

Yale CANCER
CENTER
answers

WNPR Connecticut Public Radio



Hosts

Edward Chu MD

Chief of Medical Oncology

Francine Foss MD

Professor of Medical Oncology

**Understanding the Risk
Factors for Head and Neck
Cancer**

Guest Expert:

Benjamin Judson, MD

Assistant Professor of Otolaryngology

Yale Cancer Center Answers

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Welcome to Yale Cancer Center Answers with Drs. Ed Chu and Francine Foss, I am Bruce Barber. Dr. Chu is Deputy Director and Chief of Medical Oncology at Yale Cancer Center and Dr. Foss is a Professor of Medical Oncology and Dermatology specializing in the treatment of lymphomas. If you would like to join the conversation you can contact the doctors directly. The address is canceranswers@yale.edu and the phone number is 1888-234-4YCC. This evening Francine welcomes Dr. Benjamin Judson. Dr. Judson is an Assistant Professor of Surgery and an active member of the Yale Cancer Center Head and Neck Cancer Program. Here is Francine Foss.

Foss Can you tell us a little bit about your background and what brought you to Yale?

Ben Absolutely, I am a head and neck surgeon and I specialize in taking care of patients with any neck tumors, so any tumor either benign or malignant that is anywhere between the brain and the lungs. I did my residency at Georgetown in Washington DC and then I was at Memorial Sloan-Kettering in New York for the last two and half years and just came to Yale in January of this year.

Foss Ben, what are the different areas included in cancer of the head and neck? You mentioned the neck, but can you go through the different areas that you cover?

Ben Absolutely, it involves really any tumor in the neck and it's quite a diverse area. Patients can develop tumors in the mouth, the tongue, the tonsils, the throat, and the voice box. We also see patients with tumors that arise in the saliva glands; the parotid, submandibular, and sublingual glands. We see patients with advanced skin cancers if there is a question of whether it's spread to the lymph nodes in the neck or involves any deeper structures. We see thyroid cancer patients and also patients who have tumors that arise in the sinuses or the skull base, so it's quite a diverse group of patients with a diverse set of problems.

Foss Are most of these patients referred to you by a primary care doctor or oncologist?

Ben Different ways, sometimes people just walk in to see us, but most frequently, as you pointed out, we see patients who are referred to us by their primary care doctor or dentist, an oral surgeon, or a medical oncologist. Usually people see someone else first and then they get sent to see us.

Foss This might be a good time for us to let the audience know how common head and neck cancer is.

Ben There are just under 50,000 cases a year of new patients in the United States who have some sort of head and neck cancer.

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- Foss And that includes cancers of the thyroid and the sinuses as well? That includes all of the different types of head and neck cancer?
- Ben That number is mostly patients with head and neck cancer that's a squamous cell cancer, it arises somewhere in the mouth or, as I mentioned, the tongue, the tonsils, or the throat and that's the majority of the patients that we see.
- Foss What are the risk factors for head and neck cancer?
- Ben It's a great question. Classically the risk factors have been smoking and drinking. We know that patients who smoke have a slightly increased chance of developing head and neck cancer and that's also true for patients who drink, and there seems to be a synergistic effect for patients with a long history of smoking and a long history of alcohol use; those are the patients who are at highest risk, but we do see all kind of patients. Even patients who don't have those risk factors come to us. Interestingly, in the last 10 years or so, as the smoking rates have decreased, we expected to see a decrease in the number of patients as we saw with lung cancer, and unfortunately, that has not happened. There has actually been an increase in patients with tonsil and tongue base cancers, both here and in the United States and abroad, and there has been some really interesting science done to figure out why that is. It's implicated that the human papilloma virus, the HPV virus, which has been known to be involved in cervical cancer, also turns out to be able to cause tonsil and tongue base cancer.
- Foss How does one acquire this HPV virus?
- Ben It's an excellent question as well. There are certain high risk types of HPV and having some sort of HPV infection is very common; the majority of Americans have had one at some point. It then clears, but there definitely are risk factors that are related to sexual activity, so people who are sexually active and have a higher number of sexual partners over their lifetime are at higher risk for obtaining one of these high risk HPV infections, and are at risk for developing a cancer like this.
- Foss Just for the sake of our audience, if there are folks out there who know that they have HPV infections say in the cervix, are those people at high risk for head and neck cancer or is it a separate set of risk factors?
- Ben It's connected, so patients who have had high risk HPV infection in the cervix, those patients, and also their sexual partners, are at a slightly increased risk for developing an infection with one of these high risk HPV types in the oral cavity as well.

