

SPEAKER 1: I was asked to talk about health maintenance and survivorship, and I decided to, basically, what do I think about as a PCP? So this is a picture. You may recognize it from the FIPS, and I feel like when somebody has cancer, everybody's looking at the little yellow duckie.

It's bright. It's very attention getting, and everybody's thinking about the yellow duck. And I figure my job is to step back and look at the bigger picture and realize that there are a few dinosaurs in the scene here that maybe need a little attention. So I figure we'll be talking about some dinosaurs today.

What I want to talk about today is threefold. The first is protecting our patients' with immunization, and I'm going to go over the ACIP guidelines for vaccination, focusing on vaccinating against influenza, pneumonia, shingles, and tetanus diphtheria pertussis. I also have a discussion of special recommendations for asplenic patients which I think has special relevance. And I always have a hard time remembering these, so it was good for me too.

I'm going to talk about screening for other medical conditions, and I'm going by the United States Services Task Force recommendations which are long and many, and I'm not talking about all of them because we would be here till 3:00, maybe 4:00. But I'm going to focus on hypertension, diabetes, lipids, hepatitis C, HIV, and osteoporosis. And then I realized, gosh, we have to talk about screening about other cancers.

And I only am going to focus on three, and, again, I'm mostly going through United States Preventive Services Task Force recommendations for average risk patients. So this may not apply for patients who have special risks, and I'll be focusing on breast cancer, cervical cancer, and colorectal cancer.

So first we'll be talking about immunizations. Influenza season is not quite over, but it's almost over. I'm thinking we're all health care providers. We all know why we should get flu vaccines. We may get them or be told we have to get them, so I'm not going to go through all of the data numbers, but I'm going to assume we all know that protecting us and our patients and our patients' families from flu is important. And I thought I would just go over a few short facts.

It's pretty easy to decide for patients who are 65 and older. There's a high dose inactivated influenza vaccine, protects them from four strains. It's sold as Fluzone High Dose, and so if your patient is 65 or older, that's the vaccine they should get. For everybody else, aged six months up to 64 years, there is a standard dose inactivated flu vaccine. There are many different kinds, three strains, four strains, agitated, not agitated.

I have to admit whatever we have in the office is what our patients get. There has been a live attenuated influenza vaccine that my patients who hate needles loved. It's sold as FluMist, and it's a little squirt up the nose. That, because it's a live vaccine, has many contraindications. Many reasons not to get it, but it actually was not recommended to be used in the last season because it may not be effective. So we don't have to worry about that for now.

One question that comes up a lot is what to do about patients who are allergic to eggs, because influenza vaccine is basically grown in chicken eggs. So many of my patients tell me, I can't get it. I was told I should never get it. I'm allergic to eggs. For several years, actually, the recommendation was if somebody has a relatively mild egg allergy, they have hives, they can receive the flu vaccine. Don't worry too much. Everybody should be observed for 30 minutes after getting a vaccine to observe for allergic reaction. They say, well, maybe you could be a little bit more careful. Watch them for 30 minutes.

If somebody's had more serious reactions to eggs such as lightheadedness, recurrent emesis, angioedema, respiratory distress requiring epinephrine, they are supposed to get a flu vaccine, but they should be vaccinated in the hospital or in a clinic where somebody can manage a serious allergic reaction. Of course, if somebody had a serious reaction to a flu vaccine, that's it. They should not be getting their flu vaccine.

Move on to pneumonia. Until a few years ago, it was very simple. People got a vaccine at age 65. They got it earlier if there were special indications. Now, there are two vaccines that induce immunity slightly different ways, and they do slightly different things for patients. And so there's a schedule. So, for most people, vaccination for pneumonia still starts at age 65 unless there's a special indication, and I will get the special indications in a few slides. The two vaccines that are available are PCV13, which is sold as Prevnar, and is new and your patients may be seeing advertisements for this. And then there's the old workhorse the PPSV23, which was Pneumovax.

So the ideal order of vaccination, if somebody's never been vaccinated before, is to start with PCV13, and they have to wait at least eight weeks before they get the PPSV23. For insurance purposes, and if there's not a hurry, that usually is a gap of a year for patients who received their vaccines before age 65. They should get a booster Pneumovax five years after their first one, or at age 65, whichever happens later.

