

# Mayo Clinic Q & A - Dr. James East - Colorectal Cancer

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## SUMMARY KEYWORDS

polyps, colonoscopy, bowel cancer, colorectal cancer, cancer, screening, bowel, test, prep, patients, precancerous polyps, developing, mayo clinic, bowel cancer screening, screening tests, big, genes, detecting, options, error

## SPEAKERS

Dr. James East, DeeDee Stiepan, Narrator

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- D** Dr. James East 00:00  
Coming up on Mayo Clinic Q&A, There are a wide range of options now for bowel cancer screening, all of which provide substantial protection against bowel cancer. Bowel cancer is actually extremely unusual amongst cancers. In theory, it's almost completely preventable.
- N** Narrator 00:17  
And regular screening is a key part to that prevention. Finding and detecting the cancer early increases the chance for a full recovery.
- D** Dr. James East 00:27  
I think this is really a time when engagement with bowel cancer screening we could really push colorectal cancer down to an absolute minimum.
- D** DeeDee Stiepan 00:35  
Welcome everyone to Mayo Clinic Q&A. I'm DeeDee Stiepan sitting in for Dr. Halena Gazelka. According to the World Health Organization, colorectal cancer is the third most common cancer worldwide. It accounts for almost 2 million new cancer cases each year. Colorectal cancer, which is also known as bowel cancer, typically affects older adults. Although it can happen at any age. Screening for colorectal cancer is important to identify precancerous polyps that could develop into cancer. And there are several screening options now available to patients. Joining us to discuss is Dr. James East, a gastroenterologist at Mayo Clinic Healthcare in London. Welcome to the program Dr. East, and thank you so much for joining us.
- D** Dr. James East 01:20

DeeDee thank you for having me.

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DeeDee Stiepan 01:22

So, can you tell us about advances in colon cancer screening? What options are available? And how do patients know which one is right for them?

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Dr. James East 01:32

Well, I think when you're thinking about the option that's right for you, the key thing is that the best test is the one that you're willing to do. There's no point in being set up for a colonoscopy if you're not willing to come for it. And there are a wide range of options now for bowel cancer screening, all of which provide substantial protection against bowel cancer. Bowel cancer is actually, you know, extremely unusual amongst cancers, in theory it's almost completely preventable by high quality screening examinations. In terms of the options available at the moment, the most commonly recognized one is colonoscopy, which has the advantage of both detecting early cancers at a curable stage, but also in finding and removing precancerous polyps that stops cancer developing over the next five to 10 years. We also have flexible sigmoidoscopy, which has been popular in the United Kingdom, which examines just the lower third of the bowel. And this is often used in patients perhaps in their 50s and 60s. And at these ages, this is where precancerous polyps appear in the lower part of the large bowel, and therefore are in range for this test to be found and removed. For those who would prefer a less invasive test, we can now do fecal immunochemical testing the so-called Fit Test. This is a sensitive test for blood in stool. And if blood is found, then we will proceed to arrange a colonoscopy for that patient. And that can be done in the privacy of your own home, often done every one to two years. There's an add on to that with using stool DNA. This is a test called Cologuard. This was developed with Mayo researchers and is now provided by Exact Sciences, and is available in the U.S. and has improved test performance. The final test that's been recently recommended is CT colonography. So, this is a CT scan of the abdomen, but set up in a special way where you have some gas put into the bowel to stretch the bowel open, and then you have a scan lying flat on your back and flat on your tummy. And this is almost as good as colonoscopy at detecting cancer in larger polyps. So, there's really quite a wide range of screening options for patients to pick from and discuss with their doctor.

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DeeDee Stiepan 04:23

Yeah, I'll say. It's good to have so many different options. Can you tell us are there differences between the U.S. and the U.K. when it comes to screening recommendations?

