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Welcome to Yale Cancer Answers with your host Doctor Anees Chagpar.

Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer.

This week, it’s a conversation about colorectal cancer with Doctor Ira Leeds.

Dr. Leeds is an assistant professor of surgery at the Yale School of Medicine, where Doctor Chagpar is a professor of surgical oncology.

Ira, maybe we can start off by laying the groundwork. Tell us a little bit about colorectal cancer.

How common is it? How lethal is it? How many people get it?

I’d be happy to.

Colorectal cancer is one of the most common cancers worldwide. It’s the third most common cancer and second most lethal by number of total cancer deaths.
The good news on the colon cancer side of things is that early detection has survival rates of over 90% whereas late detection has rates of 15%, so it really gives us an important urgency in the cancer care community to identify individuals with precancerous lesions early because the survival difference is significant. To put it in kind of very real terms, 1 in 20 individuals in their lifetimes will have colorectal cancer, and so it’s something where all of us probably know someone or will. And speaking of early detection, tell us a little bit more about the screening guidelines. The screening guidelines continue to evolve and have for many years. The age of 50 was the magical number where everyone should be lining up to get colonoscopies or
alternatives to colonoscopies for their colorectal cancer screening. Many, if not almost all societies that provide guidelines on this topic have moved to 45 as the new age when people should start screening for colorectal cancer, that’s for average risk individuals. So there’s a number of individuals, both with more rare diseases that predispose themselves to colorectal cancer, but also a particularly high risk sociodemographic groups, for example, African Americans who have earlier screening guidelines as well. Interestingly, one of the other parts of the guidelines that’s always a discussion point when guidelines come up is how do you screen? Colonoscopy has been the gold standard for decades. Colonoscopies require you to typically get a little bit of sedation, and it’s a procedure where you have to take a bowel prep the night before, so it’s certainly a bit of a burden on the average person to do so. There are alternatives to colonoscopies. There are a number of reasons...
why a colonoscopy is arguably better for people that are able to adhere to the schedule, but the guidelines do really try to balance the burden of screening along with the benefits of screening. Let’s talk a little bit about a few things that you touched on.

So the first point is that screening is now being recommended at 45 rather than 50. Is that because the demographics of colon cancer are trending towards younger populations? And who gets colon cancer in terms of the age demographic?

