

Yale CANCER  
CENTER  
*answers*

WNPR Connecticut Public Radio



*Hosts*

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**Screening for Lung Cancer**

**Guest Expert:**

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**Yale Cancer Center Answers**

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*Welcome to Yale Cancer Center Answers with doctors Francine Foss and Anees Chagpar. Dr. Foss is a Professor of Medical Oncology and Dermatology, specializing in the treatment of lymphomas. Dr. Chagpar is Associate Professor of Surgical Oncology and Director of the Breast Center at Smilow Cancer Hospital at Yale-New Haven. If you would like to join the conversation, you can contact the doctors directly. The address is [canceranswers@yale.edu](mailto:canceranswers@yale.edu) and the phone number is 1-888-234-4YCC. This week, Dr. Chagpar welcomes Dr. Frank Detterbeck. Dr. Detterbeck is Professor of Surgery in the Section of Thoracic Surgery and Chief of Thoracic Surgery at Yale School of Medicine. Here is Dr. Anees Chagpar.*

Chagpar Why don't we start off by having you tell us a little bit about what you do and your involvement with lung cancer?

Detterbeck I am a thoracic surgeon, so obviously I operate on people with lung cancer, but I have been involved with lung cancer in a lot of different ways and I am very involved with a lot of national and international societies. I am Vice Chair of the ACCP Lung Cancer Guidelines, and a new edition will come out in the next couple of months and I am part of the international staging community so I'm involved in a lot of different ways.

Chagpar That is great. Tell us a little bit more about what you do here at Yale and what you do at Smilow Cancer Hospital? I understand that you have taken on a big leadership role in terms of the lung cancer program here?

Detterbeck I am the Director of the Yale Thoracic Oncology Program, and many things in medicine, but in particular oncology, have become a team sport in a way and you need to have people from different specialties putting their heads together, not just once in a while, but often to provide optimal care, and so we have organized our approach that way, so that really every patient gets the benefit of that collective wisdom and judgment.

Chagpar Let's start there. How do people get into the thoracic oncology program at Yale? For breast cancer which is what I do, a lot of it starts with screening in the community, does the same thing happen in lung cancer?

Detterbeck Screening is a new thing in lung cancer, so most people nowadays present because they have some symptom, and there are a variety of different symptoms for lung cancer. Sometimes it is something that is picked up incidentally on a chest x-ray or a CT scan, but most people have some sort of symptom, they have a cough that does not go away, they cough up some blood, they just do not feel well, they have a pneumonia that they can't shake, or something like that.

Chagpar So people typically present to their family doctor with these symptoms? Take us through what happens next to these patients.

Detterbeck We have a team approach, so we have a sort of single intake for everybody on the team and it is a team of specialists that work in medical oncology or pulmonary medicine or thoracic surgery for

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example, but they focus their career on lung cancer. So there is one number to call and then that number gets you linked to the team and we try to anticipate what we are going to need to do so that we can make it one stop shopping as much as possible, so if we need to get additional tests we can get them on the same day. The patient comes in, and we try to work it through, so that at the end of the day we are pretty close to having a real plan for how we are going to work things up further, or how we are going to treat things.

Chagpar Do most patients who come to see you already have a diagnosis? Because I am just thinking, if I am a patient and I have started to have an uncontrollable cough, it might just be that I have a cough, but it might be that I have lung cancer, so how do I figure out whether I have got cancer or whether this is just routine, you know cough, cold, or pneumonia?

Detterbeck Most people have a family physician and I think they go to see their family physician first, so there is a little bit more to it then, I have a cough, and they come to see me, most people do not have an actual diagnosis of lung cancer and in fact I kind of prefer that because the reality that I find is that we can usually pretty efficiently work through either settling the issue that this is not a cancer at all, or that it is and what stages it is, what kind of treatment, we can efficiently get through that and I find that when people on the outside are doing too much of that, they often are a little bit inefficient in terms of how many tests they get or what tests they go to next and sometimes I think we can do it little bit more efficiently.

Chagpar So, they come to see you and you work them up and you either say to them, congratulations this is nothing, you really do not need me, or, this is in fact a lung cancer and this is what we need to do about it. So when people come to see you and they are presenting with symptoms, tell us a little bit more about generally what kind of stage they are at and what their treatment paradigm involves in that situation?

