

## Screen. Prevent. Treat. For Colorectal Cancer Management

March is National Colorectal Cancer Awareness Month. According to the American Cancer Society, there will be more than 100,000 new cases of colon cancer and more than 44,000 rectal cancer cases diagnosed in 2019. Colorectal cancer may cause over 50,000 deaths this year. However, 90% of colorectal cancers are preventable, but one out of three people who should be screened, aren't doing it! We are talking to Dr. Jimmy J. Hwang, from Levine Cancer Institute to understand colorectal cancer screening, prevention and treatment options. The discussion would touch upon identifying high risk groups who should opt for screening, available screening techniques, prevention of onset and treatment options, and guidance for efficient management of colorectal cancer.

### Full Transcript:

**Priya Menon:** Good afternoon and welcome to Cure Talks. I am Priya Menon, your host. As we all know, March is colorectal cancer awareness month and we are discussing screening, preventing and treating colorectal cancer for efficient management with Dr Jimmy J. Hwang. Dr. Hwang is director of hematology and medical oncology fellowship at Levine Cancer Institute. Dr. Hwang, welcome to Cure Talks and thank you so much for joining us then. It's really a pleasure to have you with us today.

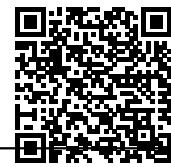
**Dr Jimmy J Hwang:** Thank you for having me.

**Priya Menon:** The patient caregiver perspective on this panel will be discussed by Amy Marash and Johnny Nelson. Amy is a stage four colon cancer survivor who has been free of disease for nearly 10 years. Her experience with colorectal cancer can be seen in her book full of color cartoons and drawings and titled Cancer Is So Funny, which is available on Amazon for those who are interested.

**Priya Menon:** We also have with us Johnny Nelson. Johnny was diagnosed with stage three cancer in 2011. The cancer was successfully removed post which he underwent six months of chemotherapy. Johnny currently serves on the board of directors of Tribal Liaison for Lynch Syndrome International. During month of March, as we are discussing colorectal cancer awareness month, he petitions the Clark County Commissioners to replace the outer perimeter iconic yellow lights on the world famous, "Welcome to Fabulous Las Vegas" sign to blue lights in recognition of colorectal cancer awareness month. So welcome to Cure Talks, Amy and Johnny. We will be addressing questions from the audience towards the end of the discussion. So you can always send in your questions to [priya@trialx.com](mailto:priya@trialx.com) or you can also post your questions in the comment section and we will try to answer them as time permits. I'll just start off with a discussion without much ado.

**Priya Menon:** So Dr. Hwang, colorectal cancer is believed to occur in older individuals. However, recent studies and stats suggest that the burden of disease is shifting to the younger people. Is this true? And if so, can you talk a little bit on why this is happening currently?

**Dr Jimmy J. Hwang:** So, it's sort of true, but it's not really true. The median age at diagnosis for colorectal cancer is actually still around 70 years old and, and continues to be that way. Some studies suggest it may even be a little bit older than that. So most patients that are diagnosed with colorectal cancer are still very much on the older side. Having said that, it does appear that over the course of the last two decades, since about the mid 1990s, more patients have been diagnosed, with more younger patients, that is, younger being defined as 55 and under, have been diagnosed with colorectal cancer. So over the last 20 years, certainly there have been more patients that are younger have been diagnosed with colorectal cancer. The reasons for this are not entirely clear.



**Dr Jimmy J. Hwang:** I think that certainly there are hypotheses that relate to either a diet and/or exercise, recognizing that those are two trends that we've seen in this country over the course of the last three to four decades. Changes in dietary habits as well as changes in exercise habits. I think that there are other hypotheses that relate to, probably still at least indirectly relating to diet perhaps, that relate to perhaps gut bacteria and whether that has an influence on the development of malignancies. But the honest answer, the most honest answer when I talk to patients or anybody about it is, the reality is we don't know.

**Priya:** Because why is this my first question is because when I was reading up about colorectal cancer, there was also a hypothesis that probably this kind of a change in age group that we are seeing is also maybe because of informed reporting now because of awareness increase, is that, can we also say something of that sort?

**Dr Jimmy J. Hwang:** Well, that's always difficult to prove one way or the other at least in the short term. I think that if we see that the numbers fall off, over the course of the next decade, then that would suggest there hasn't in fact been an increase in the number of a total colorectal cancers, just that there was a surge in reporting, but, I've not really seen a whole lot to suggest that that's necessarily the case. I think when you look at some of the different curves that have been published through the Journal of the National Cancer Institute or through the American Cancer Society, it looks to be a pretty consistent trend over the course of the last several decades. And that would make me really question whether that's just a reporting thing, reporting back that I think that it does really seem like it's a real effect. And then the other thing that would make me say that is a fair number of these patients have advanced disease when they are diagnosed with their colorectal cancer, which will suggest that they have the symptoms that is not an earlier diagnosis of an early stage disease.