New onset of colon cancer is actually declining nationwide. The overall rate of colorectal cancer in the United States is declining and also favorably the mortality rate from colorectal cancer is declining, and we attribute those overall trends to fairly good adherence to colonoscopy and colonoscopy alternative screening schedules in older individuals that are getting good colonoscopies and
the adherence to that currently is about 60 to 70% of people that are supposed to be getting them on time. The risk of colorectal cancer occurring in those patients seems to be declining and we attribute that to better screening. The concerning part is that in young people, which is defined as 20 to 49 years old, the rate of colorectal cancer is increasing and that is concerning not just because that’s a patient population that historically has not been screened and one of the major reasons why the guidelines were changed to 45. But we also don’t know why the rate of colorectal cancer incidence is occurring more frequently in that younger population. So for those of us that think about this every day, it’s relatively easy to agree that the screening guidelines should be lowered to younger ages and 45 is where it is now and in a completely unofficial role I would not be surprised if those guidelines potentially got even earlier in future years, but we don’t know at all why there is a higher rate of
cancer in that population.
The other thing that you mentioned was that these guidelines are for average risk people and that there are a number of things that increase a person’s risk of developing colorectal cancer.
So you mentioned certain demographic groups such as African Americans. I was wondering if you could talk a little bit more about some of the conditions, genetic conditions, other predisposing factors that increase a person’s risk and whether those people should be screened earlier than the 45 year old guideline?
When we think about a risk factor, as I always try to break them down into what I call non modifiable versus modifiable risk factors. So non modifiable risk factors or the risk factors that an individual has an increased risk based on compared to the average population. But at the same time there isn’t a lot that could be done about that other than changing a screening schedule to suit that increased risk which is modifiable or things that we really spend a lot of time talking to patients about because those are risk factors that if certain behaviors are changed,
Increasing age is probably the one that’s most frequently cited as a nominal risk factor. We cannot get younger overtime and we need to recognize that as we get older, we do have an increased risk of colorectal cancer, which is why screening continues after the first episode of colonoscopy at the original age of 50 and now 45. Family history and personal history are both incredibly important. Almost all the screening guidelines have a carve out for patients who have early onset colon cancer in a family and most of the guidelines say that an individual should start their own personal screening 10 years before the age of onset in a first degree relative. The thinking there being that there is this idea that is widely accepted that most colorectal cancer comes from polyps that form in the colon, which is from the natural turnover of the surface of the colon, and so those polyps, then overtime have more and more turnover of cells, and those cells get increasingly...
cancer like and as that occurs in anywhere between a five and 10 year progression cycle, you can have what was a non cancerous polyp turn into a cancer. So that’s where this thought that if you start 10 years before a primary relative who had colon cancer, you should be able to identify that at the precancerous stage and address it by removal with colonoscopy. There is also a personal history if certain patients have been exposed to various environmental factors or cancer causing agents, that would be another reason to screen them earlier and then there are relatively rare diseases, particularly inherited syndromes like Lynch syndrome or Familial adenomatous polyposis. These are conditions where numerous family members who have already had colon cancer or related cancers, and because of that increased risk, there are very well early screening guidelines for those particular patient groups. Those diseases and inherited symptoms are relatively rare,
0:09:14.6 –> 0:09:16.15 and typically patients are getting passed on from family members saying,
0:09:16.15 –> 0:09:18.03 I started screening earlier than average because of this and you should too.
0:09:19.53 –> 0:09:21.06 I started screening earlier than average because of this and you should too.
0:09:21.06 –> 0:09:22.938 Tell us about the modifiable risk factors.
0:09:29.94 –> 0:09:32.229 So modifiable risk factors are incredibly important because this is where our patients own agency has something they can do to reduce their risk moving forward.