Detterbeck Lung cancer is a major cause of cancer deaths. In fact, if you take the next four leading causes of cancer deaths combined, it is less than lung cancer. It is the major cause of cancer death and unfortunately a big part of the reason for that is that the majority of people have advanced stage disease by the time they are diagnosed, and that is disease that we cannot cure. We have come a long ways and have been able to treat lung cancer, so we have much better surgery, the vast majority of what we do is minimally invasive surgery that involves small incisions that are just two to three quarter of an inch. Radiation therapy has advanced a lot, chemotherapy has advanced tremendously, and the combination of treatments is what we use for a lot of patients with lung cancer and we can cure more people that way, but the fact is that a lot of people present with stage IV disease and although we have gotten a lot better at being able to manage that disease and keep it in check and keep people doing well, but we cannot cure it. The fact is we still cannot cure it and we struggle with that.

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- Chagpar As you say, a lot of this is because people present at an advanced stage because they present when they have symptoms. Is there a movement or is there a concept now about screening asymptomatic people for lung cancer? Where are we in terms of that?
- Detterbeck Well, the idea is certainly not new. It has been around for a long time, the idea of what if we can find it earlier by screening? We have not really done screening before, so there were a number of trials that looked at chest x-ray, which did not work. There was another trial that just recently came out on chest x-ray again, and showed the x-ray does not work. CT screening has been looked at for well over 15 years, but we really do not have any strong data about whether it clearly did or did not work until just recently, and now we have some good data that it does actually work and so that has kind of changed the whole landscape.
- Chagpar So does this mean that everybody should get a CT scan to screen for a lung cancer?
- Detterbeck No, screening is a complex interplay that involves a lot of different factors and you have to really take things into account. One of them is just your risk of getting cancer, if you take it to an extreme, it becomes obvious, for example, would you say that your 10-year-old daughter needs to have a CT scan to look for lung cancer. Everybody would say, obviously not. So risk is a major part of it. The other thing is that there are down sides to screening and you have to think about those a little bit and I think to an extent the risk of down sides is probably relatively even and sort of less dependent on what risk factors you have for lung cancer and so you have to kind of match the two.
- Chagpar Right now it seems as though there is not mass screening, but there is an upside and there is a down side and you need to balance these, so how does one go about figuring out the components of screening problems, whether a screening program is a good thing to have and how you design that?
- Detterbeck We have some very good data from a very large study, the National Lung Screening trial, which says that screening a particular group of patients in a particular setting is quite effective in reducing cancer death. So a patient that is aged 55 to 74 that has at least a 30 pack year history of smoking and has quit less than 15 years ago, that study showed that those people benefit from screening. Things to remember about that is that was a very organized setting. It was a defined group of people. There was a lot of quality control on how the scan was done. There was a lot of educational on how the scan was interpreted. There were systems in place about how findings were managed and in that setting this was very useful, and so that is the data that we have, is that done in that way, this can be very useful. On the other hand, if you look at some other data, just in general, if we do things in a less structured way, there is certainly reason to think that we might be causing a lot more harms in the screening study, harms were pretty minimal, they were pretty low, but if you do not manage it well, there is a potential for having a lot more downsides. I would just add, one of things we have to remember is that screening is a little different. If you are taking

11:37 into mp3 file <http://yalecancercenter.org/podcasts/2013%200203%20YCC%20Answers%20-%20Dr%20Detterbeck.mp3>

you are taking people that are otherwise healthy, and you end up with a downside, you end up having caused a problem, it is an innocent bystander that got affected, it is different than how we usually think of, if you have a disease, then you are willing to take some risks to get that disease treated, but if you are perfectly healthy, you have to be careful about taking risks that you do not need to take.

Chagpar Can you talk a little more about what kinds of risks those might be, because some of us think about a CT scan just has being a type of x-ray that we may not associate with a lot of risk?

Detterbeck I think that there are a lot of different aspects to this, so first I would say that one the problems with CT screening is that we pick up a lot of stuff, anywhere from 20% to 50% of people are going to have some little things picked up on the CT scan and the vast majority of these are nothing and so if you go on worrying about them, if you go chasing them, you are really chasing your tail and so you have to have the system to not just get the scan, but to sort through what is noise and what is something you need to worry about. So that system is an important part of it and not just the scan, that is one thing. I think that managing anxiety about, gosh we found a little something on your scan, is certainly a major issue especially when the vast majority of this is nothing. I think another issue is, let's say it is something where we say, we probably should chase this further. You know, a breast biopsy for example is a little bit less invasive and less of a big deal than doing a lung biopsy, it does not mean you cannot do it, but is just a little bit of a bigger deal, so that is an issue. There are certainly complications from all of that. Sometimes radiation is something that people worry about, the radiation that you get from a low dose screening scan is pretty low and it's not a big deal, but if you start getting a lot of additional tests, additional diagnostic scans, and follow-up and so forth, it starts to add up pretty quickly and so it is something we have to keep in mind.

Chagpar We are going to take a break for a medical minute, please stay tuned to learn more information about screening for lung cancer with our guest today Dr. Frank Detterbeck.