Now there are a number of reasons to vaccinate someone with PPSV23 before age 65. So you may have somebody who needs to get vaccinated, but they've already received it. The way these things induce immunity, you actually need to wait a year after getting PPSV23 before getting PCV13. So if somebody comes and you say, you need PCV13, and they say, oh, I got Pneumovax eight months ago. You should wait another four months before vaccinating. And then again, if this all happens before age 65, they should get a repeat booster of PPSV23 five years after their first immunization or at age 65, whichever happens later.

Now the reason I bring this up is the indications for early vaccination with PCV13, or Prevnar, are pretty relevant to cancer providers. The hematological cancers, multiple myeloma, leukemia, lymphoma, and Hodgkin's disease are all indications to give vaccination with Prevnar. Immunosuppression, which I imagine you guys might be dealing with, steroid treatment and radiation, meaning that you need to get vaccinated early.

In the list of indication, it says generalized cancer. Wasn't 100% sure what they meant, but in discussing with people, it doesn't mean metastatic cancer. It just means basically if somebody has cancer, they're going to be coming to the hospital. They're going to be getting some of these other treatments. Just immunize them. And then patients with functional or anatomic asplenia. If their spleen is gone, they need to get this vaccination. There are some other indications which may be less specific to cancer, such as having cochlear implants, CSF, leaks, HIV, solid organ transplants, chronic renal disease, or nephrotic syndrome which I would put up here for completion.

All of those reasons plus several more are reasons to vaccinate early with PPSV23. So the other reasons and reasons why your patients might have already started this vaccination series include chronic heart disease, chronic lung disease, including asthma, diabetes, smoking, alcoholism, chronic liver disease, including cirrhosis and sickle cell disease or other hemoglobinopathies.

I'm going to segue from talking about a particular vaccine to a condition by talking about asplenia or splenectomy. We know that the spleen is very important for protecting us from encapsulated bacteria, and so patients without working spleens are more vulnerable and should receive vaccination for neisseria meningitidis, which is the meningitis vaccine, strep pneumonia, which we just talked about, the two vaccines, and H influenza B. So these are the PCV13 and PPSV23 for pneumonia. Ideally, for adults, Menactra and Menveo are the vaccines for meningitis. These are conjugated with diphtheria toxoid, so if there's a problem, there's another vaccine you can use. And H influenza B, I must confess, since I never order it, I just said there's multiple options. They're mostly meant for children. There's nothing specifically that was listed as being for adults.

So if splenectomy is planned which may be an issue, ideally patients should be vaccinated for all of these bacteria at least two weeks before surgery. And for patients who do not have working spleens, depending on which guidelines you use, you can consider vaccination or boosters for pneumonia and meningitis five years later. Other guidelines are more enthusiastic, and say that you really should vaccinate every five years. This is where I often get tripped up because I have to remember that they need it, and that it's been five years.

Also, patient with Hodgkin's disease should be ideally vaccinated two weeks before the initiation of chemotherapy, and if that's not possible, they should be vaccinated after three months have passed from the end of chemotherapy. These vaccines are available at most primary care offices, and certainly the health department should be able to make arrangements.

Moving on to shingles or Zostovax. Your patients may also have seen advertisements for this, and they may be talking about Terry Bradshaw. Currently, this is a one time vaccination, so people do not need boosters. It's recommended for people age 60 and over, and the original studies were in this age group. It reduces the risk of getting shingles by about 50%, so it's not a sure thing or a practically sure thing like some of the childhood vaccinations, but it does reduce it by 50%, and it reduced the risk of developing postherpetic neuralgia, that horrible pain that patients are suffering from. It reduces that by about 66%. So it's a real benefit.

We're finding that effectiveness may wane over time. So this is a little bit of an issue, because a newer study showed that this is effective for patients 50 to 59, and it's now approved for people in that age group. And insurance may pay for it, and your patients may be asking you about this. So because of this one time vaccination recommendation, still, you may want to have a talk with your patient about their own risks and benefits of getting early vaccination.

The other issue is this is a live virus vaccine and it has a number of contraindications that I think will be relevant for you to know. Because it's a live virus vaccine, patients who have haematological cancers, such as leukemia, lymphoma, or other neoplasms of the lymphatic system, should not get this vaccine. When you look at the small print, three months after successful treatment, if someone's in remission, you can consider it, but certainly not while they're getting treatment. Patients who are on high dose corticosteroids, which is defined here as 20 milligrams a day of prednisone for two weeks or more should not be getting this live virus vaccine. One month after steroids are finished, you can consider vaccinating. If patients are getting human immune mediators or modulators, especially the Anti-TNF therapies, they should not be getting this vaccine. Patients getting stem cell transplants should not get this vaccine. Again, reading the small print, there's some mention of 24 months later on a case by case basis. This could be considered. I'm not going to give advice on that. And then patients who have other cellular immuno deficiency states should not be getting this vaccine. Humeral immune deficiency issues like dysgammaglobulinemia, it's OK. So a lot of reasons not to give the shingles vaccine to your patients.