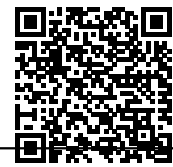
**Priya:** Yeah. Dr Hwang, what we want to do is actually take a deep dive into some of the available treatments and work that is being done, where you're doing at Levine. But before that just to give audience an idea, just in layman's terms, can you please explain what colorectal cancer is and then touch upon some common symptoms as well as tests that can be done for diagnosis?

**Dr Jimmy J. Hwang:** Okay. So, and this is actually an analogy that one of my colleagues came up with and I actually like it very much. I think that, if you go back to 2009 even, probably even longer that if you go back to 2000, pretty much everybody thought of colorectal cancer as being one disease. But what we've learned over the course of the last decade, decade and a half is, as my colleague puts it, colorectal cancer is really more of the family name and that is an umbrella term for different cancers. Now we know that a rectal cancer is not quite the same as the left sided colon cancer, a sigmoid colon cancer's not quite the same as a right sided colon cancer. And then there are different mutations that we've learned about. So colorectal cancer is sort of an overarching name for a set of diseases that are very similar but not necessarily exactly the same.

And that's also reflected in how they present. So, some patients may present with nothing. In the end we find that the cancer has been found at the time of screening. Other patients may have some changes in their bowel habits. They may notice, for example, more bleeding with their bowel movements or pain with their bowel movements. We see that more often with the rectal cancers than we do with right sided colon cancers for instance. Some patients may present with just more fatigue, they're found to be more anemic or we see that more often than with the right side colon cancers for example. And then there were some patients that are found when the cancer has already spread and sometimes patients have symptoms from the fact that their cancer had spread.

**Priya:** So what are some of the diagnostic tests that we do to actually diagnose this as a colorectal cancer?

**Dr Jimmy J. Hwang:** Sure. So, yeah, again, it depends a little bit from a screening standpoint, from a diagnostic standpoint. Diagnostically, probably the most common test is the colonoscopy, or the shorter version of it is called a flexible sigmoidoscopy, but that doesn't get as far to look inside the colon. So it's not always quite as good a test. Usually we use those when a colon cancer is suspected because a patient is anemic, because a patient is having trouble with their bowel movements. But other tests that can be used for



screening, for example, include a stool testing either for blood or or even for a non-colonic type DNA. Once a colon or rectal cancer has been identified, other tests that are used for evaluation of the tumor, the evaluation of the extent of the tumor include CT scans, the so called CAT scans, as well as sometimes in some circumstances what's called the PET scan, Positron Electron Tomography. It is used in certain circumstances, but not necessarily as the initial test. One test that we often look to see if it's something that's helpful, although it's not always helpful is something called the CEA, or Carcinoma Embryonic Antigen, which is actually a blood test. But from a diagnostic standpoint, I think that the key tests being colonoscopy and then CAT scan.

**Priya:** We actually have a listener send in a question regarding this, he wants to know when should a person begin regular colonoscopies?

**Dr Jimmy J Hwang:** Sure. No, that's a great question. I think that's, and it's an important question. Part of it depends on who you ask and part of it depends on a patient's history, and quite possibly on their ethnicity. So, if you go by the most recent American Cancer Society recommendations, everybody should start screening at the age of 45. But there's one very important exception to that, which is patients who have a family history will very much alter, family history or if they have a known genetic mutation may very much alter those recommendations.

So if somebody has a family member who was, for example 50, when they were found to have a colorectal cancer, then the recommendation is that their first degree relatives that is their siblings or their children should get their first screening study at 10 years younger than that. So a patient who has been identified at age 50, their child should undergo screening and not later than age 40. And frankly, if they have any symptoms that are suggestive of colon cancer, they should probably be evaluated sooner. If somebody is known to have what's called Lynch Syndrome or hereditary nonpolyposis colorectal cancer, the recommendations are to screen even earlier than that. So it does depend on that. And then the recommendation for screening to start at age 45 from the American Cancer Society recommendation, even before that though, there were suggestions that African Americans should actually be screened younger than the general population. So before 2018, the recommendations were actually to start screening at age 50 and that African Americans just perhaps start screening at age 45 when they moved down the screen recommendation for the general population of 45, there has not been a subsequent recommendation to lower the age in African Americans, although I think that that's certainly something that is being discussed.

**Priya:** So once diagnosed after all the tests that you mentioned, what is the current standard of care for colorectal cancer?