*Medical Minute*

*The American Cancer Society estimates that over a 1000 patients will be diagnosed with melanoma in Connecticut each year. While melanoma account for only about 4% of skin cancer cases, it causes the most skin cancer deaths. Early detection is the key. When detected early melanoma is easily treated and highly curable and new treatment options and surgical techniques are giving melanoma survivors more help then they have every had before. Clinical trials are currently underway at Yale Cancer Center, Connecticut's only federally designated comprehensive cancer center to test innovative new treatments for melanoma. The specialized programs of research excellence and skin cancer grant at Yale, also known as the SPORE grant, will help to establish national guidelines on modifying behavior and on prevention as well as identification of new drug targets. This has been a medial minute, brought to you as a public service by Yale Cancer Center. More information is available at [yalecancercenter.org](http://yalecancercenter.org). You are listening to the WNPR Health Forum on the Connecticut Public Broadcasting Network.*

15:23 into mp3 file <http://yalecancercenter.org/podcasts/2013%200203%20YCC%20Answers%20-%20Dr%20Detterbeck.mp3>

Chagpar Welcome back to Yale Cancer Center Answers. This is Dr. Anees Chagpar and I am joined today by my guest Dr. Frank Detterbeck and we were discussing just before the break screening for lung cancer, Frank tell us a little bit more. We started the conversation by talking about how in today's era, we do not have a lot of good screening programs for lung cancer and that there are a number of advantages and disadvantages of screening. Tell us a little bit about the program that you have developed here at Yale and what the components are of an ideal program.

Detterbeck I think the components of an ideal program are that you need to assess risk, you need to pick the population that is at risk, and you need to talk to people and manage anxiety. Most people are coming in because they are anxious about lung cancer, and there is a pretty high chance of finding some noise on the scan, so you have to make sure that you manage that well. I think that smoking cessation is a very important part if people are still smoking, and screening is not going to prevent lung cancer. It may detect it early, but the best thing you can do is to stop smoking if you smoke in order to prevent it, so that certainly should be part of it. I think that the whole process of how the scan is done should be low dose, how it is interpreted, how findings are managed, we do not want to over treat or get too excited and chase things that we should not chase, at the same time we do not want to under treat and miss something that is there, and so that process is pretty important. I think that an ideal program should add further to the definition of how we should do it, because the fact is, we still have a lot of questions, and we know that it can be useful but do we need to screen every year, do we screen forever, do we stop it at certain age? How do we manage all that? We have got a lot of unanswered questions.

Chagpar It sounds like this is getting back to the whole multidisciplinary approach with a whole team of people who give their expertise to various components of this screening program and building in a layer of research as well.

Detterbeck That is really what we did in setting up the Yale Scan Program and having it be part of a systemic review of all the data that is out there, and writing guidelines for lung cancer. We tried hard to make it evidence based and to do all the things that we think we need to have. There are a number of features that I think we have that are relatively unique, in terms of assessing risk. You can do it very crudely and just say, well okay age 55 to 74, if you smoked, that is good enough. But there are actually a lot of risk models out there that take different things into account. None of the models are perfect, some of them have been through some validations, and some have not. They all have some strengths and weaknesses. We have pulled together all of the models and set up a program where we can look at what they all tell us about risk and I think come to a better assessment of what someone's risk is and what the limitations are of some of the models, and I think that allows us to advise people in a better way. One of the other aspects that we spent a fair amount of time on is that we need to help educate people and talk with them about it, so people are coming in because they are worried about lung cancer, and it may be that they are worried because of a particular reason, but in reality they really do not need worry that much. If their risk is really low, I think that it is important that we do not just tell them, listen you are not going to need to get

**20:16 into mp3 file <http://yalecancercenter.org/podcasts/2013%200203%20YCC%20Answers%20-%20Dr%20Detterbeck.mp3>**

screened, but make them feel comfortable that they are not getting screened because their risk is low. We set up a kind of tool that helps us identify what people are really worried about when they come in, so that we can be sure that we address their concerns and give them the right information about that and make the right decision about whether screening is really a good thing for them or if it is really not necessary, so those are some aspects that we have set up that I think are relatively unique.

Chagpar How do people get into the Yale Scan Program? Do they need to go through their family physician, or do they just show up on your doorstep, how does that work?

Detterbeck Well, they can just show up on our doorstep, but there is a number to call, 203-688-5864 and just say you are interested in screening, we take down some information, but that is really all it takes to come in, and then we go through the process of an evaluation, which may or may not include the scan, and may or may not include smoking cessation, depending on the situation.

Chagpar Frank, it really sound like you have built a unique program, is this something that is available at other cancer centers around the country? Are there ways that people can get this information without coming into the center? Online or through their regular doctor's office? Or is this something that they really need to come in and go through this process and get the counseling and so on?