I'm going to move on to one of my pet vaccines, the tetanus, diphtheria and pertussis or whooping cough vaccine. Tetanus and diphtheria are very rare in this country, and that's pretty much because we vaccinate people. There's still thousands of cases worldwide, so I think about vaccinating them. Immunity to tetanus declines, and after 10 years, is pretty much gone which is why a tetanus booster with TD or tetanus diphtheria is recommended once every 10 years. If somebody has a potentially dirty wound, they step on the nail, they get a dog bite, maybe they're riding a bicycle and get road rash, they need a booster if it's been five years since their last TD.

Because pertussis is making a comeback in this country, that's whooping cough, we are now realizing that the newer vaccines may not be lasting a lifetime. The recommendation is that adults 19 and older should have one of these boosters, BTDap. And the reason is two years ago, there were over 30,000 people who were diagnosed with whooping cough, and because it's difficult to diagnose adults with whooping cough that means that's a gross underestimate of how many cases there were. Grown-ups or adults do not die from whooping cough, generally speaking, although they may have a cough for a year which seems pretty unpleasant.

Small children and babies can get very sick and so we're trying to protect them. For that reason, pregnant women are being recommended to get Tdap with every pregnancy. Around here, they're giving it in the third trimester, and families are being asked to make sure that their baby is not exposed to people who can give them tetanus. So your patients may say, I'm very excited, I'm going to have my first grandchild, but my daughter says I can't see them unless I get Tdap. They can get it. It doesn't matter how recently their last tetanus booster was, They can get Tdap if they ask for it. And there are really very few contraindications to giving tetanus boosters. Basically, if somebody has had a reaction to a tetanus booster in the past they shouldn't get it. It's the only contraindication.

This may or may not show up well for you, but it's-- I understand you guys are going to get slides. This is my favorite hand out, one of my favorite handouts. It's from immunize.org which is under the umbrella of the CDC, and it's a handout for patients that says, vaccinations for adults. You're never too old to get immunized, and it goes over all of the possible vaccines that adults could need. And part of the reason I love this, besides the fact that it's in patient centered language, is that it comes available in seven other languages, Spanish, Arabic, Chinese, French, Korean, Russian, and Vietnamese. So a lot of my patients who do not come from the United States may not be aware or may not be comfortable with the names of these common diseases in English, but might be able to look and say, oh, yes, I had that, or I definitely got vaccinated. Then it can save a lot of back and forth about do you need a vaccine or not.

These are not all the vaccines I could talk about, but I wanted to get through to other topics. I'm going to talk now about screening for other common conditions. These are things that I think a lot about every day. I'm going to start with high blood pressure. Over about one third of Americans probably have elevated blood pressure, and we know it leads to many bad things including heart attacks and strokes, and other things we don't want our patients to have.

And because it affects so many people, there have been many studies that go back and forth with different recommendations about what somebody's blood pressure should be, and I figure for you guys, I wanted to keep it simple. I'll just ask you to remember 140 over 90. If your patients are under 140 over 90, for the vast majority of people, they will be at their blood pressure goal, and if they're not, I'll ask you to send them to their PCP, and we can check and talk to them about whether or not they need treatment.

Now, one of the important things is checking the blood pressure properly, and we are guilty of this in our own practice as well. Patients need to be at rest. So if you've been fighting Oakland traffic or Shady Side traffic, and you can't find a parking spot and you're running late, and maybe you're worried that there's a scan that you're going to talk about. Maybe it's not good news. Guess what, your patient is not at rest. Their blood pressure is not their resting blood pressure, and it's going to be elevated. They should be sitting for five to ten minutes. They shouldn't be all stressed out if possible. Shouldn't be talking to them, they shouldn't be moving around while you're checking their blood pressure. Ideally, they should not have had caffeine in the past hour. Really ideally, they shouldn't have been having tobacco at all, but certainly not in the last hour. Ideally, their blood pressure should be taken over their bare arm instead of shoving their sweater up and checking over their sweater. And ideally, they should be sitting with her arm and back supported with their feet on the floor.

