Host: Welcome to the podcast series from the specialists at Penn Medicine. I'm Melanie Cole and today, we're giving updates in colorectal cancer screenings and treatment. Joining us me is Dr. Erica Pettke. She's an Assistant Professor of Clinical Surgery and part of the Colon and Rectal Surgery Program and Gastrointestinal Cancer Program at Penn Medicine. Dr. Pettke, as we get into this topic, please speak a little bit about the prevalence and awareness of colon cancer. And what are you seeing in the trends?

Dr. Erica Pettke: Thank you for having me. So the prevalence of colon cancer, it's the number four cancer in the United States when you look at men and women combined. And over patient's lifetime, they have a 5% chance of getting colon or rectal cancer. That's about one in 18 people across the United States.

So it is a disease where we understand the natural history oftentimes it starts as a polyp and develops into a cancer. And there's been very important screening modalities such as the colonoscopy where we can actually identify a polyp or a lesion before it turns into a cancer. So it's not only a screening tool, but also a preventative tool.

I think that historically it's been an important and valued screening and treatment modality. And that providers, along with national guidelines, are able to recommend that patients get screened and treated.

Host: And that's what's so interesting, that it is a screening, a treatment, and even possibly a prevention. So the American Cancer Society recently updated their colorectal cancer screening guidelines to lower that age from 50 to 45. Tell us why this change was introduced?

Dr. Erica Pettke: The American Cancer Society had done a study with the SEER database, which is a large national database, looking at trends among many different types of cancers. And specifically for colorectal cancer, they've been noticing over time that there is an increased rate of new cancers in younger adults. So the age was changed from 50 to 45.

Host: Tell us a little bit about colonoscopy itself, what the procedure is like. People are afraid of the prep, but really that's not a big deal. Tell us a little bit about the procedure.

Dr. Erica Pettke: Colonoscopy is actual visualization of the mucosa of the entire colon. So we use a long scope that's about the size of your finger with a camera and also instrument ports at the end. Like you said, a prep is required where a patient will take a laxative to completely clean the colon.

Historically the preps have been several liters of fluid. And that has really changed over time. Now, there's MiraLAX-based preps or even some pill-based preps. So it's become much more tolerable. The procedure itself is typically done in an endoscopy suite, where the patient will come in the morning, be evaluated by an anesthesiologist or the colorectal surgeon if they are doing the sedation themselves and have the procedure and go home that day. The procedure is about 20 to 30 minutes where the entire rectum and colon is examined to the ileocecal valve.

Host: Let's talk a little bit about demographics and risk. Dr. Pettke, are there other conditions or lifestyle that would place people at risk? And for other providers that are counseling their patients on these risks, are there some people that should be tested before age 45?

Dr. Erica Pettke: Globally, the risks of colon cancer that we've identified have a lot to do with diet

and lifestyle. Some of the biggest risk factors are obesity, tobacco, and alcohol use; having a diet that's high in fat and red meats; and then a sedentary or non-active lifestyle.

There's other groups of people who are at higher risk for colorectal cancer. These include if they've ever had a diagnosis of colon or rectal cancer in the past, if they have a family history of family members with colon or rectal cancers. There are some genetics conditions that predispose you to colon and rectal cancer. And then also some underlying disease conditions such as inflammatory bowel disease, like Crohn's disease or ulcerative colitis.

And when you are considered in a high risk group, screening colonoscopy is recommended earlier and this can be a situational, so to discuss with a GI or colorectal surgeon.

Host: Dr. Pettke, in addition to colonoscopy, there are a number of different ways to do screenings for colon cancer. Can you discuss why there's such a variety of these tests? Please speak about them briefly and why or why not you think they're viable screening measures.

Dr. Erica Pettke: The screening modalities fall into two separate groups globally. One is a stool-based screening test. And the other similar to the colonoscopy is an actual visual exam of the colon. So the stool-based test requires a sample of stool. And it looks for either signs of blood in the stool or breakdown products from an actual cancer.

