANNE BLAKE: Right.

DR. BOISELLE: It gives the radiologist, who is a physician who interprets these x-rays, a look at the internal organs of the chest, and it's something that has been around for quite a while. The second arm is spiral CAT scan or CT scan, and that is a newer and more complicated technology, which involves sort of a donut-shaped machine. The patient lies down on his or her back and they go through the machine while they're holding their breath for about 20 or 25 seconds.

JEANNE BLAKE: It's different from an MRI?

DR. BOISELLE: It is different from an MRI. What it produces, though, is a three-dimensional type model of the lungs for radiologists and other doctors to look at.

JEANNE BLAKE: Okay. And there's a downside to that?

DR. BOISELLE: Well there are upsides and downsides, as you know, Jeanne, with anything. The upside with a CT scanner is that it's more sensitive than a chest x-ray. In other words, it can detect smaller things from the chest x-ray. The downside is that it detects a lot of small things, only a few of which are cancer, and one of the things that we're studying in this trial is what is the downside of that in terms of some of the very small things that we detect with a CT scan are just too small to tell, that we don't know if they're a cancer or not.

JEANNE BLAKE: So what do you do in a case like that? I will say that I have had two false positives for a mammogram, and I've unfortunately had to undergo surgery for biopsy twice, and I've hated it. I dread the next time I have to get a mammogram, but of course I will, because I believe in them and I've lost some of my dearest friends to breast cancer. But that's a whole different ball game, getting a biopsy for a calcification on a mammogram and then going into somebody's lung or a spot on an x-ray or this spiral CT scan.

DR. BOISELLE: It's a very important distinction. What I will say is that many of the smallest lesions ever detected by the CT scan simply undergo follow-up, so someone who has one of the small lesions detected may undergo serial follow-up CT scans, and what we'll be looking for is to see whether or not the abnormality grows.

JEANNE BLAKE: Okay.

DR. BOISELLE: But there will be, and there is a risk, and I would like to emphasize that there is a risk that a lesion that isn't a cancer may look like a cancer and the person undergoing a CT scan may end up undergoing a biopsy or even surgery.

JEANNE BLAKE: Chip, as a patient, you're not in the trial, I think we can draw that distinction, and the reason that you're not is that you found out about the trial the day after you had your spiral CT scan and they found the cancer.

CHIP: That's right.

JEANNE BLAKE: But wouldn't you, as a former smoker ... this isn't going to exactly to help your trial, but would you want to immediately go get the CT scan or would you be then just satisfied with just the chest x-ray?

CHIP: I suppose since my tumor was discovered by the CT scan I would be biased toward the CT scan, but in fact the purpose of the trial is to answer the question, Which of these is going to work better?

JEANNE BLAKE: And indeed I think it bears repeating that your chest x-ray did show an abnormality.

CHIP: Yes, it did.

DR. BOISELLE: If Chip had been in the trial and a question was raised by the chest x-ray, the next step is a diagnostic CT scan. And so if Chip had been in the trial with the chest x-ray that he had, if he had been in the chest x-ray arm, his cancer would have been detected.

JEANNE BLAKE: Chip, trial or not, it's apparent to me that you saved your own life.

CHIP: I guess I always have felt, or at least for a long time have felt, you're responsible for your own health. I happen to have a vantage point, volunteering for the American Cancer Society, about what's going on. I also think a series of coincidences that led me through this whole chain are an awful strong series of coincidences, and you can either conclude that I'm the luckiest guy on earth, or, as Rocky Graziano said, somebody up there likes me.

JEANNE BLAKE: Is there any part of the coincidence that you haven't shared? I mean, you were on the board. What else?

CHIP: The health plan that went along with a request for the chest x-ray even though it's not part of the routine physical for someone my age, it was read by a radiologist who went back and checked the previous x-rays and noted the difference. Even though it was very small, they followed up on it, and the list goes on and on and on and I ended up being treated by a first-class team.