I'll tell you I'm too short for my exam tables in my office so that doesn't all happen. But, certainly, if somebody comes in and they're in a hurry, and they're waiting to hear news whether it's good or bad, and their blood pressures elevated. Feel free to check their blood pressure again after you've hopefully been able to tell them good news and they've been sitting for a while. And if this blood pressure's under 140 over 90, don't worry about it. They're fine.

Diabetes screening. Diabetes is on the rise in the United States. There's estimates that probably, again, about one third of people may have diabetes or pre-diabetes, and a large number of people don't know, so I think about it a lot. A lot of people have opinions, and to make things simple, I just brought up the United States Preventative Task Force recommendation which is to screen adults age 40 to 70 who are overweight or obese. But even they have a little asterisk, and they say you could certainly consider earlier screening for certain patients. So patients who have a family history of diabetes, patients who had gestational diabetes, if they have PCOS or if they come from certain ethnicities where people get diabetes early, or they get diabetes that's lower BMIs. So pretty much if you want to think about it, it's probably reasonable to screen for diabetes.

Testing can be done really three different ways. You can check a fasting glucose. You can check an oral glucose tolerance test. This is, I consider, a very inconvenient test because you need to do it for two hours, and it requires multiple blood draws, but it's a good test. Or you can check a hemoglobin a1c which I find very convenient because it doesn't require the patient to be fasting. However, it basically looks at how much sugar has added itself to hemoglobin assuming that your hemoglobin is staying around for three months. So if somebody has a condition where their hemoglobin lifespan is not normal, like maybe they have anemia or they're getting frequent transfusions, this is not a good test for them. Oral glucose tolerance test, thank goodness, you only have to do once. If your fasting glucose or hemoglobin a1c is elevated, you actually need to check it twice. You don't need to wait months, but you should check it twice to confirm that it's abnormal. That's for screening purposes. If somebody has signs and symptoms of diabetes, that's another story.

So what's a positive? What makes you say somebody has diabetes? If they have a fasting glucose over 125 twice, if they have that hemoglobin a1c over 6 and 1/2 percent twice, or glucose over 200 at any point during the two hour glucose tolerance test, they have diabetes. If you screen somebody and they're fine, again, it's not set in stone but a lot of people seem to think it's reasonable to screen only every three years. And, of course, if you don't want to manage diabetes, please send them to their PCP or to endocrinology, depending on their preference, but PCPs can manage most cases of diabetes.

Lipid screening. I probably should have subtitled this. Use of statins for primary prevention, because actually the lipid screening recommendations seem to be undergoing some reevaluation. When I was in training, we would look at cholesterol screening and say if your number is over a certain number, you have to start medication, and a few years ago, they actually changed that recommendation altogether and they said use your cholesterol as part of a whole collection of data to assess somebody's 10 year risk of having an event. And it's not just heart attack, it's stroke, it's peripheral vascular disease.

So we have a calculator that I'll show you on the next slide to calculate somebody's 10 year risk score, and if somebody's 10 year risk is over 10%, then one would consider using cholesterol medications to lower their risk. If it's over 7 and 1/2 percent, one might, and so the reason why cholesterol screening is really recommended to start at age 40 is because, right now, we don't have data on whether or not treating younger people with statins does them any good. Doesn't mean it doesn't. It just means we don't have data. Similarly, for patients who've made it to age 76 without having a cardiovascular event, it's not clear that screening and giving statins for primary prevention-- the balance of risks and benefits isn't clear yet. So, again, it doesn't mean it doesn't benefit. It means they're not convinced of the benefit.

So what might this look like? I usually use an app on my phone, but I've got a screenshot from an online calculator which basically asks you to calculate somebody's risk for having atherosclerotic cardiovascular disease. You put in their age, their gender, race is not very specific, it's African-American or not, total cholesterol, their HDL or their good cholesterol, their systolic blood pressure, whether or not they're being treated for blood pressure, whether or not they have diabetes, and whether or not they smoke. You put it all in there, hit the calculate button, and they give you a 10 year risk score, and then you give them advice.