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- Foss As a parent, and I am sure that there are other parents out there who are thinking the same thing, more kids now are smoking and drinking earlier, are you seeing more head and neck cancers in younger people as result of this?
- Ben We are, classically we would see patients would present to us with a history of heavy smoking and drinking, usually in their 60s and 70s, and what's happening is we are seeing more and more patients, and younger patients who are never smokers, never drinkers, who had HPV related cancers. The peak age of those patients when they come to us is people in their 40s. It is really a very different patient population for us, and we say that the face of head and neck cancer is changing. We still see all the patients that we used to see, but we are also seeing this new subset of patients who don't have classic risk factors and we haven't known what's causing this until relatively recently when HPV infection has been implicated.
- Foss How do most patient present? Do they present with lesions in their mouth or swellings, what is the typical thing?
- Ben Patients with head and neck cancer frequently have symptoms that are very common, symptoms that we all have at some point, sore throat, earache, problems swallowing, swollen glands in the neck or a lump in the neck, but those symptoms, when most of us have them, go away, they are related to a cold or an infection and they usually go away after a week or two. If they stick around for three to four weeks, or longer, that's somewhat concerning and worth having it checked out, and that is usually how patients present.
- Foss A lot of patients must also present to the dentist, because a lot of people think if they get a sore in their mouth, perhaps the dentist is the first place to start.
- Ben That's true and that's a good way to start. If there is a question and there is something that you can see, seeing a dentist, an oral surgeon, an ear nose and throat doctor, or your primary care doctor is a great way to start because they are usually able to make an initial evaluation and if you need to be referred to someone else they are able to do that.
- Foss In fact, having just had my annual dental appointment, I know that the dentist now-a-days does a very careful head and neck check. They put on gloves and they really feel all of these glands and these nodes that you are talking about and that's now part of routine screening for most folks going to a dentist.
- Ben Yes, the American Dental Association has made a big push to do that because we know, as with other cancers, that if we detect these things early, people do much better. Just like other screening modalities have been used such as colonoscopy and mammogram, the dental

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community is recognizing that its really important to do careful examinations to find these things early so that patients can have them taken care of before they are more involved.

Foss Ben, once the patient has identified a lesion that is suspicious, or there are lymph nodes or a sore throat that has not gone away, what's the next step? How do you actually make a diagnosis of head and neck cancer?

Ben Diagnosing these things really starts by a physician or a dentist doing a careful history, talking to the patient, examining the patient very closely, those are sort of the cornerstones. If there is something there that is suspicious, the next step is usually doing some sort of biopsy. Sometimes based on what we see and feel, we need to get some imaging or radiographic studies to help us as well.

Foss What kind of studies do you typically get? We talk a lot about CAT scans and PET scans on this program, what's the right imaging study?

Ben The imaging study that is done first is generally a CAT scan of the neck to look at the tumor itself and also to evaluate the lymph nodes in the neck, which is where these cancer can go first. Another scan which can be very useful is a PET scan.

Foss When you see these tumors in the head and neck, and you have made a diagnosis based on biopsy I presume, do you have to worry about these spreading to other parts of the body?

Ben Yes, generally there is always a concern and that's an important part of our evaluation and affects the treatments that we give. The tumors spread usually first to the lymph nodes in the neck and then there is also a chance it can spread elsewhere in the body.

Foss So when you get your scans initially, you are getting CAT scans of the head and neck, then in most patients do you get scan of the rest of the body as well, or is that only in certain circumstances?

Ben In certain circumstances, we routinely get a chest x-ray. Generally, if cancer is not spread to the lymph nodes in the neck, there is a very low likelihood that it has gone elsewhere in the body. Once it's going to the neck, then there is a little more concern to look elsewhere and that is frequently where we will get maybe a CT scan of the chest or a PET scan or something like that.

