Good afternoon, Good evening, everyone, and thank you for joining our webinar. My name is Becky Campbell, and I'm the senior manager of medical content here at PCF. We're so excited to welcome you, and we really appreciate you taking time out of your day to, to join us. It's really because of your interest and your support that we produce these webinars, and we're glad that you have an interest in learning a bit more about about your health and how you can live better, during or during and with, prostate cancer.

Before we go any further, I'd like to extend a special thanks to our supporters. We thank them for their generous sponsorship of this event. And just to note that all views expressed during the webinar represent those of the speakers.

So why are we, talking about heart health during Prostate Cancer Awareness Month?
In case you're not, not aware, PCF is running a couple of virtual challenges that are a fun way to, get engaged in your health. Learn about some tips and support others who are embarking on a health journey.
So in addition to being generally aware of prostate cancer and prostate cancer risk, we also want folks to be aware of ways that they can empower their selves to get healthier.

We have the 108 Miles in September Challenge, and these folks are, joining together on Facebook. You can see some of their pictures they're wearing their T shirts as they complete 108 miles through running, walking, hiking, biking, swimming, whatever they want to do in order to raise awareness, and, take charge of their health.

We also have 30 foods in 30 days. So we're challenging people to try 30 healthy foods this month. We have, kind of a fun checklist that you can put up on your fridge. We have some recipes. We have information about each food. So it's a fun way to try some healthy new foods. You can go to PCF.org to learn more about that.

Just a quick overview of the Prostate Cancer Foundation, in case you're not familiar. So, our organization was founded in 1993, and the way that, PCF works to reduce death and suffering from this disease is to fund research. And you can see some examples of the teams that we funded there, on the screen. We fund team science, some of these awards to really address the most .. most lethal forms of prostate cancer.

We also fund individual scientists, especially those at the beginning of their careers, to nurture them and hopefully inspire them to continue a career in prostate cancer research.

In addition to funding research, we also strive to ensure the patients have the knowledge they need to make decisions about their care. You can

go to PCF.org to find guides, view our past webinars, join a support group. We have a virtual summit on advanced prostate cancer coming up on October 5th. And you can register there at the link. And, finally, the newest addition to our support resources is called Prostate Cancer Patient Voices. And this is a great site. Dr. Klaassen, our host tonight has contributed a lot of content here. And you can listen to patients telling their stories in their own words to really normalize the experience.

And the example of how, your support can help fund research is just one example here. Dr. Flanagan is, looking at a data set of patients with prostate cancer. She's looking at how their diet and use of certain medications may potentially prevent the development of a particularly aggressive form of prostate cancer, that loses a gene called PTEN.
So this is just one example of a sort of lifestyle and diet related study that PCF is funding.

So without further ado, let me move on to introduce our host and our speakers. Dr. Zach Klaassen is a urologic oncologist at Wellstar MCG Health. He's a lead contributor at UroToday, the provider education website, and he's been a great contributor to PCF.org

We also have Dr. June Chan. She is a Professor of Epidemiology, Biostatistics and of urology at UCSF, and Dr. Avirup Guha, an Assistant Professor and a cardio oncologist at Wellstar MCG Health.
So, welcome to all of you and I'm going to let, Dr. Klaassen take it from here.

Becky, thanks so much for the kind introduction. And I want to thank PCF again for the opportunity to, host another one of these webinars. This is a little different webinar than we've done the past, usually focusing on prostate cancer itself.

And so as a urologic oncologist, I know when I have my limitations, we have two very smart people in the fields of cardiology, nutrition, statistics and really have done some excellent work in this field.
And so I want to do a bit of an expanded introduction for both of these excellent folks. So I'm going to start with Dr. Chan who's at UCSF.

So maybe do an introduction for our listeners today.

Great. Thank you Dr. Klaassen and Becky. And just extend my thanks to PCF for inviting us here today. So I'm a cancer epidemiologist by training on my background is in applied math and biology.
And the question I believe is how I got into this field. So actually I discovered epidemiology in college. I was always interested in nutrition and health. I was actually working on some. My college thesis was on diet, obesity and diabetes. But this was right around the time with PSA screening in the early 1990s was kicking in. And some smart advisors of mine mentioned that, prostate cancer is going to be on the uptick, and there's going to be a large population of people diagnosed with the disease.

And so really early on, actually, I was one of the CapCure Young Investigator awardees, right out of grad school. And so with that project, CapCure was an earlier form of PCF for the earlier name for PCF, with that project set out to really address a common question faced by cancer survivors, which is what can I eat or do that lowers the chances of my cancer occurring and progressing?
And that has actually been a very constant and primary theme of my research for the last 25 years.

Wonderful. So thanks so much for joining us. And Dr. Guha is, a close colleague of mine at Wellstar Health. And so, Dr. Guha, a new field of cardio oncology. And we're so grateful to have you in our team. And so maybe introduce your field and yourself.

Absolutely. And thank you again. Zack. Becky, and thank you for inviting us to give this talk.
So, cardio oncology is a specialty, which has been around for about 15 years, actually, the, International Cardio-oncology Society was founded 15 years ago, is celebrating its 15th year this year. It's a, field which has come into being because our oncology colleagues, Zach and many others who have worked in the field of prostate cancer have done so well that patients mostly die with prostate cancer. They don't die of prostate cancer. Five-year survival unless you're diagnosed with end stage prostate cancer is upwards of 95. And some colleagues might say 99%.

So, the field is very important when it pertains to prostate cancer, because a lot of the, patients are going to have morbidity and mortality from the cardiovascular standpoint, which we are here to discuss today.

I got into this field through my, training in cardiology at Ohio State University, where there's a huge, comprehensive cancer center. And believe it or not, the first cancer I was very interested in was actually a heme cancer. So prostate cancer came secondarily to me because, my wife's grandfather died of prostate cancer. And, he actually died of a complication related to his heart. So, I, I got into it pretty much very organically from all of those standpoints.