0:09:32.72 –> 0:09:34.982 So modifiable risk factors are incredibly important because this is where our patients own agency has something they can do to reduce their risk moving forward.
0:09:34.982 –> 0:09:37.167 There are things that we oftentimes don’t like to hear about when we are patients ourselves,
0:09:37.167 –> 0:09:39.33 patients own agency has something they can do to reduce their risk moving forward.
0:09:39.33 –> 0:09:41.725 But you know, I really tried to have patients wrap their heads around that.
0:09:41.73 –> 0:09:43.11 There are things that we oftentimes don’t like to hear about when we are patients ourselves,
0:09:44.605 –> 0:09:45.657 alcohol use,
0:09:44.605 –> 0:09:45.657 because it does typically involve behavior change.
0:09:45.66 –> 0:09:47.595 So, for example, this evidence is still evolving.
0:09:47.595 –> 0:09:48.756 But you know, I really tried to have patients wrap their heads around that.
0:09:48.76 –> 0:10:00.616 There are things that we oftentimes don’t like to hear about when we are patients ourselves,
0:10:00.616 –> 0:10:02.93 enough on in the exposure cycle and the modifiable risk factors that we think about most are alcohol use,
0:10:02.93 –> 0:10:05.102 tobacco smoking,
0:10:05.102 –> 0:10:07.658 we think about most are alcohol use,
0:10:07.66 –> 0:10:09.232 being overweight or obese.
0:10:09.232 –> 0:10:12.376 And then the more controversial area
0:10:12.38 –> 0:10:15.88 are the dietary changes that one can do in addition to simple weight loss that’s related to obesity.
0:10:15.88 –> 0:10:18.568 So, for example,
0:10:18.568 –> 0:10:21.18 can do in addition to simple weight loss that’s related to obesity.
0:10:21.18 –> 0:10:22.58 this evidence is still evolving.
0:10:22.58 –> 0:10:23.654 We don’t know for sure,
but things like high fiber diets, reducing complex artificial sugars, and so forth may have an improvement on one’s risk factors for colon cancer. The other one that I would controversially put in is race. Obviously a patient can’t change their race, but I think at the society level we have to ask if whether or not the fact that African Americans in particular have an incredibly higher rate of colorectal cancer than the average population, is that because of something genetic and the data suggests that’s probably not the case. The data suggests that the risk of increased colon cancer in certain races is likely due to socioeconomic factors and access issues to care, so I think as a society and as a group of physicians, Health care providers, we need to think seriously how we’re making sure that race is acknowledged in our care of patients because there are increased risks that we likely could modify with improved access to care and addressing both
social terms of health as well as biomedical risk factors.
A couple of pointed questions. I guess the first is in terms of gender. Is there a difference in colorectal incidence? The relationship to gender and colorectal cancer has more to do with where the cancers occur in the colon, and this is a complex issue that we can probably come back to if we have time. But colorectal cancer occurs in three general places. The right side of the colon, the left side of the colon, and the rectum. These are very different areas in terms of how they are handled from a surgeon's standpoint, which is why it’s really relevant and to go to your direct question, the gender differences between the various anatomic sites varies as well. We don’t really understand why and it’s an area of open investigation, but it does seem to color where these cancers occur, and therefore genders seem to have differences in treatment strategies because of where the sites of disease. So women have more colon cancers
on one side of the colon than men?
Correct, the right side.
Interesting, and my second question,
what about inflammatory bowel disease?
Does that increase your
risk of colorectal cancer?
And if so, are we seeing more
inflammatory bowel disease in younger people which might give
us a clue as to one potential etiologic factor for younger onset?
So, inflammatory bowel disease absolutely increases your risk.
The screening guidelines for both patients with Crohn’s disease and colitis specifically target those groups for early onset colonoscopies, partially to evaluate their inflammatory bowel disease, but also to evaluate for the early development of colorectal cancer.
We talk a lot in that population about dysplasia.
Dysplasia is what cells look like under a microscope when they’re headed towards potentially being a cancer, and so those patients get routine regular biopsies to evaluate for dysplasia as a sign that that would be the case, and in that patient population the recommendations in terms of what
you do with that are changing, but the historical recommendations have been to move towards early surgical intervention to remove diseased portions of the colon because of their increased cancer risk.

