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? Colorectal cancer is one of the most common cancers worldwide. It’s the third most common cancer and concerningly, it’s also the second most lethal cancer 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 know someone or been affected. 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 colorectal screening.
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. 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? So the trends in colorectal cancer are, at the very least, interesting, and potentially concerning in many ways. 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
0:04:39.647 –> 0:04:41.371 the adherence to that currently is
0:04:41.371 –> 0:04:43.388 about 60 to 70% of people that are
0:04:43.388 –> 0:04:45.316 supposed to be getting them on time.
0:04:45.316 –> 0:04:47.524 The risk of colorectal cancer
0:04:47.524 –> 0:04:49.503 occurring in those patients seems
0:04:49.503 –> 0:04:51.837 to be declining and we attribute
0:04:51.837 –> 0:04:53.969 that to better screening.
0:04:53.97 –> 0:04:56.426 The concerning part is that in young people,
0:04:56.43 –> 0:04:58.386 which is defined as
0:04:58.386 –> 0:05:00.08 20 to 49 years old,
0:05:00.08 –> 0:05:02.804 the rate of colorectal cancer is
0:05:02.804 –> 0:05:04.456 increasing and that is concerning
0:05:04.456 –> 0:05:06.25 not just because that’s a patient
0:05:06.31 –> 0:05:07.94 population that historically has not
0:05:07.94 –> 0:05:10.509 been screened and one of the major reasons
0:05:10.509 –> 0:05:12.567 why the guidelines were changed to 45.
0:05:12.57 –> 0:05:15.594 But we also don’t know why the rate of
0:05:15.594 –> 0:05:17.95 colorectal cancer incidence is occurring
0:05:17.95 –> 0:05:21.01 more frequently in that younger population.
0:05:21.01 –> 0:05:22.57 So for those of us that
0:05:22.57 –> 0:05:23.61 think about this every day,
0:05:23.61 –> 0:05:25.95 it’s relatively easy to agree that
0:05:25.95 –> 0:05:27.957 the screening guidelines
0:05:27.957 –> 0:05:30.177 should be lowered to younger ages
0:05:30.177 –> 0:05:32.729 and 45 is where it is now and
0:05:32.73 –> 0:05:36.058 in a completely unofficial
0:05:36.06 –> 0:05:38.818 role I would not be surprised if
0:05:38.818 –> 0:05:40.403 those guidelines potentially got
0:05:40.403 –> 0:05:42.395 even earlier in future years,
0:05:42.4 –> 0:05:44.488 but we don’t know at all why there
0:05:44.488 –> 0:05:46.818 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 because those are risk factors that if certain behaviors are changed,
may actually reduce their risk.
Increasing age is probably the one that’s most frequently cited
as a nominal risk factor.
We cannot get younger over time and we do have an increased risk of colorectal cancer,
which is why screening continues after that 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 member 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 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,
and typically patients are getting passed on from family members saying, I started screening earlier than average because of this and you should too.

Tell us about the modifiable risk factors.

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.

There are things that we oftentimes don’t like to hear about when we are patients ourselves, because it does typically involve behavior change.

But you know, I really tried to have patients wrap their heads around that.

You can essentially eliminate your increased risk if you do these changes in behavior early enough on in the exposure cycle and the modifiable risk factors that we think about most are alcohol use, tobacco smoking,

being overweight or obese.

And then the more controversial area are the dietary changes that one can do in addition to simple weight loss that’s related to obesity.

So, for example,

this evidence is still evolving.

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 the modifiable risk factor group 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 also 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
0:13:51.792 –> 0:13:53.46 you do with that are changing,
0:13:53.46 –> 0:13:55.032 but the historical recommendations
0:13:55.032 –> 0:13:57.39 have been to move towards early
0:13:57.454 –> 0:13:59.094 surgical intervention to remove
0:13:59.094 –> 0:14:01.683 diseased portions of the colon because
0:14:01.683 –> 0:14:04.348 of their increased cancer risk.
0:14:04.35 –> 0:14:06.498 You bring up an interesting point
0:14:06.498 –> 0:14:08.343 about inflammatory bowel disease
0:14:08.343 –> 0:14:10.835 incidence and early onset of colon cancers,
0:14:10.84 –> 0:14:13.224 and I think I would capture that
0:14:13.224 –> 0:14:13.988 more broadly,
0:14:13.988 –> 0:14:16.28 what one of the leading theories
0:14:16.345 –> 0:14:18.979 around why we have increased colorectal
0:14:18.979 –> 0:14:21.094 cancer in younger populations is
0:14:21.094 –> 0:14:22.864 the inflammatory burden that the
0:14:22.864 –> 0:14:24.82 colon is seeing younger in life.
0:14:24.82 –> 0:14:26.08 And there’s a lot of reasons
0:14:26.08 –> 0:14:27.4 why that may be the case.
0:14:27.4 –> 0:14:28.93 The question has been raised,
0:14:28.93 –> 0:14:31.192 is it a matter of psychosocial
0:14:31.192 –> 0:14:32.7 stress and modern society?
0:14:32.7 –> 0:14:34.19 Is it a matter of
0:14:34.19 –> 0:14:36.703 the artificial sugar
0:14:36.703 –> 0:14:38.359 ingredients that are in food.
0:14:38.36 –> 0:14:41.412 Do they have
0:14:41.412 –> 0:14:43.217 an established higher
0:14:43.217 –> 0:14:45.14 inflammatory load that’s seen by the
0:14:45.14 –> 0:14:46.974 body and is that somehow creating
0:14:47.034 –> 0:14:48.729 more inflammation in the colon?
0:14:48.73 –> 0:14:50.082 More inflammation begets this
0:14:50.082 –> 0:14:51.772 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,
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
diagnosed when detected early.
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 of 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, 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 do recommend them?