And the advantage of these is they're widely available. It's a test that can be done at home or in the office. It could be sent to you. It's less invasive compared to the colonoscopy that I described before and easy to perform. The downside of this or something to think about is that it's not as simple as just taking a sample of stool. Patients have to have dietary restrictions a week leading up to it in order to decrease the chance of having a false positive. And if this is positive, a patient still would require a colonoscopy for further investigation. And this has to be repeated more frequently, so anywhere from one year to three years based on the results of the test.

The other group of tests is the visual examination of the colon. And this can be done with the endoscope, the colonoscopy, or through CT images, something called a CT colonography. And both of these modalities require a bowel prep that I discussed before. And the difference is the CT colonography is a specialized CT scan where it performs 3D modeling of the colon. So it's less invasive. But if there is a positive finding on the CT colonography, it would still require a colonoscopy. And these tests, compared to the stool-based screening, can be performed much less frequently on the order of five to 10 years.

Host: So then tell us about that 10-year waiting period. What signs might prompt a physician to abbreviate this time?

Dr. Erica Pettke: So that 10-year period is defined if you have a colonoscopy where there are low-risk polyps, so small benign-appearing polyps in the distal colon or rectum, or you have a completely normal colonoscopy with no findings at all. If at the time of colonoscopy you have a large polyp or several polyps, this may immediately shorten the time anywhere from three to five years.

Between colonoscopies in this interim period, if a patient develops bright red blood per rectum, or starts to have dark stools where it would be concerned of blood mixed with stools; if they have a change in bowel habits such as diarrhea, constipation, or narrowing of their stools that lasts for a few days; if a patient feels like they've had a bowel movement and they don't completely evacuate the

stool; if they have cramping or abdominal pain, weakness, or fatigue, or unintended weight loss, we would want them evaluated sooner.

Host: Dr. Pettke, if you discover a polyp on colonoscopy, what's the next step? Give us a little rundown on what happens next.

Dr. Erica Pettke: After a polyp is discovered on colonoscopy, we make a plan to resect it. So smaller polyps with a pedunculated clear neck, we can use a snare technique to remove it completely. And what's important for these polyps is that we remove them as an bloc specimen. So not in small pieces, but one large piece.

There's also advanced endoscopic techniques where a polyp could be lift with a saline solution and removed completely at the base that way. And there are also newer endoscopic submucosal dissection techniques where similar to lifting it, you can also do surgical dissection through the endoscope.

But like I said, the most important part is to remove the polyp as one specimen because this then gets analyzed by the pathologist and they can tell us what the cells look like, how deep they invade if it's an invasive lesion and this provides us next steps if a patient may require no treatment at all, a staging workup if it's cancerous or a further endoscopic dissection in order to remove or surveil more tissue.

Host: So in the world of colorectal cancer, where do you see this going in the next 10 years? What's exciting in both screening and/or treatments?

Dr. Erica Pettke: I think what's most exciting is that we have a screening modality where we can really detect cancers before they develop. So as a polyp to a cancer, we can detect them at early stages and we can treat patients for cure. So I think we have the tools and the information to really improve the outcomes of this disease.

Host: And who should a physician refer into the Penn Gastroenterology and Hepatology Program?

Dr. Erica Pettke: Any patient who needs a colonoscopy or has a positive finding on colonoscopy can be referred to a Penn gastroenterologist or a colorectal surgeon for further evaluation and management.

Here at Penn, we have established a multi-disciplinary team, where we are able to efficiently see these patients and get them connected with all the providers that they need. And we are happy and excited to see these patients.

Host: Thank you so much, Dr. Pettke, for joining us today and updating us on the latest guidelines for colorectal cancer screening. To refer your patient to a specialist at Penn Medicine, please visit our website at pennmedicine.org/refer. Or you can call (877) 937-PENN.

That concludes this episode from the specialists at Penn Medicine. Please remember to subscribe, rate and review this podcast and all the other Penn Medicine podcasts. I'm Melanie Cole