Wonderful. So, we're going to kick off with an excellent session on cardiovascular disease and prostate cancer. A couple of housekeeping items, from my standpoint, looks like some folks have already started asking questions in the Q&A, which is awesome. So while, I'm the moderator, I'm going to have Dr. Guha, Dr. Chan do a lot of the speaking. I'm going to try to answer questions along as we go on the chat.

If we don't get to your, get your specific questions, we'll try to have some Q&A at the end and answer some generalities and some questions that have come in before, the webinar this evening.

So I'm going to kick it back to Becky for slides and to Dr. Guha and Dr. Chen for the cardiovascular discussion.

Excellent. So, let's go to the first slide. So as I said earlier, prostate cancer, this is, how most cancers look actually at the when you get, about ten years out or 120 months is, how all cancers look, prostate cancer being one of them, where the chance of dying of heart disease gets higher and higher.

In fact, if you get about, the same period, which is, put in this figure, on the right hand corner, you will see, that the blue curve, which is what the mortality because of cardiovascular disease actually exceeds the, the orange curve. And it's kind of hard to see. But if you see further down the blue curves increases over the orange curve. So, it is very much, the, the cause of problems later on after your prostate cancer diagnosis.

Next slide. So a little bit about risk factors. And, you know, modification of risk factors …. prevents development of cardiovascular disease. So, I'm glad to be part of this cohort.
So we actually recruit patients to this cohort which is predominantly based out of Canada. And this cohort at the time of this publication, at 2600 and now well over 4000 patients, and it actually has, data about what happens to 4 or 5 most important risk factors which lead to cardiovascular disease.

Going from left to right is obesity, which is the waist to hip ratio, as you see, then blood pressure or hypertension, then cholesterol and sort of answers one of the cholesterol questions, which was just asked in the Q&A.I just noticed,
Following with this physical activity level, actually, I'm standing for this webinar, so I, I kind of believe in this myself.

And then smoking. And what it shows is in patients who have, CVD versus no CVD, which is predominantly the initial population which recruited to the study, the ratio of risk factor was much higher in patients who already have CVD.

However, there's a lot of uncontrolled risk factors which are noted, across the board. So in in these men, which is about 2,600, 22% had existing cardiovascular disease.
So it's not uncommon when you get diagnosed with prostate cancer that you will have cardiovascular disease. But the problem is the uncontrolled risk factors, which leads to a future risk of another cardiovascular disease, which is 99…greater than 99% Patients in this cohort, had at least one uncontrolled risk factor. This is the red part. So we're here. And 57% of all the patients had poor global risk factor control, which is the last bar chart on which you see, which is, sort of a composite of these, at least these five risk factors. But it doesn't include all the possible risk factors, really. Next slide.

So, sort of going into a depth of covering almost several questions we've already been asked about, androgen deprivation therapy and how that can cause or augment cardiovascular disease.

So I'm not going to get into too much details of these medications because many of you in the audience probably are on it or have heard of these medications. A lot of them are called androgen deprivation therapy. Some of them down here, which is the androgen biosynthesis inhibitors and second-generation ARSIs are all called ARSIs is total.

But what they all do is they can cause, problems with muscle strength. They reduce lean muscle mass and increase fat mass. And that's sort of how me and Dr. Chan will go back and forth as to about how that, can be augmented with nutrition.

And then also, it can, lead to bone weakness, again, another point of nutrition, which will be helpful. Obviously, a lot of you have been affected by cardiovascular disease, and we talk about how specifically these agents can cause and augment cardiovascular disease.

There's something called metabolic syndrome, which is a composite of, of increased waist circumference, worsening lipids, worsening glucose, or developing diabetes, which is called metabolic syndrome. And all of them worsen when you are on androgen deprivation therapy, in fact to the point of, triglycerides … worsening in about 26.5%, patients and diabetes developing eventually in 60% of patients.

We had a question about high blood pressure. And, specifically, some ARSIs can worsen hypertension more than others. And, arterial stiffness is sort of a precursor, to cardiovascular disease, as is seen with hypertension. So all grades of hypertension happen in about 20% of patients and people with severe hypertension leading…changing therapy happens in 6.9% patients.

I will go to the next slide. All right. So here's where I think we will jump to the ABCDE. And Zach I think we can go start going back and forth. So we'll skip this. Yes. So, what we decided to do just to sort of make it, you know, a, an interactive from the standpoint of me and Dr. Chan, we will talk about cover these, these topics broadly. And what I will try to do is I will speak about these and Dr. Chan will speak about these, and I'll try to tackle some questions in the chat that we will have a rapid discussion and hopefully get to everyone's questions.

So I'll start with awareness. And awareness is what I talked about. Awareness is how, prostate cancer patients have uncontrolled risk factors

and awareness is how a lot of the risk factors, are led, are associated with cardiovascular disease and cardiovascular disease risk factors.

So, Dr. Chan, what do you think Our audience need to be aware of, about nutrition when it comes, pertains to prostate cancer?

There's quite a few. Well, people should know that a lot of the risk factors for prostate cancer progression. So just to clarify, a lot of the things I'll talk about today is focused on if you already have been diagnosed with prostate cancer and what are the effects of diet and exercise after diagnosis on progression and death. So most of my comments are not going to be so much about the risk of developing prostate cancer.

So one general message I think that's important for people to realize is there's great overlap in the diet and exercise recommendations for preventing lethal prostate cancer, Cancer progression, as with, what someone would also recommend for a heart healthy diet plan. And I will have some slides with more details on that.

But just to know that if you follow like AHA [American Heart Association] Guidelines, that captures a lot of the cancer prevention guidelines as well as cancer **progression** prevention guidelines.

Dr. Guha, would you say that this is underappreciated in terms of risk factors for patients and providers?