That’s a loaded question when it’s all said and done, but we’ll try to break it up here into bite sized pieces. So I think to go to colonoscopy first, 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 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. 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
reimbursements and so forth, so it’s not the biggest. The biggest benefit to it is the burden of going to get a colonoscopy more so than. Anything else in regards to resource use for it? Cool, so let’s suppose you went for your colonoscopy, and a lesion was found. A polyp was found and biopsied and it turns out that it is a cancer. Can you help us to understand a little bit more about how you know whether this is kind of a good cancer where your colonoscopy has gotten it and you don’t need anything further versus a not so good cancer where there might actually be a need for you to see a colorectal surgeon and? Have more therapy done so there’s a couple key things that you need to know when you as a surgeon when you’re getting a biopsy report from a colonoscopy. The things that we think about the most are for a true cancer is something called TNM staging or tumor nodes and metastasis staging. The tea or the tumor is what
is happening at the microscopic level in terms of local invasion.
Where is the thing that was biopsied?
Where is it going?
Is it in just the very first flute fuels level layers of cells of the colon?
Is it invading through the colon?
Is invading into other structures in nodes or there are nodes lymph nodes that are basically the first sign that a colon cancer has been getting to spread beyond the original tumor and then finally, is Amar metastases?
That means they're spread of the cancer beyond the colon, intestine into other organs. The body, most commonly the liver or the lungs. So four colon cancer that’s been diagnosis.
Colon cancer. On colonoscopy it is important to get a complete scan of the body of particularly of the chest and the abdomen to make sure that you don’t have any far ranging metastases or or tumor spread.
The second issue that is where does it look locally? And that’s where sometimes the biopsy alone can do that.
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. 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, and 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. 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
0:25:37.883 –> 0:25:40.319 with to talk to the patient about one on one, 
0:25:40.32 –> 0:25:43.911 because there are very small risks up 
0:25:43.911 –> 0:25:47.677 spread and that needs to be discussed. 
0:25:47.68 –> 0:25:49.008 With the patient eventually, 
0:25:49.008 –> 0:25:51 because those guidelines are in flux, 
0:25:51 –> 0:25:53.14 and then if I can go back for one second, 
0:25:53.14 –> 0:25:55.21 I think you know we we talked a lot about 
0:25:55.264 –> 0:25:57.199 the kind of you see a polyp in the colon, 
0:25:57.2 –> 0:25:58.24 just to kind of clarify, 
0:25:58.24 –> 0:26:00.305 one of the tricky parts about the 
0:26:00.305 –> 0:26:02.068 anatomic specificity that we mentioned 
0:26:02.068 –> 0:26:03.863 earlier was that colon cancer can 
0:26:03.863 –> 0:26:05.48 be dealt with and more with less 
0:26:05.534 –> 0:26:06.998 the way that we just discussed. 
0:26:07 –> 0:26:09.415 Whereas rectal cancer is a different bird, 
0:26:09.42 –> 0:26:11.22 rectal cancer does make up about 
0:26:11.22 –> 0:26:13.148 30% of all colorectal cancer, 
0:26:13.148 –> 0:26:15.59 and the decision making around how 
0:26:15.658 –> 0:26:18.1 to address those tumors does differ. 
0:26:18.56 –> 0:26:20.33 OK, tell us more about that. 
0:26:20.33 –> 0:26:21.218 How does it differ? 
0:26:22.05 –> 0:26:23.315 So the interesting thing with 
0:26:23.315 –> 0:26:24.327 rectal cancer is biologically, 
0:26:24.33 –> 0:26:25.758 it’s very similar to colon cancer. 
0:26:25.76 –> 0:26:27.391 It looks very the same under the 
0:26:27.391 –> 0:26:28.627 microscope and it’s the same 
0:26:28.627 –> 0:26:30.079 kind of cell story that created 
0:26:30.079 –> 0:26:31.468 those cancers in the first place, 
0:26:31.47 –> 0:26:33.27 where rectal cancer does differ 
0:26:33.27 –> 0:26:35.07 is that it’s anatomically fixed, 
0:26:35.07 –> 0:26:36.806 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 radiation therapy. This brings up an interesting point. Oftentimes, here on the show we talk about multidisciplinary care and we talk about 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. We hope you’ll join us next week to
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.