JEANNE BLAKE: I think that there is a lesson there, too, that I know from my experiences with mammograms. You really want someone who knows what they're doing, and if you are going to have a chest x-ray and you're going to do it with some regularity, you want someone who knows how to read it well.

CHIP: And you want a library that's accessible to that radiologist.

DR. BOISELLE: I couldn't agree more, and one of the nice things about the trial is that at all of the centers these studies are going to be interpreted by radiologists who are experts in lung cancer, and all efforts are being made to compare historical radiographs as he's just described. Everyone who enters the trial, their studies are in great hands, or great eyes, I should say.

JEANNE BLAKE: Let's talk about who is eligible, Doctor. We've got the points. There are six or seven, and we've put them up on the screen. Who is eligible? Why don't you run us through those?

DR. BOISELLE: Sure. Well, first of all, current or former smokers who are between 55 and 74 years of age. These people must be in general good health. No history of prior lung cancer or any other cancer in the last five years, but a breast cancer survivor from six years ago, for example, would be in the trial. Not enrolled in other screening or cancer trials other than a smoking cessation trial or something to stop smoking. And no CAT scan within the last 18 months.

JEANNE BLAKE: Okay. So there are two points of those that I want to ask you about.

DR. BOISELLE: Sure.

JEANNE BLAKE: One distinction – I didn't have room for it up there – is that no cancer in the last five years with the exception of a non-melanoma skin cancer.

DR. BOISELLE: Correct.

JEANNE BLAKE: Okay, so that would be allowed.

DR. BOISELLE: Precisely.

JEANNE BLAKE: And the other one is ... Chip and I were talking earlier ... why not in any other kind of trial? Why is that an important point?

DR. BOISELLE: Well, one of the most important things when you're trying to determine the number of lung cancer deaths in both groups, it's important that the people who enter and then are randomized into each group are as similar as possible. So it's very important that no other intervention is taking place in people who happen to be in one arm versus the other arm, and at other screening trials people will be undergoing other types of tests, and all types of things that one can't control could happen and could potentially influence the results of the study.

JEANNE BLAKE: Let's say that I decided – thank God I never smoked, but let's say I did and I want to become a participant in this trial. What can I expect when I go to the hospital?

DR. BOISELLE: That's a very good question. It all starts really with a phone call. When one decides that they are interested, they can call 1-800-4-CANCER and get more information about the trial. During that initial phone call, some initial questions will be asked in terms of age and cigarette smoking history that will help in terms of determining whether or not that person is eligible. From there, they will help you to determine the site that's closest to where you live and they'll give you a phone number, and you can call to set up an appointment. In general, the study takes a number of steps. One is, after the initial enrollment, which typically occurs over the phone, one sets up an appointment and undergoes a variety of questionnaires and something that we called informed consent, which basically involves a whole discussion of all of the risks and benefits of the procedure.

JEANNE BLAKE: Chip's laughing. Your right leg just might fall off.

DR. BOISELLE: For everyone to know not only the potential benefits, but any essential risks. At that time, they will also be randomized to one of the two screening tests, and at some sites they'll also be asked if they would like to donate samples, for example their blood. The reason for that, and it's really a forward-reaching part of the trial, is that it will let scientists look in the future at whether or not there are some genetic components, what we call biomarkers, that may help us to better predict which cigarette smokers are at greatest risk for lung cancer.

JEANNE BLAKE: Okay. But basically, how many trips back to the center? People are going to want to know what's this going to take, how much of my time.

DR. BOISELLE: It's one stop, usually. The first visit is the longest, and it takes about two and a half hours of the combination of the paperwork and the actual imaging test. And then the person comes back once a year for the next two years and they get the same imaging test, so either the chest x-ray or the CAT scan, and they also agree at the time of signing up for the trial that they'll be willing to be contacted either by questionnaires or by phone calls about every six months over the next eight years. And the importance of that is that we really need to know what happens to everyone who enters the trial.