I think so because, the risk factor for prostate cancer and risk factor for cardiovascular disease, many of them are overlap, right.
Because, that's why they're called shared risk factors. So, the reason why somebody develops any disease is risk factors. So it's not unusual that several risk factors when it comes to diet, are the risk factors for the of risk factors for prostate cancer are also risk factors for cardiovascular disease such as, you know, things high in sugar, cholesterol and such.

Sort of moving to the second point, which I'd like to cover is the use of aspirin. Now, this is one of those situations where people who have existing cardiovascular disease, specifically, having coronary artery disease or stroke or peripheral artery disease are ones who should definitely be on aspirin, which is a class 1 recommendation. I believe, as I talked about earlier, that because there's so much undiagnosed disease which will eventually get diagnosed because of shared risk factors, I use aspirin for primary prevention in patients with prostate cancer.
It might be contentious because most of the primary prevention guidelines have talked about not using aspirin because of evidence from non-cancer patients.

However, non-cancer patients also have less events of cardiovascular disease. Because if they have less events of cardiovascular disease, prevention of that is not as important as people who have higher incidence of cardiovascular disease as people with prostate cancer.

So that's something which is, which is important. Dr. Chan, any role of aspirin when it comes to nutrition. Is that something which, which, you know, aspirin if that already patients are already taking they need to think about in terms of diet or things not to.

Yeah, actually, I'll comment in a different way. There are some data that people might want to be aware of, specifically on the potential benefits of taking aspirin and actually dying from prostate cancer, though.
So there have been studies looking in large populations of people who've already been diagnosed with prostate cancer, with localized disease, and seeing whether those who use aspirin regularly, most likely because they've been recommended to take it for their heart, actually have a lower risk of prostate cancer progression and death.

And it's intriguing because there are a number of studies that have observed that, including some large well-conducted cohorts. I would just say there's a caveat in any of the observational research studies out there that have been able to look at these secondary data analyses of studies that might have been looking at aspirin and heart disease.
They're they are observational. They're not randomized controlled trials looking at the specific outcomes for prostate cancer. And there are some inherent biases in those that I won't go into details on.
But there are some inherent biases. So I, I think it's nice to see that there's also a benefit for, you know, a signal right now for prostate cancer progression.

But ideally one would wait to see the dedicated randomized controlled trial data. There is a large randomized controlled trial actually looking at statins and aspirin specifically for prostate cancer. It's just going to be like a decade until that's done. So.

And Dr. Guha, what about the last A is arrhythmia. Can you speak to arrhythmia on the ABCDE scale?

Yeah, absolutely. Actually, if I can bring the slides back on and go to that slide which has all the medications on it, because I want to sort of point out because, you know, it's not a common effect.
And, and so the slide I think was it the slide before this after the one before that. Yes.

So arrhythmias. So arrhythmias are, so you know, there was a question in the chat what cardiovascular disease was I referring to. I was referring to atherosclerotic cardiovascular disease and perhaps at least hypertension, which is obviously ischemic heart disease, hypertension, which is HTN.

And those are the two I'm referring to here. There's the myocardial infarction, which is a part of ischemic heart disease spectrum. There is stroke which is not listed even here. But I would consider it to be similarly important as ischemic heart disease. And there's peripheral artery disease.

Now arrhythmias are outside of that. Or it means that things which are atrial fibrillation, AF as listed here, QTc, which is one of the electrical abnormalities which can happen to your heart.

Now, as you might note over here, the AF and the QTc are very, very small when it comes to cardiovascular disease development or cardiovascular disease worsening. What I recommend patients when they are on, abiraterone, which is the last medicine listed.

Perhaps one of the questions was about TAK700, which is a trial where the patient was on medicine, which is similar to abiraterone, but the steroidal component is not there in TAK700. So it's kind of important to know that that medicine has that benefit.

Is that steroidal component of abiraterone can cause, cause, atrial fibrillation. So it can, it can it's one of the rhythm abnormalities where you have to be on a blood thinner. Which will prevent a stroke. So, so that's the only thing which I would like to mention.

All the QT prolongation, if you ever hear your androgen deprivation therapy is worsening your QT, there's likely something else either in as I said, I don't want to use the word diet over here in a very heavy handedly, but something would you eat and something would you take as medicine, all of that contributing to that electrical abnormality, which now the medicine you were put on can worsen.

So, so otherwise, it's a very safe. All the androgen deprivation therapy medications are pretty safe from arrhythmia standpoint. As you might notice, all the big red circles on the left side and not on the right side.

Excellent. So that takes care of A, in the ABCDE category. So let's move on to B. Dr. Guha, speak to us about blood pressure. Where most of us live in the United States or probably on this call, we're all at increased risk of, blood pressure issues, including myself.
So maybe speak to us about the importance of blood pressure in the context of prostate cancer and prostate cancer survivorship.

Okay. So I would start with like definition of blood pressure. Right. Because the thing is the definition keep changing, the you know the goalposts keep changing. As to you know many of you on the call have a blood pressure machine at home which you use. So what is hypertension. Hypertension is your top number which is systolic above 120. And your diastolic above 80. That is hypertension.

If you're both one of those numbers is higher then you have elevated blood pressure. If both numbers are higher but less than 130 and your bottom number is less than 90, then you have prehypertension.

And if your up top number and bottom number are above 130 over 90, then you have hypertension.

This is the definition. So the number to remember is I want my number to go below 130 Top number. Bottom number I want to get below 80 Ideally. If not…as you get older the bottom number gets harder to get down.

So you would want the top number to be below 130 and bottom number below 90. So 130/90. So that it's made pretty simple. It used to be much more complicated based on age and such which are no longer the case.

So the numbers 130/90. If anybody's telling you higher numbers they're not up to date. So that is the number one thing to remember is what the blood pressure number is.