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Dr. James East 04:33

So, the in the U.S., colonoscopy has been very popular because as I was describing, it has this powerful preventative effect on bowel cancer over the entire bowel, and perhaps only needs to be repeated if it's clear, every 10 years. However, it's invasive and there is a cost implication to doing that for the whole population. In the U.K., the National Health Service has chosen to use Fit testing, the test for blood in stool, given out every two years. And that's currently from ages 60 to 74. Although the age for that's going to decrease in England to 50 in the near future. I should just say the big news for colonoscopy and other screening tests in the U.S. is that the screening age has been decreased from 50 to 45 from when you should start screening initiated by the American Cancer Society earlier this year. But this is being taken up by other societies because we've seen data that certainly in western populations we're seeing bowel cancer developing at a younger age.

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DeeDee Stiepan 05:48

Gotcha. Very important note. Thanks for bringing that up. How about screening rates? Does one country do better than the other as far as getting their population screened for colorectal cancer?

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Dr. James East 06:01

I think that the message in the U.S. has kind of gone out there, and screening engagement even with colonoscopy is high. Equally in the U.K., we see engagement levels particularly with the Fit Test, which is slightly easier to do than the older cardboard guaiac tests, that we're seeing engagement rates of maybe 60 or 70%. But certainly, some populations are harder to reach in deprived areas and from some minority groups. And worldwide we're seeing lower screening engagement, particularly for some patients in the Middle East, which is particularly important because they seem to have a particularly high rate of bowel cancer at a young age.

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DeeDee Stiepan 06:52

Now I understand that research is looking at ways to better detect polyps. How is artificial intelligence playing a role?

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Dr. James East 06:59

I think the role of artificial intelligence in endoscopy is huge, and it's coming to clinical care now. This is really translating the kind of facial recognition technology that we saw with Google, but instead of recognizing faces the AI recognizes polyps at an astonishing rate, during a live colonoscopy will detect even small and subtle polyps and draw a green or blue box around them to draw the endoscopist's attention to them. This could lead to increases in polyp detection of up to 50%, even for expert endoscopists. It is really, I think, a game changer for us.

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DeeDee Stiepan 07:44

Gosh, that is fascinating. So, can you tell me, do we understand which polyps will likely change from being benign to becoming cancerous?

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Dr. James East 07:54

I think we've understood for a long time, probably for more than 30 years, this idea of the adenoma/carcinoma sequence. So, this is the classic polyps that perhaps looked like little cherries on a stalk, they're red, and they're easy to see. And if you snip them off, that stops them developing into cancer in the future. However, we found that when we were doing colonoscopy, we weren't preventing as much cancer as we expected, particularly in the right colon. And it turns out that a group of polyps which historically we've ignored, which used to be called hyperplastic polyps are now called serrated polyps because when you look under the microscope that they have a sawtooth edge. These polyps are subtle, they're flat, they're almost see through, and they occur in the right colon, the place where we thought we were failing to prevent cancer. But we're certainly now appreciating these polyps, we're seeing them, detecting them, and resecting them. And I think that that's a development in the last 10 years that's likely to improve the prevention of cancer in the right colon.

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DeeDee Stiepan 09:06

What type of surveillance is needed after an initial screening?

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Dr. James East 09:12

So, I think it depends on the test that you have. But for colonoscopy, the recommendation is to have a colonoscopy every 10 years. But if you have a polyp, particularly if you have multiple polyps or large polyps, then you need to come back earlier, maybe at five years, or even three years if you had an advanced precancerous polyp, because we know that those patients are more likely to develop a further polyp or even a cancer in the future.

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DeeDee Stiepan 09:46

What about genetics? Does genetics play a role in who develops colorectal cancer? Is it hereditary?

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Dr. James East 09:55

I think genetics certainly plays a big role, maybe more than in many other cancers. Most bowel cancers are not directly genetically related. But we all carry some genes that make us more or less likely to get bowel cancer in the same way. We carry a range of genes that determine height or eye color. So, we get a mixture of genes from our parents. And so, if you have a first degree relative, so a parent or a brother or sister who has bowel cancer, particularly at a young age, you are probably at higher risk of getting bowel cancer and may need more intensive screening. However, there are a very small group of people who have a single gene defect. The best known of these is probably Lynch syndrome, named after U.S. physician, Henry Lynch. And this is essentially an error in the enzymes that proofread our DNA. So, when we're replicating our DNA, that they'd sniff out the errors. And if that's not working, you get lots of DNA errors, and because your colon replicates its DNA very frequently, you're at significantly increased risk of developing bowel cancer. And those patients would have a colonoscopy, even every two years. So, much more intensive screening if you carry one of these gene defects. And now every time we diagnose a bowel cancer, we will check the cancer to see whether it's being driven by that gene error.