You bring up an interesting point about inflammatory bowel disease incidence and early onset of colon cancers, and I think I would capture that more broadly, what one of the leading theories around why we have increased colorectal cancer in younger populations is the inflammatory burden that the colon is seeing younger in life. And there’s a lot of reasons why that may be the case.

The question has been raised, is it a matter of psychosocial stress and modern society? Is it a matter of the artificial sugar ingredients that are in food. Do they have an established higher inflammatory load that’s seen by the body and is that somehow creating more inflammation in the colon? More inflammation begets this dysplasia that we talked about
and does that lead to cancer?
These theories are out there, they're often discussed and they have good biology that supports them. We just haven’t made the missing link connection to the clinical evidence. Well, we’re going to pick up the conversation right after we take a short break for a medical minute. Please stay tuned to learn more about the surgical care of colorectal cancer with my guest doctor Ira Leeds. Funding for Yale Cancer Answers comes from Smilow Cancer Hospital, where integrative medicine services help patients navigate physical, mental, and spiritual Wellness during and after cancer therapy. To learn more, visit yalecancercenter.org/integrative. The American Cancer Society estimates that more than 65,000 Americans will be diagnosed with head and neck cancer this year, making up about 4% of all cancers. However, head and neck cancers are easily treated and highly curable. Clinical trials are currently underway at federally designated
Comprehensive cancer centers such as Yale Cancer Center and at Smilow Cancer Hospital to test innovative new treatments for head and neck cancers. Yale Cancer Center was recently awarded grants from the National Institutes of Health to fund the Yale Head and neck Cancer Specialized program of Research Excellence or SPORE to address critical barriers to treatment of head and neck squamous cell carcinoma due to resistance to immune DNA damaging and targeted therapy. More information is available at yalecancercenter.org you’re listening to Connecticut Public Radio. Welcome back to Yale Cancer answers. This is doctor Anis Jaguar and I’m joined tonight by my guest Doctor Ira leads we’re learning about the surgical care of patients with colorectal cancer. And before the break IRA we spent a lot of time talking about kind of what causes colon cancer, or at least what are some of the risk factors and what are the factors that lead to colon cancer, particularly occurring at a younger age so that. Guidelines have now changed to get colonoscopies earlier.
One thing I want to talk about just before we get into the management of colorectal cancer is the type of screening you mentioned. This briefly before the break in terms colonoscopy versus alternatives. It can you flesh that out a little bit for us so clearly nobody is, you know, chomping at the bit saying oh, sign me up I'd love to get a prep and have a tube put up my rear bottom end so that you can look at my colon, but we know that colonoscopy is a great test to find colorectal cancer early and allows one to actually remove potentially precancerous polyps. But if you’re not terribly enthused about having a colonoscopy, how good are the alternatives and D recommend them? That’s a loaded question when it’s all said and done, we’ll try to break it up here into bite sized pieces. So I think to go to colonoscopy first, the. The two biggest values to colonoscopy for me are the following. The first is that colonoscopy has been shown to be able identify lesions typically earlier than a lot of the alternatives out there,
and the reason being is that colonoscopy can identify both truly benign what so non cancerous lesions it can identify precancerous lesions, and it can identify cancer and why that’s valuable is that. It by getting your regular screening, colonoscopy. It kind of gives a time lapse image of what’s happening in your colon, which I think is valuable. If something were to ever develop, kind of what somebody saw before. The second reason why colonoscopy is so valuable is that you’re in there. You can already do what you need to do, oftentimes for these precancerous lesions, with almost every other screening test, it’s going to basically stratify a patient to a low risk, meaning there was nothing detected on the tests or high risk group, which means that the test was abnormal, and therefore the patient needs a colonoscopy. So a lot of these, even the best non colonoscopy screening modalities are still routing. Folks, two colonoscopy when they have an abnormal test.
So there is a little bit of this question of you know if there's so much that can be gleaned from a colonoscopy to begin with, should we putting everyone through the colonoscopy round and then, as I mentioned before, the biggest argument against that, is that colonoscopy for some folks is has an undue burden, both in terms of pleasantness but also in terms of work loss and so forth.