Yes. The incidence of blood pressure. And as I showed the slide from the Canadian study, which is very much reflective of America, perhaps a little worse, would be the uncontrolled risk of hypertension, which then leads to development of heart disease.

So there are two ways of going about it. You have hypertension and you develop heart disease during prostate cancer journey. And then you have heart disease plus prostate…plus hypertension, both of which worsen each other. Really.

And the medications which you might get put on for prostate cancer, it might worsen both of them. So which one it is. It's for us to decide. That's why you see a cardio-oncologist. So I say that if you have a lot of risk factors in those risk factor panels, don't get too, you know, don't make it too complicated for yourself. See a cardio-oncologist and figure that out is not that hard for simple risk factor control.

But, that is the number to focus on, what I tell is, you know, take the medicines which you need to take to get your blood pressure down. And if you're starting to have elevated blood pressure or prehypertension, and that's where Dr. Chan comes in.

And what she's going to talk about, how her salt intake perhaps helps with hypertension. And then, and we can avoid medicines for a while for, from that standpoint.
So Dr. Chan.

You want me to talk about salt and heart health right now? I think I have things on my slide. I think I prefer to save that when we go to the general, the overall diet, rather than switching back and forth with the slides.

Let's do, let's do biomarkers. So Dr. Chan, maybe, how have you used biomarkers in your work with prostate cancer? This could be its own webinar unto its own. But maybe give us the background of some of your work.

Yeah. Thanks for that question. So I think something for everyone to understand. If they don't already know, most people probably are aware this, prostate cancer is a very heterogeneous disease with indolent and lethal phenotypes.

And so biomarkers have just become an essential tool. And in the last couple of decades, for help trying to distinguish early on if people have more aggressive forms of prostate cancer or more indolent forms of prostate cancer.

So I've participated and collaborated on a number of studies examining both tissue and blood-based biomarkers, targeting that goal, distinguishing aggressive versus indolent disease.

We also use biomarkers in our nutrition and exercise studies, where we're trying to understand the biological pathways or impact, pathophysiological or physiologic pathway, impact of our exercise intervention or this nutritional supplement or this diet.

And so we use biomarkers in that way as well. And I think as we discussed a little bit right before this call, you know, the field is really ballooned and grown in the last couple of decades, with regards to biomarkers for improving diagnostics and prognostication.

And so there's a number of tests that people can now do, that are both urine-based and blood-based, imaging-based, before you go necessarily to an invasive biopsy, and then there's also lots of similar biomarkers, to improve prognostication after.

Yeah, absolutely. I think you're right. I mean, just sort of to generally lay it out, there's the biomarkers to say, do you need a biopsy, yes or no? And certainly there's a whole host of those from blood, urine and imaging. And then once you have a biopsy, you know, there's genomic testing such as Decipher that can tell you your risk of, of high risk or low risk disease, intermediate risk disease. And then certainly post treatment there's biomarkers such as Decipher in that space as well.

There's Artera AI which is artificial intelligence biomarkers. So we're seeing this everywhere. We could even get into more advanced disease. And we started doing genetic testing and, and certain markers of genetic, issues with mutations, such as HRR mutations.

So, again, this is a huge field in prostate cancer. So I'll flip it back to Dr. Guha. Is there biomarkers that you guys are using in cardiovascular disease specifically?

So when it pertains to prostate cancer, there are really no biomarkers which are useful in figuring out if any of those cardiovascular events are going to happen to you. However, you know, we were talking about biomarkers not being just from blood, right?

They there's the whole calcium score, which we do nowadays. And many of you might have been offered one. It's this test which insurance doesn't cover, but it's just a low dose CT scan of your heart.

So first thing I would ask every prostate cancer patient if they have ever had a CT scan as a part of their imaging because, you know, if you have cancer, you likely going to get imaging.

If you have any form of advanced prostate cancer, you might have something called, a PET scan or PET CT scan. The PET scan comes with a CT scan. The CT scan scans the whole body.
So if it scans your whole body, I can use that CT scan to see your heart.

And if I can see your heart, I can potentially see of there's plaque build up on your coronaries, the coronaries we were talking about earlier about coronary artery disease, that coronary.

So if I see plaque on that then I don't need the calcium score and I can use that to risk-stratify you higher versus lower. So those are the biomarkers we can potentially use in patients with Prostate cancer, again with the goal to prevent but not to diagnose new heart disease.

Excellent. Let's move on to C. We'll start with cigarettes. Dr. Chan, what does the evidence show about smoking and prostate cancer? What about tobacco products in general?

Yeah. So it's been about a decade plus, that research has been accumulating. That smoking…if people are current smokers at the time of diagnosis of prostate cancer, they have they fare worse so that worse outcomes, greater risk of dying from prostate cancer. This was something that our team published on a little bit more than ten years ago, almost 15, I guess. And it was, you know, so in that study, just to give you an example, current smokers had about an 80% greater risk of dying from prostate cancer, specifically. There's now been more than, you know, probably two dozen-ish studies, looking at that same topic over in general, consistent findings.

So we don't exactly have an understanding of why tobacco specifically, would be aggravating risk of prostate cancer death. However, it does seem to be associated. So it fits the general guidelines, though, Right?

So smoking would not be recommended for heart disease either.

Yeah. And Dr. Guham anything to add from a cardiovascular standpoint, resources for smoking cessation? And we have some great ones that our cancer center I'm sure most major cancer centers do as well.

Yeah, absolutely. I mean, in fact, I have had to bargain with my patients to sort of just say that, you know, if you had to do one thing, which is going to be taking your blood pressure medicine (as long as they're only on one pill) and smoke.

So … if you stop smoking, then I'll let you not take your blood pressure pill every other day. That is the bargaining I have done. There's not written any guidelines. You're not going to go outside of this room and ask a heart doctor, who's going to allow this? But I've done that so that if I am able to get there, then next time I'm going to pursue to try to not smoke.