**Dr Jimmy J Hwang:** So, that's where things get a little confusing. That's why I go back to that analogy of a colorectal cancers in an overarching term for a family of cancers because what we do depends on the stage of the cancer and it does depend on where the cancer is. A rectal cancer is treated differently than a colon cancer. And what order we do things may depend as well. So if you're talking about a rectal cancer that hasn't spread further than any of the local lymph nodes, for example, what we call stage two or stage three rectal cancer, then a lot of times patients will end up getting some combination of surgery, radiation and chemotherapy. They have a very, very early stage rectal cancer. They may not need the radiation and the chemotherapy or perhaps although this remains unclear right now, maybe they don't need the surgery.

Maybe they can only do the chemotherapy and radiation. On the other hand, a colon cancer depends very much on how advanced the cancer is. So if it's a very localized colon cancer, surgery alone may be good enough. If it's a more advanced colon cancer, they spread to the lymph nodes, then most of these patients will recommend somewhere between three and six months of postoperative chemotherapy. But if the cancer has gone away from where it started to a distant organ, to the liver, to the lungs, to the bones, then the role of surgery is less clear and the primary treatment is chemotherapy, sometimes with the addition of radiation.

**Priya:** So we have a listener asking a question about this. What are some of the risks of colorectal surgery?



**Dr Jimmy J. Hwang:** So that depends on where the surgery is being done like literally anatomically. So for a colon cancer, anytime anybody gets cut on, risks will include pain, will include bleeding, but those are relatively temporary. It will depend on how much of the colon has to come out. Sometimes patients will have some changes in their bowel habits compared to what they were before surgery. But I would say most patients seem to get through it fairly well. I'll defer to our patients who've undergone some of these procedures to give you their viewpoint on that. But for a rectal cancer surgery, it's a little bit of a different ball game because as you get closer to the anus, the surgery gets a little bit tougher. The recovery gets to be a little bit tougher and patients are more likely to have changes with their bowel habits. And there are some patients that the cancer is so close to the anus that the surgeons are not able to reconnect everything and they have to have a permanent colostomy, a permanent bag for which the stool to exit the body. And certainly from a body image standpoint and many patients the quality of life standpoint, there are certainly an impact from that.

**Priya:** So the current standard includes surgery, chemotherapy and radiation. So Dr Hwang, could you also talk a little bit about developments in immunotherapy, that can be used or that is being used for colorectal cancer?

**Dr Jimmy J. Hwang:** So immunotherapy, it's been very interesting over the last 20 years or so that I've been working in cancer either as a trainee or now I'm faculty. When I was a trainee, I think that there was a lot of expectation, truthfully more so than some of the other cancers in which immunotherapy is used, that immunotherapy should work in colon cancers. And that's not been shown and that's not been borne out in quite the same way as we've been hoping. The group of patients in which immunotherapy most clearly as helpful are the patients have to have what's called Lynch Syndrome. In those patients, the current immunotherapies that we have, what we called checkpoint inhibitors, which are anti-CTLA-4 inhibitors, anti-PD-1 inhibitors. They do seem to have a very high likelihood of causing tumors to shrink.

But unfortunately for better or for worse, that group of patients in whom immunotherapy seems to work well constitutes may be 5% of all patients with colorectal cancer. For the rest of the patients with colorectal cancer, it is not yet clear that immunotherapy works. There's been one fairly large study, in which immunotherapy was compared to what standard of care chemotherapy, in patients who've had pretreated colorectal cancers. And in that study, immunotherapy actually was not better than and looked like he was a little bit worse than standard chemotherapy. And so right now, most patients, it's not at all clear that immunotherapy works in patients with colorectal cancer, although there are still studies that are ongoing as we try to figure out, are there another group of patients in whom it works better? Are there ways that we can tweak the immunotherapy to make it work better? And there are a number of studies ongoing including one study of which the Levine Cancer Institute is a part, in which patients without prior chemotherapy for metastatic disease. So initial chemotherapy, metastatic disease receive a standard chemotherapy with or without an anti PD-1 inhibitor. But we'll see whether that actually works better.

**Priya:** What about CAR-T cell therapy Dr Hwang, because we've discussed CAR-T on this platform many times before. Is that a rationale that says that CAR-T may work in colorectal cancer?

**Dr Jimmy J. Hwang:** So I would say that for the most part, I would say the answer is too soon to say whether it works. I think the rationale for the hope that it will work is the same underpinnings that led us to believe that vaccine therapies can work in colorectal cancer. There are studies that have suggested that the immune system can respond to colorectal cancer. And so that certainly would be the underpinning of why it's absolutely worth exploring. I think that the issue with CAR-T will be number one, will it or any other immunotherapy work. That's very much an open question. And then for CAR-T in particular, it is going to be the toxicity question as well. So I think it's very, very much too early to say. I think that they are just starting the earliest studies in patients with solid tumors and we look forward to the opportunity to have good results, but certainly that information is not available and probably won't be for a little while.