Foss Are there specific blood tests that would be enlightening for patients with head and neck cancer? Are there blood tests, say, that would predict for who is going to develop metastatic

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disease, or that could even be used as screening for head and neck cancer?

Ben There is a lot of research in that area, but there are no good blood tests or tumor markers to help identify patients who have a cancer or to monitor their progression afterwards. The one exception to that is there is a cancer that can arise behind the nose called nasopharyngeal cancer and a subset of those cancers have been related to Epstein-Barr virus. This is a cancer that is relatively uncommon in the United States but is endemic in China and other parts of the world. Because nasopharyngeal cancers are associated with Epstein-Barr virus infection, it has been shown that you can do a blood test for Epstein-Barr virus markers and that is useful in diagnosing these patients, predicting their prognosis, and also helping to follow their response to treatment.

Foss A lot of folks out there have heard of Epstein-Barr virus with respect to mononucleosis, and I just want to make our listeners a bit more comfortable about the fact that this is not very common in that setting. Just because you have Epstein-Barr virus, you don't need to worry necessarily about nasopharyngeal cancer.

Ben Yes, thank you. As I said, this is a very rare, and uncommonly seen problem here.

Foss Ben, you talked about nasopharyngeal as being a type of head and neck cancer, are there other subtypes?

Ben There are three classified cancers in terms of its anatomic location, so whether it occurs in the oral cavity, that is the front part of mouth, behind that is the tonsils and the base of tongue, and we refer to that as the oropharynx. Below that is the larynx, sort of the voice box area.

Foss Great, we have heard a little bit about some of the demographics of head and neck cancer and when we come back after the medical minute I would like to talk a little bit about the treatment of this disease.

*Medical
Minute*

It is estimated that over 2 million men in U.S. are currently living with prostate cancer. One in six American men will develop prostate cancer in the course of his lifetime. The good news is that major advances in the detection and treatment of prostate cancer have dramatically decreased the number of men who die from this disease. Screening for prostate cancer can be performed quickly and easily in a physician's office using two simple tests; a physical exam and a blood test. Clinical trials are currently underway at federally designated comprehensive cancer centers like the one at Yale to test innovative new

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treatments for prostate cancer. Patients enrolled in these trials are given access to experimental medicines not yet approved by the Food and Drug Administration. This has been a medical minute and you will find more information at valecancercenter.org. You are listening to the WNPR Health Forum on the Connecticut Public Broadcasting Network.

Foss Welcome back to Yale Cancer Center Answers. This is Dr. Francine Foss and I am here with Dr. Benjamin Judson, Assistant Professor of Otolaryngology in the Department of Surgery at Yale Cancer Center. We are here tonight discussing the treatment of head and neck cancers. We talked a little bit about the types of head and neck cancer. Let's launch into a discussion now about how you treat this disease.

Ben Thank you Francine. The treatment varies a lot on the type of tumor and the extent of the tumor. The one thing that I would say is that it is important to design and tailor our treatments to the individual patient and the individual problem that they have. One of the reasons why I came to Yale was to join the excellent multidisciplinary team that is already here, I work with a medical oncologist and radiation oncologist as well as others, with each patient trying to tailor a treatment that individualized to them.

Foss We talk a lot about multidisciplinary care, and I cannot think of any area where that is more important than head and neck cancer.

Ben I think that is true.

Foss Tell us a little bit about what the treatment options are for patients.

Ben For earlier tumors we try to use a single treatment, sometimes that can be surgery, sometimes that can be radiation. This depends on where the tumor is and the patient.

Foss Ben, can I just back up for second, unlike other cancers where we do not cure many patients, is your primary goal for most of these patients to actually cure them with your therapy?

Ben Yes, frequently, especially for early stage cancer, but for any one as long as it has not spread beyond the neck, our intention is generally to cure the cancer.

Foss So that is important when you think about long term side effects of your therapy.

Ben Yes, and that is one of the reasons why it is so important to come up with a carefully tailored treatment approach, because we are trying to balance getting the best outcome we can in

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terms of treating the disease, and also minimizing the side effects that the patient experiences immediately after treatment and long term.