Detterbeck We spent a year actually building this program, looking at all the data and the evidence trying to set up what we thought was a good program and we actually were selected by the American College of Chest Physician not too long ago as a center of excellence to share our model of how we have done things with other places because of how we have set it up, but you know the reality is, we are still in the early phase of setting up lung cancer screening programs, and if you look across the country, it runs the gamut. There are places that are just advertising, if you plunk money down on the table, they will get you the scan and they will hand you a report, and that is it, and to me that is really not a screening program, I think that is dangerous and not the way to do it. As far as the major cancer centers, many of them are working at setting up screening programs or have set up screening programs, but there is a lot of variation and if we look at other cancers that we screen for, for example, breast cancer is obviously one where screening has been around for a long time, and there are a lot of quality metrics that have been worked out and you cannot do breast cancer screening, at least not in the United States, without adhering to certain guidelines and metrics and these are things that evolved overtime, as you know, these are markers of what makes the screening program good and what's important in the screening program. We have not really developed those in lung cancer yet. Right now it kind of like the Wild West, anybody can do anything and we have not really defined these things. There are certainly societies like the multi-society guideline I was part of, and others that have put forth some potential markers of a good program, but there is no requirement that anybody adheres to that, so I think you have to be a little bit careful right now in terms of where you get screened and what actually happens.

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Chagpar It sounds like this is just a tremendous resource that you have put together where people can come in and they can get a risk assessment and get some counseling. Tell us about the other components of this screening program at Yale. You were mentioning that there are so many components, not only the risk assessment and the counseling, but also smoking cessation and the qualities of the scans and what you do with those scans going forward, so tell us a little bit more about what happens after somebody comes in, they have their risk assessment and they are actually at high risk, then what happens?

Detterbeck Smoking cessation has come a long way and I have to stay I am really excited about the smoking cessation program that we have at Yale. At one point in time we did not have a very sophisticated smoking cessation program, but now we really have a top notch program. There has been a lot of science behind what works and what does not work and what works for particular people and particular situations, and what does not work as well and it shows that it makes a difference, so I think that is important. We have very carefully worked out the process of how scans are done, they are low dose, how they are interpreted, we review scans as a group to make decisions about what we need to worry about and what we do not need to worry about. We have been doing this for a number of years in terms of just looking at nodules, so I think we have a lot of history to base it on and I am actually pretty comfortable that the group decision is better than any one of us alone and I think we do a good job of taking the worry away for people. I think we can be quite comfortable in saying, we do not think this is anything we need to worry about and also pretty comfortable if it is something that we need to chase, and then finally if it is something that does need to be chased and turns out to be a lung cancer, well there is the whole armamentarium of what to do about that, so there is an organized program that I talked about earlier, the Thoracic Oncology Program. Again, that is a multidisciplinary program founded on a principle of more heads are better than one. There are all of these advances, such as minimally invasive surgery and stereotactic radiotherapy that can very effectively target radiation. There are advances in chemotherapy and there are a number of lung cancers where we can identify more or less the on/off switch, we can identify what is driving that cell to grow, and with targeted therapy, we can almost flip the switch to off in those tumors and get them to stop growing. But that takes genetic analysis of those tumors to really pick them out, so that is a level of sophistication that gets to be pretty complex, but I am very comfortable that we have all those complexities covered.

Chagpar With this screening program, getting back to where we started, are you finding that it really works? Are you finding that you are picking up cancers early, are we making a difference for patients, or are we allowing them to live longer than if they were to wait to get symptoms?

Detterbeck To answer that question, we really need to look at the big trials that have been done because it is a little hard to say, well if you screen somebody for a year, you can tell it has made a difference, I think you have to look at the longer term outcomes. One of the issues about screening is that you pick up a broader spectrum of disease, and what we want to do is we want particularly to pick up the really aggressive really nasty tumors and get rid of those and if we do not make a difference there, if we only pick up the very slow growing, very well behaved tumors, we are going to

29:36 into mp3 file <http://yalecancercenter.org/podcasts/2013%200203%20YCC%20Answers%20-%20Dr%20Detterbeck.mp3>



probably pick up more tumors but not have that much of an impact on saving people's lives. I think the big trials show that although the spectrum of disease gets changed a little bit, we do save lives.

*Dr. Frank Detterbeck is a Professor of Surgery in the Section of Thoracic Surgery and Chief of Thoracic Surgery at the Yale School of Medicine. If you have questions or would like to add your comments, visit [yalecancercenter.org](http://yalecancercenter.org), where you can also get the podcast and find written transcripts of past programs. You are listening to the WNPR Health Forum on the Connecticut Public Broadcasting Network.*