So if you can do, for example a stool test that you can do in your home at 1 evening when you've got the time, To do it and send it off for analysis, and that if it's negative then you're done. You have no further burden on your day to day life to get your results you need to go back to being an average risk individual with no further colonoscopy needs. So I think we're the both the. The clearance for these tests. In other words, what they're allowed to proclaim to be, and also where they really do, have a sweet spot as the average risk individual who's never had any abnormal findings on a prior
colonoscopy and does not have the high risk family features that we talked about before those individuals if interested in pursuing a non invasive test like a colonoscopy have been shown to have equal benefit from one of the more advanced tests out there. It’s basically a test that you give a stool sample and it uses a variety of assays or laboratory tests on that sample to look for both cancerous DNA in the stool as well as a signature of what a bleeding lesion in your colon might be like, which is one of the micro bleed is one of the hallmarks for pre cancer or early cancer in the colon, so that’s what it’s detecting and it’s been shown to have a very good detection rate. And so if that’s normal, then we can confidently say that patient does not need a colonoscopy if they have no other high risk features, there are a number of different options that are listed in the guidelines, but those two are probably the most common recommended today. The biggest drawback to the stool test that I mentioned is that it is quite expensive. Depending on insurance
0:21:31.28 → 0:21:33.28 reimbursements and so forth,
0:21:33.28 → 0:21:35.98 so it’s not the biggest.
0:21:35.98 → 0:21:37.468 The biggest benefit to it is
0:21:37.468 → 0:21:39.297 the is the burden of going to
0:21:39.297 → 0:21:40.845 get a colonoscopy more so than.
0:21:40.85 → 0:21:42.31 Anything else in regards to
0:21:42.31 → 0:21:43.478 resource use for it?
0:21:44.61 → 0:21:47.27 Cool, so let’s suppose you
0:21:47.27 → 0:21:49.398 went for your colonoscopy,
0:21:49.4 → 0:21:51.89 and a lesion was found.
0:21:51.89 → 0:21:54.298 A polyp was found and biopsied and
0:21:54.298 → 0:21:56.877 it turns out that it is a cancer.
0:21:56.88 → 0:21:58.924 Can you help us to understand a
0:21:58.924 → 0:22:00.958 little bit more about how you know
0:22:00.958 → 0:22:03.014 whether this is kind of a good
0:22:03.014 → 0:22:04.406 cancer where your colonoscopy
0:22:04.406 → 0:22:06.806 has has gotten it and you don’t
0:22:06.806 → 0:22:08.446 need anything further versus a
0:22:08.446 → 0:22:10.462 not so good cancer where there
0:22:10.462 → 0:22:12.716 might actually be a need for you
0:22:12.78 → 0:22:14.796 to see a colorectal surgeon and?
0:22:14.8 → 0:22:16.288 Have more therapy done
0:22:16.5 → 0:22:18.39 so there’s a couple key things that
0:22:18.39 → 0:22:20.762 you need to know when you as a
0:22:20.762 → 0:22:22.658 surgeon when you’re getting given a
0:22:24.34 → 0:22:26.44 The things that we think about
0:22:26.44 → 0:22:29.523 the most are for a true cancer is
0:22:29.523 → 0:22:31.533 something called TNM staging or
0:22:31.533 → 0:22:34.17 tumor nodes and metastasis staging.
0:22:34.17 → 0:22:35.976 The tea or the tumor is what
0:22:35.976 –> 0:22:37.537 is happening at the microscopic
0:22:39.7 –> 0:22:41.639 Where is the thing that was biopsied?
0:22:41.64 –> 0:22:42.824 Where is it going?
0:22:42.824 –> 0:22:45.819 Is it in just the very first flute fuels
0:22:45.819 –> 0:22:48.493 level layers of cells of the colon?
0:22:48.5 –> 0:22:50.096 Is it invading through the colon?
0:22:50.1 –> 0:22:52.983 Is invading into other structures in
0:22:52.983 –> 0:22:55.174 as nodes or there are nodes lymph
0:22:55.174 –> 0:22:57.256 nodes that are basically the first
0:22:57.256 –> 0:22:59.808 sign that a colon cancer has been
0:22:59.808 –> 0:23:02.208 getting to spread beyond the original
0:23:02.208 –> 0:23:04.986 tumor and then finally, is Amar metastases?
0:23:04.99 –> 0:23:06.982 That means they’re spread of the
0:23:06.982 –> 0:23:08.31 cancer beyond the colon,
0:23:08.31 –> 0:23:10.35 intestine into other organs.
0:23:10.35 –> 0:23:12.905 The body,
0:23:12.905 –> 0:23:14.919 most commonly the liver or the lungs.
0:23:14.919 –> 0:23:15.178 So four colon cancer that’s been diagnosis.
0:23:15.18 –> 0:23:18.084 Colon cancer.
0:23:18.084 –> 0:23:19.084 On colonoscopy it is important to
0:23:19.084 –> 0:23:21.104 get a complete scan of the body of
0:23:21.104 –> 0:23:23.315 particularly of the chest and the
0:23:23.315 –> 0:23:25.618 abdomen to make sure that you don’t
0:23:25.618 –> 0:23:27.998 have any far ranging metastases
0:23:27.998 –> 0:23:30.046 or or tumor spread.
0:23:30.05 –> 0:23:31.89 The second issue that is
0:23:31.89 –> 0:23:33.73 where does it look locally?
0:23:33.73 –> 0:23:35.098 And that’s where sometimes
0:23:35.098 –> 0:23:37.15 the biopsy alone can do that.
0:23:37.15 –> 0:23:39.726 If the biopsy comes back as cancer
and the entire polyp was not removed with that biopsy, then that’s kind of the first step that someone needs to go back and see if that can be removed into Scopic Lee. Sometimes it’s very obvious from the original colonoscopic exam that it’s not going to be removed locally, but if it’s on a stock, if it’s kind of dangling into the colon, sometimes those are at a very good candidates for local removal with Columbus scope. If that’s done and on the micro, the microscopic evaluation of that specimen, you can say clearly that here’s the cut edge of where we took this tumor off this polyp off and there is no cancer at that. And then we looked at the individual cancer cells in the bulk of the polyp and we can see that they have certain features that are favorable then that may be all that patient needs. On the flip side, if there is tumor invasion, if there’s high concerning features of the polyp in terms of what it looks like under the microscope, then that’s something we’re a segment of. The colon needs to be removed,
and that would require a typically, in 2021 it would typically require mentally invasive surgery to remove a segment of the colon and the nodal bundle that’s attached to it. To get that end staging for very early tumors, the risk of an end spread meaning a nodal spread is so low that for those very early tumors that we just took off. Instead, we’re done. Those don’t need that nodal bundle, which is where that justification comes from. So Speaking of burden, if you had a very small cancer such that it was just in a polyp, do those patients still need the scans of their chest in their abdomen to look for distant metastases? One would think that if the nodal burden is low, then the distant metastases burden should also be very low. I think it’s certainly consideration this is one of those particularly controversial points and staging guidelines that has is up for discussion, and I think shared decision making does come into it. This is something that either that a colorectal surgeon should probably involve
with to talk to the patient about one on one, because there are very small risks up spread and that needs to be discussed. With the patient eventually, because those guidelines are in flux, and then if I can go back for one second, I think you know we talked a lot about the kind of you see a polyp in the colon, just to kind of clarify, one of the tricky parts about the anatomic specificity that we mentioned earlier was that colon cancer can be dealt with and more with less the way that we just discussed. Whereas rectal cancer is a different bird, rectal cancer does make up about 30% of all colorectal cancer, and the decision making around how to address those tumors does differ. OK, tell us more about that. How does it differ?