Moving on. I'm going to talk about hepatitis C. As I hope you know, but I'll remind you, hepatitis C is spread by body fluid contact. And for a long time, there's been a recommendation that for people born between 1945 and 1965, they should receive screening for at least once based just on their year of birth without risk stratification. Or, as I tell my patients, I'm not going to ask you 20 questions about how you could have possibly gotten hepatitis C. And the reason is the baby boomers. There's a large number of people with hepatitis C, and when you go and ask people who have it, what were their risk factors? A lot of them can't tell you. So there's no point in giving somebody the eighth degree like, what did you do. A lot of them don't know, and it's probably related to blood transfusions or not using universal precautions in the 70s and 80s, and who would know?

This has become a bigger issue for me, because in the last year, the state of Pennsylvania mandated that primary care providers offer hepatitis C screening to their patients. So I use an electronic medical record, and if I am seeing you, if there's no record that you've been screened, there's a pop up that stops me from doing anything else until I address this. Don't ask me how I feel about that. I actually think that people should be screened, but I don't like the pop ups.

Anyway, if somebody agrees to be screened, you just check the hepatitis C antibody. About 25% to 30% of people who are exposed to hepatitis C will clear it on their own. So if it's a positive test, I offer them PCR testing to see if they have cleared it on their own or if this is still active, and then pretty much after that, I send them to the liver specialists. I usually make sure that they have liver function tests on file, and, if I'm feeling really good, I'll check an ultrasound of their liver to see if they have cirrhosis or other changes. I think it makes the visit with a hepatologist more productive. Your patients probably have imaging, and they can already tell.

Next, I'll move on to HIV screening. Universal screening has been a recommendation for some time. The formal recommendations are that it's recommended for all ages 15 to 65 with the option to stretch the age range younger or older depending on behaviors. And high risk behaviors can just be having a new partner. So if you have a lady who's been widowed and has a new boyfriend or girlfriend, that's officially high risk behavior.

There's insufficient evidence as to how often you should offer screening. Reasonably, if somebody's in a monogamous relationship, one time screening should be fine, and then screen again if needed. For other people, you might just offer it yearly. I've put in some screening sites in Pittsburgh in case your patients do not want to have HIV screening within the system.

Some places will do it for free, and will not bill insurance so their insurance company doesn't even know about it. So the Health Department, always a good place to send people for screening. The Pittsburgh Aids Task Force in East Liberty, I've had several of my patients go and say it was really nice. It wasn't really institutional. There's a Planned Parenthood downtown, East Liberty Family Health Care Center in East Liberty, and associated with Allegheny General, the positive health care clinic on the north side. I figured we should talk to both sides of the fence.

Last but not least in this section is screening for osteoporosis. Again, there are a lot of societies who have opinions, so I was looking at the United States Preventative Task Force who recommend screening for women ages 65 and older, or younger women whose fracture risk might be equivalent, which is about 9.3% over 10 years. So what might make you think it's worthwhile screening younger women? A family history of osteoporosis, steroid use, BMI under 21, alcohol use, smoking and rheumatoid arthritis.

This is really complicated for me. I can't do it in my head. I go to the FRAX calculator, which is put out by university in the UK. I'm going to show you a screen shot. You can actually tailor this to the region of the world and the country. So I went to North America, I picked the United States. You can apparently pick, I think, Caucasian versus African-American. I don't remember if there's an Asian option for our US citizens. You do not need to put in an ID. You don't need to put in a date of birth, but you should put in their age, their sex, weight, and height, whether or not they've had a previous fracture, whether or not a parent had fractured a hip, whether or not they're smoking. They shouldn't be smoking. Whether or not they are using steroids, whether or not they've had rheumatoid arthritis, if they may have secondary osteoporosis from other issues, such as hyperparathyroidism, whether or not they use alcohol. For somebody who has already had a bone density test, you can put in their bone mineral density, but if you can do this calculator without it to decide if they're pretest risk is high enough that you should send them. So you just put it, you hit calculate. I always hit clear by accident, and then I have to put it in again, and it gives you a number. And if it's high enough, send them for a bone density test. If you're not sure what to do later, send them back to us or sometimes I send them to endocrine if they're pretty complicated.

So that's the non-cancer stuff to look for, and then I'm going to just talk about screening for three other cancers. Breast cancer screening in the last few years, there's been a lot of discussion about who should get screened and how often. I'm going to give two guidelines. I know there's many more opinions out there. United States Preventative Service Task Force suggests for women of average risk, this does not include women with BRCA in the family, doesn't include a prior history of breast cancer, it doesn't include women who've already had radiation to the area, but average risk women are recommended to have every other year screening between the ages of 50 and 74. Younger women, ages 40 to 49, they recommend shared decision making, so talking about the risks and benefits to them of getting screening. And then for women ages 75 and older, they say there's insufficient evidence for women that they'll get benefit for breast cancer screening.