It is really bad in terms of risk factor. It can cause more cancers. It can cause lung disease. You can have new heart disease, you can worsen your heart disease. You can develop stroke, you can develop peripheral

artery disease. In fact, you can name a disease very rare, very rare, very few diseases where there's a reversal association, it's only positive association and perhaps causality. And we use the word very carefully. But it is been shown to be causal and can have all these diseases develop. So definitely a no no. And smoking cessation is the only answer.

Great. Great points. If somebody can stop smoking after this webinar, it will be a win tonight for sure.
Let's talk about cholesterol. Dr. Chan, evidence for statins and prostate cancer progression. This has been a hot topic in the urological literature. Certainly the epidemiological literature. What's your take on statins and prostate cancer progression.

Yeah. So similar to what I discussed back earlier about aspirin.
A lot of the data we have right now comes from large observational studies. You may, there was a recent publication, which is a really large systematic review and meta-analysis where they're combining data across like more than two dozen cohort studies in this case.

And this study was really focused on the specific question of statin use while someone is on ADT. And how did that affect their risk of dying from prostate cancer? And so when they combine the data across all these observational studies, still observational, they did observe a pretty marked like 27, 27% reduced risk of general all-cause mortality and 35% reduced risk of prostate cancer-specific death.

So I think that is also been part of what you're alluding to. There's been a lot of interest, a lot of study, secondary data analyses.
I think it sounds great. And that would, you know, great, especially if you're already on a statin, you're thinking, okay, this is, you know, helping with two different major conditions. But as I said, I'm always just a little skeptical because I know the inherent biases with some of the cohorts.

So it sounds good. Now, a little bit of caution. Some of the studies, I know the way the studies are done. They're just intractable biases You can't get at.
Yeah.
And so there are a couple of RCTs, being done. One, is, let's see, coming out of Finland with about 400 people being randomized in this setting of, statins with people on ADT to delay the development of castration resistant prostate cancer. That website indicates that it'll be done in a couple of years, 2026.
There's a much the much larger study that I referenced earlier is testing statins as a statin and aspirin in a large population for overall survival for patients who are already castrate resistant. That's showing that they will have results in 2034. So that's how science goes.

What you're telling us…As much like the phase three trials for treatment, the, epidemiological intervention trials also take a very long time for results.

So, Dr. Guha. Just briefly again, cholesterol and management is a probably a very vast topic that you speak to but maybe just a couple of highlight points for our patients.

So yeah. So I think cholesterol again you know, what is the numbers to follow. Right. So generally speaking and again, as Zach mentioned, huge topic. We start with total cholesterol. Your LDL, HDL, triglycerides, these are the basic numbers. There's obviously a lot more to ask, you know, somebody in the audience might ask me about LPa and prostate cancer and I wouldn't have an answer. But LDL number, if you don't have existing cardiovascular disease should be generally below 100.

We make it a little more complex than that because once you get those numbers, we put it in a calculator and then tell you what your ten year risk of developing cardiovascular disease is and, what, your lifetime risk of cardiovascular disease is. Those calculators are well and good, but they were intended for non-cancer patients.

They were made using cohorts of non-cancer patients. So if I am giving you that number, it is likely erroneous. In fact, there has been papers which have shown that those calculators which you use lipid panel, your blood pressure numbers to predict your ten-year and lifetime risk of heart disease does not work for patients with any cancer, specifically prostate cancer as well.

So, the number to go by is LDL below 100. If you already have existing cardiovascular disease, specifically coronary disease, ischemic heart disease of any kind beyond that, if you have a stroke, if you have peripheral artery disease, your LDL number should be below 70.

The total cholesterol generally around 200 or lower than that. Your HDL above, 40 to 50, just to sort of keep it simple. And it generally goes up by exercising. So that sort of brings up that point. Eventually, we'll talk about that.

And then the triglycerides. Now that's a risk factor, which is very, very important to talk about in the United States, because a lot of the food we eat increases triglycerides a lot more, and over a period of time that can cause cardiovascular disease. So that's another number to keep in check. It's hard to measure. And that's one of those numbers which will never get correct unless you get diabetes under control.

And unless when you go for a lipid panel you have to be fasting. Fasting overnight. Fasting is what … I recommend. So those are the caveats to the practical points to take home for high cholesterol management.

Excellent. So in the interest of time let's move on to D. So Dr. Chan, let's talk about diet. I know you're going to have, some additional slides in a few minutes, but what about research on dietary effects or factors in risk of aggressive prostate cancer and progression?

Sure. I can just make a general comment and sure, I can go to that slide if you want me to show that now, the summary slide of beneficial Recommendations for prostate cancer in general. Like I said, there's a

lot of research that has been done to date looking at dietary factors and exercise for prostate cancer progression or risk of prostate cancer.

One caveat I just want people to keep in mind is there are actually a limited number of data sets or study populations where we can really address this question of: what do you do after diagnosis, to prevent cancer progression or death?

And so there really just aren't that many populations where we can do that. So what we present here is sort of our take or a summary based on the limited literature that's out there. A lot of the studies that our group has worked on, but you'll see in this table that, it's different than what, you know, the recommendations where we say, you know, like, Dr. Guha mentioned earlier, maybe lower your salt intake to reduce blood pressure. That is based on a lot of data, a lot of data, a lot of prior studies and research.

So I just wanted people to understand not everything is equal on this chart. Should I show that now?

Yeah, go for it.

So we pulled this together about a year ago. To help summarize, I hope people can see this clearly. So just to orient you, what we actually did is start out here with heart disease. So what is recommended from the American Heart Association. The second column here is what would be recommended for general cancer prevention, like American Cancer Society recommendations for preventing initial development of total cancer, general cancer.