**Priya:** So I want to prod this a little further. So what are the potential implications if you say that CAR-T cell therapy is proven to be effective for colorectal cancer? What are the implications for other solid tumors in



general if CAR-T works?

**Dr Jimmy J. Hwang:** Well, I think that the implication for any treatment that works, whether it's CAR-T or some other immunotherapy or some targeted therapy is obviously we'll be able to improve patient outcomes. I think that that still remains to be, that's still a big yes. Now, if something does work, then the question is, where does it fit in? Where does it work? When you look at CAR-T in some of the hematologic malignancies, it's not necessarily the first treatment or it's not clear that it's the first treatment that one should be using. And those same questions will come up. Should there be evidence that CAR-T works in colorectal cancer or some other solid tumor.

**Priya:** Yes. Thank you, doctor. One of the risk factors for colorectal cancer is the family history of the disease as you just mentioned some time back. So what are some of the recommended genetic evaluations for such people?

**Dr Jimmy J Hwang:** So it depends. So I guess there's two ways that I can answer that. One is it does depend a little bit on the family history. Although the specific family history, there are certain patterns that we may think about, depending on a patient's family history. For example, with regards to uterine cancer, may push, point us in the direction towards Lynch Syndrome. A very young onset for colon cancer may push us towards familial adenomatous polyposis. The reality is, we, at this point, for the most part, when a patient comes in, if they have a family history that is suggestive or if they're very young, we'll usually send off a panel of many genes. I don't want to call it a fishing expedition, but trying to make sure that we've covered all of our bases so that we're not missing on a possibility. And so the patients get sent off for a panel is not usually sending off looking for just one gene or 6 genes or something like that.

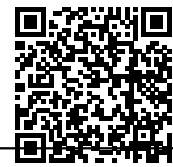
**Priya:** So we have a listener who has sent in a question. I know it's kind of resonates with what you just said, but he wants to know how important is getting genetic counseling for colorectal cancer screening?

**Dr Jimmy J. Hwang:** So I don't think that it's necessary to, if I'm understanding the question correctly, I don't think it's necessary to have genetic counseling. Counseling patients that are just undergoing screening, I think the importance of genetic counseling is for patients who've been diagnosed with colorectal cancer undergo genetic counseling. Now, having said that, if a patient is known to have increased genetic risk for colorectal cancer, that will absolutely influence the timing of screening. If a patient is known to have Lynch Syndrome, as I mentioned, if they're known to have familial adenomatous polyposis, then they are recommended to start screening sooner than the general population. So, if somebody has a known genetic predisposition, then that does influence screening recommendations, but I don't recommend that somebody goes to a genetic counseling just because they're getting screening.

**Priya:** Yeah, right. There is an emerging evidence of clinical relevance of biomarkers in colorectal cancer, but apparently no widespread adoption into clinical practice. So, doctor, can you talk a little bit about where we are in terms of molecular targeting, biomarkers and personalised therapy in colorectal cancer?

**Dr Jimmy J. Hwang:** I would disagree that that biomarkers haven't necessarily taken, gotten to widespread adoption in colorectal cancer. Although I will acknowledge that it's probably not as universal as we would like. There are always stories or statistics of some small group of providers who don't obtain what I think most people would agree are standard of care biomarkers. So they're really two main biomarkers that we'll test for. Now these are tumor biomarkers, not blood test biomarkers, unfortunately there aren't any universal blood test biomarkers at this point. But the tumor biomarkers that are usually tested for first of all, will end up being what's called from microsatellite instability that may help us determine which patients may have Lynch Syndrome. It does help us make decisions with regards to some patients that may benefit from postoperative chemotherapy or more to the point don't benefit from postoperative chemotherapy.

And that may also suggest a group of patients that are more susceptible, are more amenable to receiving immunotherapy. So the microsatellite instability testing is one set of biomarkers that I think is generally tested for and I think is again, it may not be universal because every so often I'll see a patient that didn't have that



evaluated but much, much, much more often than not, they are tested. And I think most most oncologists would agree, everybody should at least with regards to colorectal cancer. The second one that we test 40 universally, are again, I think, or we should be testing universally and occasionally we'll see folks that hadn't, but that's the minority of patients, providers in my experience is something called a K-ras mutations or Ras Mutations and those Ras mutations, it doesn't tell us who will benefit from different therapies, but it will tell us which patients are not likely to benefit from what we call Epidermal Growth Factor or EGFR are receptor inhibitors.