Foss Do all patients have a surgical excision of their tumor?

Ben Not at all, as I said, it depends on what type of cancer it is, its size, and its extent. For the early stage, we try to do a single treatment, so either surgery or radiation. For more extensive cancers, we generally combine treatments so it can be radiation with chemotherapy or sometimes surgery followed by radiation. For more advanced cancers, frequently we will combine all three so it will be surgery with radiation and chemotherapy together.

Foss There are some novel ways now of giving radiation therapy. Can you go through them a little bit and tell us what is available at Yale Cancer Center?

Ben Absolutely, in the past historically radiation to the head and neck was administered in a way that it treats or affects the entire neck and throat, but now there are incredibly sophisticated ways to target the radiation so it is given just to the area it is needed. Just to the tumor and the areas around there, maybe the lymph nodes in the neck, and the reason why this is important for patients is that the radiation can cause lots of side effects like dry mouth or problems swallowing. It can affect the jaw bone and cause problems with jaw bone weakening and even breaking with the old style radiation that was given. Now, those side effects are really minimized and we rarely see that because the radiation is targeted just to the area where it is needed.

Foss That is called IMRT.

Ben That is one important technique for doing it, for giving radiation in that targeted way.

Foss We talk about radiosurgery in other kinds of cancer. Does that apply to head and neck cancer as well?

Ben Not routinely, but there are situations where we use it.

Foss There also are some novel surgical techniques that are being pioneered here at Yale Cancer Center in terms of minimally invasive surgery. Can you talk a little about that?

Ben Absolutely, techniques using endoscopes to remove tumors through the mouth so that we avoid an external incision were really pioneered in Germany, but it is beginning to catch on here in the United States, and we have been doing that here at Yale for the last several years.

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Often we use a laser as part of that technique to remove these tumors without making any external incisions. An interesting event recently in our field, is the FDA approved the use of the robot to operate through the mouth as well, and so we are planning to begin doing that here at Yale within the next year.

Foss That sounds kind of space age. Can you talk a little bit about how that robot does the operation?

Ben Often times these tumors are small, but if they are in the back of the throat or down in the throat they are very hard to get to and so in the past in order to remove the tumor with a nice, cuff of normal tissue around it so we feel comfortable that the whole thing is out and the patient is not going to have any problems, it required making bigger incisions in the neck to get their. The robot allows us to go through the mouth and have great visualization and then we can perform very sophisticated surgeries just through the mouth using the robot.

Foss It sounds like that is a tremendous advance for patient in terms of side effects, long term sequelae from these kinds of operations.

Ben Yes, it is not for everyone but for those patients where it can be done it can make a big difference.

Foss Let us talk a little bit about chemotherapy. Do all patients require chemotherapy?

Ben No, we try to tailor the use of our different types of treatment to the patients needs and so sometimes chemotherapy is used in conjunction with radiation alone, as a single treatment for a patient, and in patients with even more advanced cancer sometimes we combine surgery with radiation and chemotherapy that is given at the same time as the radiation.

Foss I know that you work closely with your colleagues in medical oncology to treat patients with chemotherapy.

Ben That is correct.

Foss There are some drugs that actually sensitize to the effect of the radiation.

Ben That is correct.

Foss I think that has been a major step forward in some of these bulkier tumors.

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Ben Yes.

Foss Can you talk about the Head and Neck Program here at Yale?

Ben Absolutely, as I mentioned, there is a great head and neck team that is already here that I have been really excited to join. We have an event scheduled in April for free head and neck screenings. It will be at Smilow Cancer Hospital on April 16, 2010, from 11 a.m. to 4:30 p.m. and listeners who are interested can go to www.yaleheadandneck.org to find out more details and register.

Foss Great, can we talk a little bit then about patients who have already been through this? Patients who have had their surgery, their chemotherapy or the radiation therapy, how long does it take people to recover from this disease?

Ben It varies a lot and for smaller tumors patients sometimes will have surgery and they're home the next day, if it also involves some neck surgery, it is usually a couple days in the hospital and then for the larger tumors people can be in a hospital for one to two weeks. In those patients the healing process is one that can take weeks to months as we work with them to restore their swallowing and their speaking function.