For me, I usually will say if you've made it to 76, and you say you don't want mammograms anymore, I won't make you. If you're in good health and you say my mother lived to be 99, and I want my breast cancer screening, I would not stop you. The American Cancer Society came out with guidelines more recently that is a little bit closer. They recommend annual screening for women ages 45 to 54, and then they say once you're 55, you can go every year or every other year. They say as long as your health is good, and you have a life expectancy of 10 or more years, which I think is pretty reasonable. Some of my patients who are ill, breast cancer is not going to be their biggest problem.

Cervical cancer screening. The pap test. The recommendations changed a lot in the last six years. So when I was in training, it was start at 18, or if you're sexually active, keep going forever. And now we don't have to do that, and very few women complain about that. So for women ages 21 to 65, they should have cervical cancer screening, and the screening for women of average risk who have negative screens is every three years. After age 30, you can do co-testing with HPV, and if somebody has a normal pap and their HPV testing is negative, they can stretch the interval to five years. And at age 65, if women have had adequate prior screening, so that means they've not had an abnormal pap. They've had two normal tests in the last 10 years. They say that they're probably less likely to develop cervical cancer and they can stop screening.

Now there are some exceptions in either direction. So if somebody's had a hysterectomy, a total hysterectomy and their cervix is gone, and this is for reasons other than cancer or high grade dysplasia, so they've had horrible bleeding, they had fibroids that made them feel like they were six months pregnant all the time, it's not cancer. If they don't have a cervix, they don't need to be screened for cervical cancer. On the other hand, higher risk women, women who've had a history of cervical cancer, women who are exposed to DES in utero, and women who are immunocompromised such as our transplant patients, and maybe are women who are getting high dose steroids and chemotherapy, they need to be screened more often than this. So they should be discussing this with their PCP or their gynecologist what is their recommended screening frequency.

Last but not least, I'm going to talk about colorectal cancer screening. Again, this is for people of average risk so I'm not talking about people who have cancer in the family or may have conditions that put them at higher risk for colorectal cancer. Screening is recommended for people of average risk between the ages of 50 and 75, so all of my patients who come to see me around 49 or 50 get told congratulations. You get to go for cancer screening and they're so happy.

I recommend colonoscopy for these reasons. One, if you do a colonoscopy and it's fine, you don't have to come back for 10 years. I think that's a big plus. Two, if they find something that's not normal, they can take it out right then, biopsy it and if it's fine, you don't have to have it done again. And three, they put you to sleep for it which for most people is a big benefit. There are some disadvantages. You need a ride home and you always have to worry about perforation which is very rare, but it does happen.

For patients who are not ready to go for colonoscopy, I will talk about flexible sigmoidoscopy. It's not as good for as long. It doesn't look at the whole colon. So if you just are doing flexible sigmoidoscopy, you should have it done every five years. If you do it in combination with yearly stool tests, you can stretch the interval to 10 years. You still have to do a prep. There's still the risk of perforation because of having a procedure, but in theory for people who don't want to be sedated, you can do this without sedation. Some of my patients recently have gone and said they had to fend off the anesthesiologist, but you can do this without sedation.

Some people are never going to do these tests, and for them I talked to them about stool testing. The fecal occult blood tests, which is guaiac-based, has some dietary restrictions. You can't have your raw hamburger or rare hamburger, and actually you can't have horseradish or cantaloupe, you'll get false positives. And there's the FIT test which is the fecal immunochemistry test which looks for human blood. So that's easier. It's, of course, more expensive, and these need to be done yearly, and if they're positive you need to go for colonoscopy.

There are some newer tests that are being advertised on television. The FIT DNA tests, it's sold currently as Cologuard, and I've had patients ask me about it. It's not clear how frequently you need to do it. It might be every year. It might be up to every three years. It looks for human blood, and it looks for some DNA changes that are known to be associated with developing colon cancer. I haven't been ordering it much right now because it's not currently covered by insurance, and patients may be on the hook for \$600 or \$700 which is a big disincentive to testing. I expect that will change as things move along.