And then what we have added on here is to indicate where there are similarities based on current research to date. You know, our latest summarizing and reading of the literature, what one could recommend for someone who has been diagnosed with prostate cancer and trying to prevent the development of metastatic fatal disease.

And so the top things over here in the white rows, these are all things that one would generally recommend. That's what the green checks are indicating. So you can see the level of consistency for these different food categories. Eat your whole grains, fruits and vegetables. Try to get healthy protein from plant-based sources rather than animal-based sources. And then consumption of non-tropical plant oils like olive oil and canola oil, avocado oil, etc. These are all consistent.

And then I've indicated where there might be some specific publications and research that indicate this also might be beneficial for lethal prostate cancer. So that's what these checks indicate. If there's no check it means we don't have any specific data yet for fiber and whole grain. Although I, I need to update this. There's….not quite published. There's an abstract I read recently that might even suggest a potential benefit of cereal grains for prostate cancer. But it's not a full paper yet.

And then in the lower side here in the gray bars, this is showing things that one might want to limit or avoid. So again, we started with heart disease. Everything people have probably heard about you know, reduce or avoid trans-fat or limit saturated fat. Try to reduce added sugar, sugar-sweetened beverages.

Limit salt intake to keep your blood pressure low, as alluded to by Dr. Guha. Processed meat or red meat is not recommended for either of these things. Highly processed food or refined grains similarly.

And then alcohol is a little bit nuanced. That can be a whole discussion on itself. There are varying recommendations. I'd be interested to know if Dr. Guha agrees with what is here of moderate intake for heart disease.

Cancer in general for cancer prevention - alcohol is not indicated at all. You wouldn't recommend it. There's been literature in the prostate cancer field. Some people may have heard of this where there's actually observed protective or inverse associations for bad prostate cancer outcomes. We don't necessarily understand it. There might be a few plausible mechanisms, you know, having to do with antioxidant effects, suspicious specific nutrients in grapes, but it's still intriguing. So just one thing I would point out here is to notice that the area, the range of intake where an observed benefit has been seen in prostate cancer is a much lower intake, than what is considered okay for heart disease.

So the general recommendation would be not to start drinking. But if you do regularly consume alcohol, do it in moderation and maybe even a little bit more moderation if you are a cancer survivor.

So I can, speak to the alcohol part of it because it is made simple by the American Heart Association. So there was prior research which actually said the limit drink and there was actually a gender disparity, say that men could drink two drinks and women could drink one drink.

I don't know how that came, but, that number has gone to zero. It's recommended to not have any alcohol. And so the correct recommendation is no alcohol. So I actually wasn't aware of the advanced prostate cancer and 3 to 5 drinks. So that's interesting to me personally.

I'll Update my slide. Thank you for that information.

No, absolutely. Happy to share that information and I'm happy that's… actually I would like to take a question which was in the chat, a live question because, there's a question which I think we're going to come to the E eventually.

And it's going to be important to talk about exercise. So exercise is something which we recommend all the time. It's hard to do because it's hard to start. Right? I mean, so just general principle about any, any new thing you're going to start: do it without thinking about it for 21 days and it becomes a habit.

We're not going to talk about it after this because it's how you develop habits, is to do it without thinking too much about it for 21 days.

I tell my patients were able to do it. They do it. Otherwise they come back and ask me what, What else can I do? So, is number one thing when you have prostate cancer is a lot of bone pains, a lot of, orthopedic issues, which comes with age without the bone pains.

So, pool exercises are really, really. Well, if you have access to a swimming pool, if you live next to a Y, which has a swimming pool, try to seek out like walking in the pool. And there are certain people who actually even have classes which are in the pool. And believe it or not, it actually burns a lot more calories.

And it's a lot more intense when you are in a pool to do any activity than here outside, but it offloads your joints so your your center of gravity also changes. So it's not as hard to exercise inside the pool.

There was a question about Ozempic, and I sort of figured that would come up both to me, and I'm going to pass it on to you to see what you think about it. It's been so far been really promising when it comes to specific disease states. So if you have, heart failure, all the data which has recently been recent, as I said recently, I just came back from Europe, was at the European meeting, where the data regarding GLP-1 agonists in heart failure was present, and they were all spectacular and positive.

However, there was no survival benefit noted, which is rather, not material given we are also having a state of heart failure and in some cases prostate cancer. So when you have that, it is definitely recommended and likely get class one recommendation. Medicines like Ozempic, as I said, was initially or as we all know, is initially introduced for diabetes and not used for weight loss. And they will eventually be important for a way to have weight loss.

However, the organic view of weight loss with diet and exercise is definitely the way to go. However, I do not NOT recommend it. If you if you would meet criteria for because I do not have any evidence against it, do not recommend it. So if you are able to get Ozempic to lose weight, but then to motivate you to keep going in a natural way, then perhaps also the right way of going about it.

So what do you think, Dr. Chan, about Ozempic? I think that question comes up a lot more nowadays than any other time.

It's a really hot topic and there's a lot of interest in it. It's still early days, as you just alluded to, the drug, the data that are out there, mainly in the diabetes space. It's not a, area that I study specifically, but one of the things I came across at a convention. So there has been analyses looking from those prior original diabetes studies, at the subsequent risk of cancer in those populations.

So this, first of all, that means these are people who all have diabetes. And then you're looking to see who also developed cancer. And they asked specifically, whether or not, people on that study, so I believe is a, clinical trial where people were on Ozempic or insulin or metformin.

And so they looked across those three arms to see the risk of obesity-related cancers. And interestingly, it suggested that the people who were on the arms that were Ozempic or metformin compared to insulin had a lower risk of developing these 13 different cancers, which are considered obesity-related cancers.

One thing someone should note is prostate cancer was not looked at. It was not one of those 13 cancers looked at. I'm not know of any data specific for prostate cancer, but it does suggest that if these drugs are improving your insulin, metabolism, and helping people lose weight, that may lower your risk of developing one of a number of cancer types that have been linked to obesity.