Foss During that period of time, when they are recovering, do patients require say TPN or some other way of receiving nutrition, because they cannot eat normally?

Ben Yeah that can happen, if that is the case, if it is going to be more than a week or two, we generally try to use the feeding tube in the stomach to allow them to use their gut, which is still working, for nutritional support.

Foss I know that when you radiate the mouth you can sometimes lose salivary gland function. How difficult is that for patients?

Ben That can be quite difficult and that is one of the reasons why the IMRT or the more targeted radiation therapy has been such a breakthrough for these patients because you think that having a dry mouth does not sound so bad, but it actually can be quite bothersome and with the more targeted therapy that we're using now it is much less common.

Foss There are other supportive care medications that can be used in that setting as well to stimulate saliva.

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- Ben There are and one of the things that is important for those patients is that they take very good care of their teeth because saliva has an important protective function in terms of protecting the teeth, so it is important that they are followed closely by the dentist and dentists work with us to make sure that they do not have any dental problems.
- Foss Can you talk a little bit about the future for head and neck cancers, are there new advances coming down the pike that we should know about?
- Ben There are advances in all the areas that are used to treat head and neck cancers, as I mentioned, there are increasingly minimally invasive surgical approaches so that patients have less side effects from the surgery. There are new chemotherapeutic agents in development and that have been developed in the recent past which help in these patients and there continues to be improvement in the radiation technology that is used to treat these patients, and as with treating other cancers, really the most important thing I think is to work as a team; have a team approach and tailor a treatment for each person.
- Foss Are there biological therapies say like monoclonal antibody therapy that are available?
- Ben Yes, one of the chemotherapeutic agents is an antibody that targets EGFR that is relatively well tolerated compared to some of the other chemotherapeutic agents and that we use routinely.
- Foss Are there specific therapies now for the HPV virus; are there ways that we perhaps could prevent head and neck cancer in people that carry the HPV virus?
- Ben It is a great question. One of the things that we are beginning to learn and some of the research that has been done here at Yale is that patients with HPV related cancers have a better prognosis than tumors related to smoking and drinking, but how to tailor a treatment based on that is still an area of intense research. We do not want to lessen our treatment because we are doing pretty well in those patients, but I think that's where one of the futures is in terms of an area of research, trying to tailor a treatment based on the risk status that a patient has.
- Foss We now have these HPV vaccines that young women are getting to prevent cervical cancer. Obviously we do not know yet whether those are going to prevent head and neck cancers.
- Ben So there is no evidence to show that they are useful in treating head and neck cancer, but the two types of vaccines that are commercially available include HPV types 16 and 18 and

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those two are the types that are implicated in head and neck. There is every reason to believe that as long as they protect against those types of HPV infections, that they will also protect against the associated head and neck cancer that they can cause.

Foss Great. That's something for us to look forward to in the future.

Ben Absolutely.

Foss Ben, I just wanted to ask a few other questions because we now are looking more at the federal level issues of disparities in terms of cancer incidence and cancer care, and we did not touch on this at the beginning of the program, but could you just talk a little bit about the frequency of head and neck cancers in different racial groups and whether the disease is worse say in one group versus another?

Ben It's an area of intense investigation. There have been some studies that showed, for example, that African Americans with oropharyngeal cancer were not doing as well as the rest of the population. What has come out more recently is that that may be driven by HPV infection, so it may be that more of the African American population does not have HPV related cancers, which may explain why they are not doing as well.

Foss That leads us to the whole issue of screening, which we talked about, and perhaps people in certain disparities groups ought to be screened more frequently?

Ben Yes.

Foss Excellent. We have had a very good discussion here tonight about head and neck cancer and I would like to thank you for coming in and being my guest.

Ben Thanks so much for having me.

Foss Dr. Benjamin Judson is Assistant Professor of Otolaryngology in the Department of Surgery at Yale Cancer Center. Thank you very much for joining us tonight, and have a pleasant evening.

If you have questions or would like to share your comments, visit yalecancercenter.org, where you can also subscribe to our podcast and find written transcripts of past programs. I am Bruce Barber and you are listening to the WNPR Health Forum on the Connecticut Public Broadcasting Network.