Now, for patients ages 76 to 85, their decision to screen is an individual choice, and so I think that really depends on somebody's health and their life expectancy, and maybe whether or not they've had colon cancer screening. If you're in good health at 86, and you've had three negative colonoscopies, you might expect that you're at lower risk to develop colon cancer that will bother you, and if you're in terrible shape and wouldn't survive any treatment then there's probably no need to put somebody through a colonoscopy.

So, in summary, I've gone through guidelines for vaccination focusing on influenza including recommendations about what to tell your egg allergic patients, strep pneumonia including conditions for which early immunization is recommended, varicella zoster or shingles including contraindications to vaccination of which there are many, tetanus diphtheria pertussis, and then special recommendations for asplenic patients. I've also discussed the USPSTF recommendations for screening focusing on hypertension including measuring it properly, diabetes including the several screening options, lipids including the risk calculator, hepatitis C including birth-based screening, HIV including resources for free or anonymous screening, and osteoporosis including the FRAX calculator, and I've gone over recommendations screening for average risk patients for breast cancer screenings, cervical cancer screening, colorectal cancer screening.

I have a ton of guidelines listed here. I do not expect you to read them, but they're available if you want to look into them, and I think I have a few minutes for questions if anybody has any.

AUDIENCE: If someone in their 50s has had shingles, is it helpful to have the vaccine after the fact, or what's your thought?

SPEAKER 1: It's currently fine to vaccinate somebody for shingles after they've had it. If patients don't want it, this is what I'll tell them. Your chances of getting shingles again is quite low. It's about 4%. So if you get a 50% reduction, that's a 2% reduction absolute in getting shingles again. I will say that for patients who've had shingles, there may not be as much benefit from giving the vaccine right away. I usually will ask my patients to wait about two years, because getting this is a little bit like a booster to your immune system. So it's already kind of roughed up a little bit. So I say if you got it age 48, wait till 50 or 51, you're likely to get more benefit from this vaccine if you're going to take it after the shingles. I wouldn't stop anybody from getting it, but for my patients who aren't really sure, that's a little bit what I'll tell them. I see somebody over there.

AUDIENCE: As far as initiating bisphosphonates for osteoporosis in an average risk and then above average risk for someone on aromatase inhibitors, what do you do? Do you start with calcium, vitamin D, and then recheck the DEXA?

SPEAKER 1: So currently It turns out that the data for treating T score less than minus 2.5, it's not really sure that there's much benefit. So for those people, I would definitely say make sure you're getting adequate calcium and vitamin D. I might check for other issues like is their thyroid normal, check their PTH, stuff like that, and check again in about two years. For somebody who has a T score less than minus 2.5, they should be offered bisphosphonates. Again, if somebody is supremely vitamin D deficient, I would probably say let's get that treated first, and then I would offer a bisphosphonate therapy. I see somebody over there.

AUDIENCE: Vaccination guidelines, and I was surprised to see that Prevnar is given. And then eight weeks, followed on Pneumovax. What's the rationale for that?

SPEAKER 1: So Prevnar is agitated, and it induces immunity slightly differently. So when they were doing some other preliminary studies, it turns out that you need to give a little bit of time in order for the vaccines to take. Pneumovax is actually better at preventing extra pulmonary infection, so back before we had Prevnar, I would say this vaccine will protect you from getting pneumonia in your brain fluid and the fluid around your lungs. It will protect you from getting bacteremic with strep pneumonia which I've seen and it's really awful.

And so, I would really push it, but I would say, look, this may not protect you from getting junk in your lungs. Prevnar actually is better at preventing you from getting long infections with strep pneumonia. So because of the difference in time, as they say, start with the Prevnar, and then get extra protection from these extra pulmonary infections with a Pneumovax.

AUDIENCE: Thank you very much.

AUDIENCE: Do we have time for one more question?

AUDIENCE: Yes, you said with the Tdap that they can get it. Is it live or not live? I had a patient who came into the office on Wednesday. She's going to be a new grandmother, and so she wanted to get it but she's on a weekly taxo/carbo. And so when we looked at it, the doctor said, no, just to have her hold off.

SPEAKER 1: It is not a live virus vaccine. The only vaccine that I talked about that is live is the shingles vaccine or zostavax, and the flu that we're not supposed to give. So there's really very few contraindications to giving Tdap. So should be OK if you were going to ask me. Is it going to be as effective if you give it while you're giving chemotherapy? I'm not sure, but it should be safe.