**Dr Jimmy J. Hwang:** Drugs like Panitumumab or Cetuximab, if a patient has a Ras mutation, they will not respond to those therapies. And so again, it doesn't tell us who should be treated, but it does give us an idea of who shouldn't be treated. And so with those types of markers, I think that helps us with personalizing therapy in trying to figure out what the best treatments are, or at least can we avoid treating patients with something that's not gonna work.

**Priya:** Thank you doctor. I have just one more question before I hand it over to Amy and Johnny for their questions. Just imagine I'm here going to screening for intervention, preventing colorectal cancer. My question is, is it really possible to prevent colorectal cancer?

**Dr Jimmy J. Hwang:** So yes, yes. In some patients it is, not every case is preventable. Unfortunately I feel fairly comfortable in saying that but some cases are. And I think one of the things that you see is that there has been a decrease in the group of patients who are over 50. Over time there is a decreasing incidence of colorectal cancer, even though there's been an increase in the younger patient population. And the data suggested that that is because there are fewer cases of being diagnosed because they are being prevented. And the sense from the data is that prevention is because of colonoscopies finding precancerous polyps in the colon and then removing them before they can turn into cancer. And so that to me is really the biggest importance of patients getting their screening colonoscopy.

Yes, we can identify cancer sooner, but can we also identify precancerous lesions, get those lesions taken out so they never develop into colon cancers? So that's really the number one way of, of trying to prevent colon cancers. I think that there's some data suggesting that aspirin may decrease the risk of colon cancers. That's clearest in patients who've already had a colon cancer in the past, that we can definitely prevent some of those precancerous lesions, but it's less clear that that holds true for the general population. The same is true for vitamin D, although the data there is much softer. So I would say colonoscopies and removing colon precancerous polyps is one way that we can prevent colon cancers. And there was some suggestion that aspirin, although again, that's clear it's for patients who've had prior colon cancer themselves is not as clear in the general population that aspirin will prevent colon polyps.

**Priya:** Thank you, Dr Hwang, I'll hand it over to Amy. Amy, you can ask your questions.

**Amy Marash:** Hi. Yeah. Hello I'm Amy Marash. Actually Dr. Hwang treated me in 2009 for colon cancer. At that time when I was diagnosed I was 58, which I guess according to what you guys said was pretty near the, considered young. I have two questions. One is, what would you recommend for my kids who are in their thirties? When I was diagnosed, I had no known risk factors. But certainly my kids must now, what do you think they should do?

**Dr Jimmy J. Hwang:** It should still be the general recommendations because you were 58, when you were diagnosed, 58 minus 10 is 48. And we may have talked about it, I'm sure we talked about before. And at that point of time, what that would have been, is we would have told them, yes, they need to screen sooner than the general population, but now that they've moved the age down for this meeting of the general population, the numbers would match. So I would actually say they should start screening at age 45 like the general population with the other caveat being that of course if they have any symptoms that are suggestive of colon cancer with regards to the change in their bowel movements, the size, the color, pain, that regardless of how old they are, that they should absolutely get evaluated and you can debate whether a colonoscopy at that time would be screening or actually diagnostic, but either way I would recommend that



they do it.

**Amy:** Okay. Thank you. And also thank you for the great treatment that I received because here I am almost 10 years out, so that's all good news. The other thing I was curious about is the risk factor, the things you mentioned, the changes in the bowel and that kind of thing. If someone in their 50s or 60s goes to a gastroenterologist, I assume it's pretty easy to get a scheduled colonoscopy and your insurance would approve. But how about people in their twenties and thirties and forties, is it harder for young people to one, convince their physicians to the head it would be a good idea to do a colonoscopy and two to convince their insurance?

**Dr Jimmy J Hwang:** That's a great question. And in some ways, I'm not the best placed person to answer that because the patients that are seeing me have already been diagnosed. It is only some of them you hear stories about, they felt of patients who felt like they, something was wrong and their provider said it's just a hemorrhoids. But, by the same token, last week, I saw a patient who had changes in his bowel movements. He had some blood over the course of six months and then he decided that maybe it was a problem and then he would present this to somebody who then scooped him right away. So I think that it's probably some of both, somebody assumes that they are in their 20s, so I can't have cancer.

Or the doctor says you are in your 20s, that can't be cancer. There's probably some of each, but having said that, I've certainly not heard any issues from an insurance standpoint, although I'm sure there are stories out there that will contradict me, but I've not heard any stories of any of the patients that I've seen that says no, I had rectal bleeding, rectal pain with bowel movements and my insurance wouldn't let me get this to the test because at that point is diagnostic and not screening.

**Amy:** And yet you mentioned that many of the young people who develop colorectal cancer when they're diagnosed, they're already at stage three or four, which kind of suggests they didn't get early screening or early diagnosis?