JEANNE BLAKE: Chip, as we reach out through this program to hopefully others who will enroll in the trial, I think it's important to remind people that the risk to your lungs once you've smoked and even stopped for as long as ten years as you had, the risk remains.

CHIP: The risk gets lowered dramatically. No one should be confused that stopping smoking is a very good idea. But it never quite gets to the point of someone like yourself who has never touched a cigarette and so you're always at risk, and I would encourage anyone – former smoker or current smoker – who fits the rest of the criteria that Dr. Boiselle outlined to sign up for the trial. Not only can you help yourself, but a successful conclusion of this trial will give us a test that could make lung cancer as easy to deal with as many of the other cancers that are highly curable today.

JEANNE BLAKE: Don't you think through your work at the American Cancer Society, we hear so often – I do from young people, in particular, who say, "I'm just going to smoke now as a teenager and I'll quit and I'll just smoke for a few years." One, they don't, they're naïve to the powerful addictive qualities of tobacco, therefore it's not so easy, but also their lungs never are, as you say, the same.

CHIP: I think the number-one reason to stay away is the addictive nature. I mean, so many people start and they just can't stop. I mean, if I had a dollar for every time I had tried to quit smoking from the time I started in college to the time I finally quit 10 or 11 years ago, I'd be rich.

JEANNE BLAKE: How did you finally quit?

CHIP: Well, first of all, it wasn't the first try. The more times you try ...

JEANNE BLAKE: I think there's an average of five times someone tries to quit before they do.

CHIP: Whatever the number is, each time you try your chances of succeeding on the next try are better, so never give up. And I ultimately did it by pulling out all the stops. I went to a cessation program, I used the patch, I went for relaxation tapes, I told everybody I knew so I'd be embarrassed if I failed, everything you ever heard of I tried.

JEANNE BLAKE: Why did you want so badly to quit?

CHIP: There were a couple of reasons. One is just the social pressure. Most of my friends didn't smoke, people I worked with didn't smoke, so it was a lot easier to not smoke. And finally I was getting to the point in life where you get old enough and you figure, Gee, you're not going to change your habits at all. So I wanted to do it while I still had the flexibility to do that.

JEANNE BLAKE: Dr. Boiselle, 10,000 nationwide have signed up already and you're looking for how many?

DR. BOISELLE: Fifty thousand.

JEANNE BLAKE: And how long will the trial go? Are you having trouble getting people into it, or is 10,000 a whole lot for a short period of time? We need a little context.

DR. BOISELLE: I think both are true. I think the 10,000 is a great number, but we need 50,000, and the sooner we get them the sooner we're going to have the important answers that we're talking about. So we encourage anyone who fits the criteria to sign up.

CHIP: The more people that enroll in a trial, and correct me if I'm wrong, the shorter it can run. So if you get a trial with 50,000 people, that will take less than a trial with 40,000.

DR. BOISELLE: The sooner we get 50,000, the sooner we'll get the answers.

JEANNE BLAKE: And the sooner more lives can be hopefully saved.

DR. BOISELLE: Precisely.

JEANNE BLAKE: And I think that I read on the website that anyone who comes to the trial and enrolls and is currently is a smoker has access to smoking cessation programs.

DR. BOISELLE: That is true, definitely. The most important thing anyone can do who's a cigarette smoker is to stop smoking.

JEANNE BLAKE: All right. Well, I've said before on this program that my dad was a smoker, and he quit and he had a laryngectomy, so any chance I have to do a program where we can get the word out about the dangers and to remind people of all the benefits of stopping, I try to do that in memory of my dad, who was a really good guy.

DR. BOISELLE: Thank you.

CHIP: Thank you.

JEANNE BLAKE: And Chip, best of luck to you. We hope that you have continued good health.

CHIP: Thank you. So do I.

JEANNE BLAKE: And Dr. Boiselle, thank you.

DR. BOISELLE: Thank you, Jeanne.

JEANNE BLAKE: And we'd like to thank you for joining us on this edition of *About Health TV*. I'm Jeanne Blake and I'll see you next time.

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