So the interesting thing with rectal cancer is biologically, it’s very similar to colon cancer. It looks very the same under the microscope and it’s the same kind of cell story that created those cancers in the first place, where rectal cancer does differ is that it’s anatomically fixed, meaning the **** is fixed in the pelvis,
whereas the colon flops around.

It’s an incredibly powerful difference that becomes more so every day because we realize that we have more modalities or options for therapy that we can use for rectal cancer because of its anatomically fixed.

Position what this means in 2021 is that many many rectal cancers need chemotherapy and radiation upfront, which is entirely different.

Colon cancer, which if anything, only gets those options for therapy after the original tumor is removed. Rectal cancer has been shown that it seems to do better if we give those modalities up front and then follow with surgery after considerable lead in period of often times, three to six months of chemo.

This brings up an interesting point. Oftentimes, here on the show we we talk about multidisciplinary care and personalized therapy. So how do you decide which patients need chemotherapy?

Which patients need radiation? Which patients do well with surgery alone? It the multidisciplinary point that you mentioned is critical.
It’s getting increasingly complicated, particularly with advanced disease. It’s very hard to make these decisions without a colorectal surgeon, medical oncologists and a number of others supporting positions from radiology pathology. Interventional radiology all getting together to talk about what’s the best course of action? There are a couple sort of easier points to make here. I think that for colon cancer that’s early stage in the colon and not the that’s typically a surgery first approach in most cases for things that are in that for rectal cancer as well as advanced colon cancer, it really does require everyone in the room to have that conversation about a patient. Ultimately, with the patient to see what’s the best first line approach. Doctor Ira leads is an assistant professor of surgery at the Yale School of Medicine. If you have questions, the address is cancer. Answers at yale.edu and past editions of the program are available in audio and written form at yalecancercenter.org.
learn more about the fight against cancer here on Connecticut Public radio funding for Yale Cancer Answers is provided by Smilow Cancer Hospital and Astra Zeneca.