**Dr Jimmy J. Hwang:** Not necessarily, not necessarily. One could postulate, although that's not, not at all clear that, is the cancer more aggressive or is it biologically different? So that more patients that are younger, actually have more advanced disease period because...

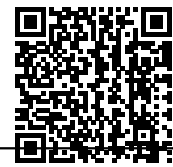
**Amy:** Do you see a lot of patients through all the age groups? Do you have, I know you're not likely to do a hunch, you're kind of data driven, but what's your hunch?

**Dr Jimmy J. Hwang:** There've been studies that have reported both things. Some studies have suggested that there is not a clear difference in the biologic activity of colorectal cancer. There are a couple of studies that suggest the younger patients do have more aggressive colorectal cancer. So, there's data on both sides and I'm not sure that, I would say that it's not, it's not clear to me one way or the other, but there's data on both sides and supporting both arguments.

**Amy:** Okay. I'm willing to turn it over to Johnny if he's got a question.

**Priya:** Thank you Amy. Johnny, you can ask your questions.

**Johnny Nelson:** Yes. Thank you for having me on the show this afternoon. My history with colon cancer is that I was diagnosed in 2011 with a stage three colon cancer. In my case, my cancer was found by a colonoscopy, which there's a strong, a very strong history of a family in my family of colon cancer. I have lost two siblings in their early age of 30, in their thirties. My mother had colon cancer twice. The first time was when she was about 40 years old. The second time was when she's about 76. She's also a one time a breast cancer survivor. She continues to do very well. After losing my first sister, when she was about age 32 to colon and stomach cancer. There was 11 siblings in my family. I was the oldest of 11, her doctor recommended that I have a colonoscopy as soon as, as possible.



At that time I was in my late thirties. Had the colonoscopy done, there was one polyp found. Evidently, this particular polyp I had was more of a flat style of polyp, which could not be removed during the procedure. So I had to have it surgically removed. That was about 1998. After that, the doctor recommended that I have a colonoscopy every eight to 10 years. I was not comfortable with that. I moved from the previous state I was in, which is New Mexico, into Las Vegas. I started my own screenings between every two to three years. 2011 is when I was diagnosed or I went in for my, what I call my regular screening. I was approaching my third year when they this large mass in my right side. So since then I have been diagnosed with Lynch Syndrome. So that's kind of what's led me up to today's show as far as being an advocate for colon cancer and for Lynch Syndrome. My first question is with the new data coming out, as far as younger people, at least recommendation for people age 45 and under, you've kind of touched a little bit on that, but my first question is how are the doctors now, are they encouraging 45 year olds to get at least 45 and younger? I know you touched on it a little bit.

**Dr Jimmy J. Hwang:** So yeah, that's again a little bit ill placed just say broadly from a primary care environment, what they're saying, but certainly from our end, yes, we absolutely advocate for 45. I don't necessarily advocate for younger, although I think that, as I alluded to, I think this question about whether or not African Americans should be screened younger, it's still an open question. But, I think that the importance of this kind of a program, in most programs is the importance of getting the word out there, because the dissemination, there's so much information that exists, that I don't envy primary care providers and what they need to do in terms of taking care of patients, keep me up on all of the information. And it's not easy for them to keep up with everything, but having said, that this is obviously something that I view as being important to disseminate on both ends.

So for patients to be there to be able to be their own advocates about this is a recommendation that standard recommendation. So I need to be doing it. No, it's not still 50 years old, although in fairness though, the recommended change just came route last June. So, not everybody may be entirely familiar with that, but absolutely, I do recommend 45 for general population. Now for somebody with Lynch Syndrome, again, the recommendation is going to be different. I think the recommendation is age 30, depending on what the specifics of the family history is. And there's some people that they'll recommend starting with Lynch starting screening from age 18, it just sort of depends on the specifics.

**Johnny:** Right, right. One of my next question is in regards to a younger people being diagnosed with colon cancer, what is the thought as far as why, could it be something as far as diet, maybe the types of food?

**Dr Jimmy J. Hwang:** So, as I mentioned that it's not entirely clear. I don't know that any. So there've been a couple of things that have been suggested dietarily. One, broadly speaking has been sort of a low fiber, high fat diet. It has been one set of suggestions, a second set suggestions that it may have to do with red meat. But I think that outside of diet and I tend to also believe that that is not simply diet, but also exercise has a role in this as well or lack of exercise, probably has a role in it. There was a paper that was just published within the last week or two suggesting at least in females that obesity may have something to do with a younger age at diagnosis which obviously it could be at the confluence of both weight.