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DeeDee Stiepan 11:31

Alright. So, let's talk about colonoscopy prep, How soon should you begin to prep your diet?

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Dr. James East 11:41

Colonoscopy prep is a difficult thing, and probably nowadays is a thing that patients like least about having a colonoscopy. But I think, you know, with the bowel preps often you can just start, you know, a day before you are due to commence your bowel prep and starting to have what is predominantly a very low fiber diet. Historically, you know, we've been told that even to prevent bowel cancer, you know, we need to eat a high fiber diet, but just at this moment to get the bowel clear, you know, fiber is our enemy. And we can't clear it away even with suction when we're doing the procedure, so the minimum amount of fiber, we're talking white rice, white bread, skinless chicken to prepare ourselves and get the bowel ready.

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DeeDee Stiepan 12:31

What about caffeine, dairy products, things like that?

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Dr. James East 12:36

Caffeine is fine if you are having black coffee or black tea. Dairy products are less good because the protein in that can cause trouble. If you wanted a tiny bit of milk in your tea that's not going to stop things, but probably not a big pizza full of cheese.

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DeeDee Stiepan 12:58

Very good. Dr. East, do you have any advice to make it easier for people to prep for their colonoscopy? Like you said, it's probably everyone's least favorite thing.

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Dr. James East 13:08

So, I think that it is a challenge. Many of the preps now come as, they're quite high volume, there may be two liters, or sometimes even four liters to drink. So, putting that, making it up beforehand, making the powder beforehand, putting it in the fridge, getting it cold. Sometimes if you put some clear citrus stuff in it, it makes it a bit more palatable. And counter-intuitively, the prep works best if you drink additional water, even on top of what you've been given already, which seems like a big bully. So, extra fluids alongside. There is some evidence that exercise can improve colonic motility. So, don't just sit around, be up and about. The other big thing that's changed in the last few years that patients will notice is the idea of splitting the prep, that you have some in the evening and some in the morning of your colonoscopy. And if your colonoscopy is at eight o'clock, that might mean five o'clock in the morning to take that last dose of prep. It seems a really hard, tough thing to do to a patient. But this is your once in 10 years examination to try and find the polyps that are going to turn into bowel cancer. So, please, if your doctor asks you to split the dose and get up early, this is one of those times an early start is needed.

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DeeDee Stiepan 14:27

Yeah, you've just got to power through it. Those are some good tips though. Okay, finally, let's talk about prevention. What steps can we take to reduce our risk of developing colon cancer?

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Dr. James East 14:37

I think that there are a range of lifestyle things we can do. Particularly adopting a Mediterranean style diet is helpful. So, that's less red meat, less processed meat, olive oil, nuts, and more fruit and vegetables. Other things that are important, there's some data for exercise, and certainly obesity is a big risk factor for many cancers including bowel cancer. So, losing weight is helpful. Smoking is an obvious one, and probably reductions in smoking combined with colonoscopy are why we're seeing reductions in our cancer rates in older Americans. But I think, you know, alongside those things, coming for a screening test, whichever one you're willing to have, is a key intervention alongside those lifestyle things.

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DeeDee Stiepan 14:38



DeeDee Stiepan 14:38

Very good. Doctor East, is there anything else that you wanted to add, anything that we haven't covered yet?



Dr. James East 15:42

I think just that this is such an exciting time with, you know, new equipment, with new screening tests, with AI, colorectal cancer is a preventable disease. And so, I think this is really a time when engagement with bowel cancer screening, we could really push colorectal cancer down to an absolute minimum.



DeeDee Stiepan 16:08

Well, our thanks to gastroenterologist Dr. James East for joining us today from Mayo Clinic Healthcare in London, Dr. East, thanks for all the great information today.



Dr. James East 16:18

Thank you so much.



Narrator 16:19

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