There's also some interesting mouse data that, has been presented in this space, but it's still pre-clinical. So I think more work to come.

Excellent. In the interest of time, is there anything else you guys want to say further about diabetes or exercise before we move on to diet, exercise, and sleep in our sort of second half of the webinar?

I'm seeing excellent questions. I mean, I, I many of them are about diet and which I was like, I would like to know the answer to that question, but, that's one of the questions which came up, which I want to address, like was this question about sarcopenia. And I think we recently had a paper about sarcopenia, which, which is very important to show because for the longest time ADT has been associated with muscle loss. But the muscle loss has not been associated future risk of cardiovascular disease.

So again, the same group from Canada and our site in Georgia, we pulled together a lot more number of patients this time. The paper was just published. Which I sort of made a tutorial and, and shared it on Twitter, but, it does cause cardio…It has association, cardiovascular disease or development of cardiovascular disease in a large population study.

So that that's something which you should be aware of. But we can move on to, I guess, from my standpoint to the next section.

And before that, I just want to mention, since I just mentioned how Ozempic was not…we don't have studies on Ozempic and, prostate cancer specifically. There have been some completed randomized controlled trials of metformin in the prostate cancer space, which is also a drug used for diabetes. And I …it's interesting because there are two trials that I looked at and they're different. They enroll people at different stages of prostate cancer.

So people might be familiar with this. There's a there was a large study coming out of Canada looking at metformin in people who had low risk prostate cancer on active surveillance, and they wanted to ask the question of whether or not metformin would delay time to progression.

And unfortunately, that study was null. So in that space and very early stage low risk disease, metformin did not seem to offer a benefit. However, there also was a trial done, in patients who, were already had advanced disease on ADT and they wanted…. they added metformin to see if that would prolong time to castration-resistant prostate cancer. And that was a positive finding. So it did seem beneficial. So it might be a very nuanced thing about timing and where and when the benefit of metformin could come into play. So that's I thought that was interesting.

Great. Great points. Let's pull up Dr. Chan's slides on nutrition I think is the first one. And let's go through those and great discussion on cardiovascular disease. Thank you both.

<Dr. Chan is muted>

Anyways I was just summarizing here I already talked to most of the slide. However I wanted to emphasize these little symbols here just to remind us that, first and foremost, to avoid tobacco and smoking, get regular exercise and maintain a healthy body weight. I think those things are all priorities. And then you can think about the specific dietary factors when it comes to prostate cancer. For lethal prostate cancer, the data are more consistent when it, for the benefits of exercise and smoking.

And then I think I was asked to show some general tips. This comes from one of our randomized controlled trials led by Stacey Kenfield. These are general recommendations that we provide, to the men on the study, on just how do you implement those guidelines that I, that I just, put up on the prior slide.

So here's more specifics, just about portion size. Try to focus on getting a plant-based diet that we just published a more recent article on the benefits of plant-based diet for deterring prostate cancer progression.

What does that mean? What is a serving? A serving is about half a cup of fruit. Two cups of veg. So a half a cup of fruit and two cups of vegetables gets to you to your five servings a day, just to give you an idea. Choosing whole grains. This is what your target goals for fiber. I think people are familiar with most of these. I think. I guess I would share in terms of how do you implement them. Honestly, it's not always easy.

You can imagine for tracking or improving exercise. There's so many wonderful wearables and devices and apps that people can use for…
If you really want to make efforts in your diet, and a lot of our randomized controlled trials, what we do is we ask people to log. And so you do track, we use one of the tools we use in our studies is called My Fitness Pal. That's a diet tracker. There are many others out there, but that is the one that, we've been using in one of our studies.

And it does take time, but once you do it, it can become really rote, I think. And I think even doing it for a certain period will help you raise awareness about your usual habits. And then you can goal set and think about, okay, I do this a lot. So you sort of do it to get a baseline and

then you want to start thinking about what are you going to substitute and swap in and out?

I would definitely recommend somebody working with like a health coach if that's available, or a nutritionist to make a specific plan, or an exercise counselor, because I think they can just really help to, give you the information to understand your baseline. And then set realistic goals. Making lots of changes all at once is hard. So we also try to encourage people to start, you know, just change 1 or 2 things.

And then once you've got those down, pick another 1 or 2 things to change.

I love My Fitness Pal. I've been using it for the last two years. It's a great app.

Yeah. I'm also a user.

Excellent. So those are all your slides?

Oh, no, I do have some others just on resources.

Do you want me to go? Others? Yeah. Go ahead and show those.

So if folks are interested, as I mentioned, we conduct randomized controlled trials where we try to support men with prostate cancer to make these behavioral changes. And out of studies that we completed, we post a lot of our wellness guides and booklets on this website and the UCSF urology website.

So if people want to grab that QR code, they're all PDFs that you can download for free. And then actually, if anyone's interested, we have, oh, there it is. We have an open study where we're really focused on asking amongst all these tools that I just mentioned, like the apps, text messaging, coaching, websites, tracking, wearing, we're having wearables, we have an open study for people with various types of cancer so that … it's not just people with prostate cancer.

They're breast, colorectal cancer patients as well. We're really testing the question of which tools help people the most, to accomplish those behavior changes over a period of time.

And so this is an open study. It's open nationally. It's fully remote. You don't have to be near the Bay Area or anything. The principal investigator is Dr. Erin van Blarigan. And so here's the QR code or just emailed toolstobefit@ucsf.edu. And you could try out some tools and help us understand which things really help people get to those goals.

Wonderful. We have a few minutes left in our webinar. I do want to touch on two more important topics. We get asked a lot in the clinic, Dr. Chan, about nutritional supplements, which I know is a very broad topic as well. But what can you say generally about nutritional supplements and prostate cancer?