I'm trying to both diet as well as exercise. So, but why that would be specifically for females, not males, one could raise that, say that's an open question, one could suggest estrogen has something to do with it. But older studies suggested that that estrogen may be more protective than anything. So I think that the whole picture is still a little bit hazy, but that's certainly there are some suggestions that a high fat, low fiber diet is not helpful, eating a lot of red meat is not helpful, smoking's not helpful, but I think that it's hard to say that there's definitely one cause.

**Johnny:** Okay. All right. My next question has to do with, maybe not a certain brand of prep, but maybe a procedure of prep. I've been through so many in my personal experience here. I do a colonoscopy now every year. So early on prep was one of my biggest concerns because I believe that if a person doesn't do a very good prep, they're just basically wasting everybody's time to a point. My question is, is there a certain, a particular brand or procedure that you might recommend?





**Dr Jimmy J. Hwang:** No. The simple version is no, I'm not sure that I can recommend that one is necessarily better than others. I've had some patients where one type is better and other patients where another, that type didn't work well for them and a different one worked better for them. So, no, it's a little bit hard for me to say one is necessarily better than the other.

**Johnny:** Right. I guess the reason why I bring up that particular question for me as in my case, the style of polyp I had was a flat style. And from what I understand, sometimes it can be overlooked. And so, if a person doesn't have a very good prep that may get missed.

**Dr Jimmy J. Hwang:** Absolutely true. Absolutely true. And I think that that just points out the importance of it being as good at prep as we can. But it's not something that's easily predictable.

**Johnny:** Okay. All right. My next question is, has to do with colonoscopies. Every since I started young or as far as like my late thirties with colonoscopies, my siblings actually, they had both colon and stomach cancer. And my question is, do you recommend endoscopy along with the colonoscopy?

**Dr Jimmy J. Hwang:** For somebody with Lynch Syndrome? That's a great question. For somebody who doesn't have Lynch Syndrome, no. For Lynch Syndrome, I do generally have my patients get an upper endoscopy at least once every couple of years. I don't necessarily recommend it every year though.

**Johnny:** Right. Okay. Thank you. My last question is, do you find that are more doctors looking at family history and recommending further testing such as genetic testing?

**Dr Jimmy J. Hwang:** From an oncologist standpoint? I think yes. Yeah, both that as well as age. I definitely think that it's something that we talk about more now than we did 10 years ago and more than 20 years ago. So I think that's definitely true. Again from a primary care provider standpoint that's not as clear to me, although it's certainly is a checkbox, in most electronic records. And so I think that, I think it doesn't leave come up.

**Johnny:** Okay. I appreciate your answers. Thank you.

**Dr Jimmy J. Hwang:** Sure. Thank you.

**Priya:** Thank you Johnny. So Dr we will now go on to the audience questions. We have quite a few of them which have been sent in and I think we did answer some as well. The first one is, is colorectal cancer in young adults different from those in older adults?

**Dr Jimmy J. Hwang:** That's a great question. I think that to some extent the answer is yes. There've been a couple of different studies that suggested there are some different mutations that we see in younger patients than we see in older patients. It's not absolute, it's not an absolute truth. There are some younger patients with genetic tumor, genetic profile looks the same as an older patient's would. But I think that as a population, there's certainly studies that suggest that there are genetic different gene mutations that we see in younger patients, that we see in older patients and some of those do have their pubic implications. So from that standpoint, yes, there are some differences in younger versus older.

**Priya:** We have another question. I think you did mention vitamin D sometime back. So the question is, does vitamin D really protect against colorectal cancer?

**Dr Jimmy J. Hwang:** That's not that clear at this point. I think that there the main basis for suggestions for Vitamin D is the nurses' health study that suggested that nurses, back in the eighties and nineties who were taking vitamin D regularly had a lower risk of having colon polyps. And so the thought was and has been that, that decreased risk of colon polyps would translate into a decreased risk of colon cancer. Having said that, that's not that clear, that that second step has followed. That is to say, even though there was a decreased risk of colon polyps, in those nurses is not as clear that there's decreased risk of colon cancer.



And there've been a couple of other similar studies that have looked at vitamin D and they haven't had the same association with decreased risk of colon polyps.

So, I think that it's not clear that vitamin D prevents colon cancer. So the context that I've always discussed with my patients and I think I had the same discussion with Mrs Marash once upon a time, was that if there are other reasons for somebody to be on vitamin D, I don't think that it'll hurt. But it's also very difficult to say, yes, you should absolutely take vitamin D because it will definitely help. I think that that part is less clear and but, if somebody has osteoporosis or is at risk for osteoporosis and that's a reason for them to be on vitamin D, an additional benefit, something else to try to get them the additional potential benefit and additional reason to try to encourage them to take something that may be beneficial as well. Maybe it'll help with the colon polyps as well. But I don't usually tell patients, yes, you should do this to prevent colon polyps. Maybe it'll help. But it's certainly not my first strongest recommendation.

**Priya:** Okay. Thank you doctor. The next question is I think you touched on this as well, about a study on physical activity reducing the growth of colorectal tumor cells. So the question is can Dr Hwang comment on this. A news article actually talked about short bursts of intense physical activity reducing the growth of colorectal tumor cells, so can Dr. Hwang comment on this?

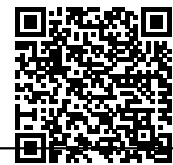
**Dr Jimmy J. Hwang:** I'm not sure that the data is very clear in my opinion about whether one type or another of physical activity is preferred with regards to duration, with regards to intensity, it's a hard thing to study, in terms of ultimately what the impact on the colon cancer cell ends up being. So, I think when it comes to people, it's hard to say, no, you must do this type of activity in order to benefit, because I think the data is not at all that clear. My personal discussion with patients tends to be, it's most important that you're doing something from a physical activity, exercise standpoint. I think that it's hard to prescribe one over the other. And not all patients can do all of them anyways. But I think that I would say that it's not, to my mind and my studies, I don't think that it's clear that one type of physical activity or exercise is better than the others.

**Priya:** So we have another question. What are some of the things a person can do to reduce the risk of colon cancer? Are there any guidelines?

**Dr Jimmy J. Hwang:** Yeah, so from a prevention standpoint, from somebody who has no clear risks or no personal history, I would say that there's certainly no specific guidelines. They think that the general discussions that are had are high fiber, low fat diets are beneficial. I think that decreased was suggested I know how much red meat anybody's eating, but minimizing red meat intake may be beneficial. I'm not one who says you can't have anything. So as Mrs Marash has heard me say in the past, I believe that most things in moderation are fine. I think that that doesn't mean you can't have any red meat, but I'm not sure you want to be going on a diet where you're having red meat every night or every other night or something like that. But I think that a high fiber is a beneficial thing, low fat is a beneficial thing. I think that lower red meat is a beneficial thing. And then as the other preceding question had alluded to, I think exercise is an important thing. Those are probably the main thing that one can do to prevent that as well as again, doing the screenings. Because I think that if we can find a polyp before it can turn into cancer, we can prevent cancer in that fashion.

**Priya:** Okay. Thank you. Doctor. I have just one last question. With this we can wrap up. The question is, what are some of the clinical trials that patients should be tracking?

**Dr Jimmy J. Hwang:** Well, it depends on the patient. It depends on their, it does depend on their genetic profiles specifically. Yeah, one of the things that's become challenging is treatment, development of treatments in patients with colon cancer ends up being that because we're now looking at smaller and smaller groups based on some of their genetic profile findings, not everything that we learned will necessarily apply to everybody. So we'll I think that the one we're looking at the rectal cancer studies, I think that the most exciting ones that we're waiting to get the study to finish and then be able to evaluate, end up relating to preoperative – do we give chemotherapy before surgery, before radiation, before surgery?



Because ultimately part of the question with those kinds of studies may lead to the possibility of, well, does everybody needs surgery to begin with, for rectal cancer and with the potential being that maybe they don't all need surgery. So that's really one of the biggest ones that we're looking forward to as a community. But frankly, those results probably won't be available for a couple of more years and even that will be some of the preliminary results. The second set of studies that I think more universally maybe accessible will be the one I alluded to earlier for patients with metastatic colorectal cancer, getting initial chemotherapy with or without immunotherapy because that's a study that number one – is looking at immunotherapy in the early setting when patients haven't had a lot of chemotherapy. And then secondly, because it's what we would call mutation agnostic. It doesn't matter what a patient's tumor mutation profile is. And so it may be broadly applicable. And so I think we'll learn a lot from that pair of studies that may apply to a lot of different patients. But it'll still be a while before we get those results.

**Priya:** Thank you Dr Hwang. According to the American Cancer Society, there will be more than hundred thousand new cases of colon cancer and more than 44,000 rectal cancer cases diagnosed in 2019. Colorectal cancer may cause over 50,000 deaths this year. However, 90% of colorectal cancers are preventable, but one out of three people who should be screened aren't doing it. So with the message of Screen, Prevent and Treat Colorectal Cancer, Dr Hwang, thank you so much for sharing treatment options and the latest research, trials and screenings in colorectal cancer with us today. Amy and Johnny, thanks a lot for your participation and bringing in the patient's perspective into the discussion. We would also like to thank Levine Cancer Institute and also the audience for all the questions that you've sent in. The talk would be available on curetalks.com. Please visit our website for details on all upcoming talks. Thank you and have a great evening, everyone.

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