Yeah, thanks for that question. So I think it's just, a big message to get out there is that one, we can study things that are very commonly used in the types of studies we do, but for a lot of the more rarely used or sort of single supplements, sometimes we just don't have the data to do the type of population-level epidemiologic studies that we do.

And then so among the more common things like multivitamins or vitamin C or vitamin D, at this point, we still generally recommend that people should try to get their balanced nutrition from whole foods rather than single supplements. With the caveat of talk to a nutritionist, talk to your doctor, get your individual levels measured, and then they may recommend something like a vitamin D supplement or vitamin E supplement, or, you know, the specific calcium or multivite.

So that's the general thing that we would recommend. We do understand there's a lot of interesting supplements with interesting preclinical data out there. It's just a little bit harder to study in our large populations. We actually are trying to launch a new cancer survivorship study that would ask about those things. But that the very beginning stages.

Excellent. So and there are a few remaining minutes, I'd love to touch on sleep, something that we all need more of. Let's go with…I want to ask Dr. Guha about the effect of sleep on cardiovascular disease. Maybe Dr. Chan talk about sleep and prostate cancer.

If there's any data there. Dr. Guha, maybe talk to us about sleep and CVD.

So sleep and CVD, Actually very strong related. In fact, I have answered with this link to so many people that I think, I'll have Becky add it. So the American Heart Association has something called the Life's Essential 8. So sleep was added. It used to be Life's Simple 7 and now it's called Life's Essential 8 because the 8th thing added was sleep. And it is one of the most important preventive things when it comes to prevention of cardiovascular disease.

There's a lot of research, a lot of funded work going on in that space to figure out how exactly is the causal mechanism of it. But it is definitely associated development of and worsening of cardiovascular disease, which you might already have.

So, so that's sort of my $0.02 about it. Generally recommended about 7 to 8 hours of, of sleep at night, which I don't get. So, I, I'm be one of those people with the risk. But, I have put that in the chat here and hopefully many of you have answers with that link.
So we can share that… it has all the risk factors. It covers the ABCDE plus extra, including sleep.

Excellent. And Dr. Chan, any info for specific to prostate cancer>

You know, it's still early days in general. I think what has been recognized is that a lot of people living with prostate cancer do experience poor sleep quality. And so there's a need for more studies and interventions. I'm collaborating with some folks where we're trying to

build interventions for exactly that purpose to improve sleep quality and understand it.

I know we skipped E, but I don't I just, I think it's important. I want to get at the message that I do really think exercise is important for prostate cancer. We spend a lot of time talking about diet. But I know exercise is important for heart health as well. And I just want to people to recognize that for the data that's out there and what we understand, again, if you really are new to this and you're just trying to if you have to, the first few changes to make, I would…don't smoke.

Work on exercise, Help men, you know, maintaining healthy body weight and diet. So obviously diet and exercise go together towards healthy body weight. But there's just been a lot of consistency in the data. People may not be aware, but even in the 2018 physical guidelines, physical activity guidelines for Americans, that major publication put out by, you know, the US Government stated that regular physical activity would help men with prostate cancer lower their risk of dying from that disease.

So in case people weren't aware, exercise also offers a lot of benefit for reducing risk of prostate cancer death, as far as we understand the data to date.

And I'll add to just from a urologist standpoint. The patients on ADT continue to push through that fatigue and that malaise and continue that exercise program. I think that really helps, not just from a physical standpoint, but from a psychological mental health standpoint as well. I'll put that caveat in as well. [unclear]

I'd love for you guys to have 30 seconds just to have some closing statements, and then we'll, we'll wrap up this excellent webinar. Dr Guha, I'll start with you.

So I would say that, you know, if you have any cancer, but specifically prostate cancer, please evaluate your cardiovascular risk at some point in time during the process. I know it's hard, when you develop a new disease, which is life-changing, I truly understand believe that given I see only cancer patients with heart disease. So they have the double whammy, really. So, so. but do get that evaluation done before you develop the disease.

Often I see patients who do not have that evaluation and have developed the heart disease, and I wish I had met them six months, two years ago when they started the journey with the cancer. And I could have prevented it, which is often actually preventable.

So that's sort of my $0.02 and Life’s Essential 8 is a way to prevent.

Excellent. Dr. Chan.

Yeah. I would just keep in mind that small changes add up to a lot. With exercise, I can tell you we did a study to show that people could substantially and clinically meaningfully change their cardiorespiratory fitness, within four months through a walking program.

So just incrementally increasing the amount of time you walk, the intensity that you walk. It was a very gradual program. And I think that that was a great finding, I think a great message that little things add up a lot, whether it's with your physical activity or even with the dietary changes. So maybe just commit to not eating a dessert every night and go to every other night or something, and then eventually go to once a week. Or, you know, when it comes to sweets. Or maybe your thing is cheese or, you know, red meat. So, you know, wean down everything. Small changes will add up, I think.

Excellent.

Before I flip it back to Becky to wrap up this excellent webinar, I want to thank both of you for your time expertise. We covered a lot of topics. I know we didn't get to every single question, but we answered as many as we could, either through the chat or live. So thank you again, for joining us this evening. Becky, Thank you again for the opportunity and all your help. Put in these excellent webinars together. And to the patients and the providers and their families. Thank you for your attention and for your interest in this important topic.

And I echo Dr. Klaassen’s thanks to our amazing panelists, Dr. Chan, Dr. Guha, all of you are working overtime answering questions in the chat as well as, providing information from slides and from your own, practice and research. So thank you so much.

And thank you to everyone who joined us this evening. I hope that either after this webinar, you're able to go out and take a walk around the block as I plan to or, tomorrow morning when you get up, have that that, that glass of water and then take a walk and have a wonderful rest of your week.

Thanks again. And be well. Bye bye. Thank you.