



**Danny Lennon:** A big welcome to the podcast, Dr. Hazel Wallace. How are you?

**Hazel Wallace:** Thanks so much. I'm doing really well. I'm really excited to be finally on the Sigma nutrition podcast.

**Danny Lennon:** Yeah I think we talked about it quite a few times now, finally, this is the right time with a number of things aligning. And so. Very excited to talk about a couple of things we're going to get into, but I thought maybe a good way to start off would to maybe, could you even just briefly bring people through your background in medicine, but then also then how that led into not only an interest, but your formal study and nutrition some of the stuff you've done blending those fields and anything else you think might be relevant for much of what we'll discuss.

**Hazel Wallace:** Yeah, absolutely. I have a very unconventional training pathway, so it's always good to circle back. Basically backstory grew up in Ireland. And then when I was 18, moved to Wales and did my bachelor's in medical sciences. So that was a three year undergrad. And from there I moved into graduate entry medicine, also in card F and then qualified as a doctor, 2016.

And during that time, I was really interested in nutrition and lifestyle, and it was a big conversation within the kind of health and fitness space. I had also lost my father to a stroke when I was 14. And. Had that was the reason why I went into medicine in the first place, but also sewed the seed in my head that how we live our life and the food that we eat and how we move our bodies has a huge impact in our health and our risk of disease and felt like this was something that we were just paying lip service to and not really going into great detail in medical school.

And I mean, the medical school curriculum is jam-packed anyway. So it'd be really difficult to add. Huge nutrition qualifications. So I worked as a doctor for a few years, and then I went back and did my master's at UCL in London, in clinical nutrition and public health. And loved that, found it really interesting.

And one of my lectures was actually a gastroenterologist at UCL and then I got a job as a nutrition doctor from that. But that was very much clinical nutrition prescriptive nutrition for people who required parental support. And it wasn't really the type of nutrition that was. Setting my soul on fire.

And so I continued working within that department and then was COVID doctor for the last two years, really, and decided to leave that and finish a book that I was working on, which is coming out on the 7th of July which is completely left field to what I've been doing so far. And that's called female factor.

Which is basically looking at health through a female lens and my interest in this stemmed from, I guess my own personal experience of being a woman, but also working in the NHS and treating women, a lot of female patients and seeing the disparity in research, but also health and healthcare. And that there was this huge flaw in how we're treating women basically as smaller versions of men.

And I stepped into that field of research. To write the book about three years ago and it's been an ongoing project. So it's really exciting to finally have a physical book to produce. And so that's the story.

**Danny Lennon:** Fantastic. Yeah. And that was something I was going to ask about because it is one thing that we've mentioned on the podcast before, when you look certainly at research and disparities of being able to find good evidence looking at. Questions, not only general questions with female participants, but then specific questions that come up in relation to female populations.

And then there's this added element. Now that will maybe talk about a bit later in, in the discussion of this consideration, that there might be differences. For example, let's say in nutrition requirements, but we have on one. Because of the lack of evidence. We have some people taking this too far, like, supplement companies will come up with protein powders specifically for women with a huge mark up in price.

Again, trying to play on this idea. But then we have other areas where people don't acknowledge that there could be important differences that we need to account for. So, of course in this discussion, I want to focus in, on some of the nutrition and dietary aspects of your book. And there's another.

Other elements that we'll maybe talk about later, but if we specifically focus on the nutrition and diet related issues, I think when we come to thinking about potential.

Differences based on sex, probably one of the best places to start is in relation to the menstrual cycle, because it's something that is a very clear line based on biological sex differences.

And so before we think about how the menstrual cycle might affect our dietary choices or dietary choices might impact some things that relate. At the time of the menstrual cycle to maybe frame this for people, what is a quick overview we could give of some of the basics around menstrual cycle in relation to different phases.

Some of the main hormones that are involved, what are the key points that might set up this discussion for us?

**Hazel Wallace:** Yeah. So basically I think that's a really good place to start talking about like a typical textbook menstrual cycle. And I always caveat that with we are not walking textbooks and there's like huge variation to the norm, but for ease and for explanation, say we have a 28 day cycle. In that there will be two main phases.

There's the follicular phase, which is the first phase and the luteal phase, which is second. And in the middle, we have ovulation, which is sandwiched in between at day 14, typically. So menstruation or the period will be the first one to five days. And then after that you go into your late follicular phase, then ovulation.

And then your Lal phase and each phase can be broken up again further. The main hormones that are fluctuating throughout this are estrogen and progesterone, but we also have LH and FSH, and then they're like higher up hormones that are governing all of this, which are top down from the hypothalamus and the pituitary.

So similar to all the hormones in the body, there is a lot of feedback that's happening. Down regulation can occur depending on exogenous hormones. So if you're on contraception, that's also going to flatline that ebb and flow that we see. But what's really important. And I think what's one of the core messages in the book is that.

This fluctuation in hormones is not just governing this build up of endometrial tissue and the bleed and ovulation. We have hormone receptors, sex hormone receptors on majority of the organs in our body. And so as those hormones fluctuate, our body is responding to it on a physiological level. And so it's impacting our kind of how our gut functions, our sleep, our mood and all of these things are rarely spoken about. So that's how I wanted to shape the book around.

**Danny Lennon:** So that gives us a good basis to dive into these suppose two elements. One of those is how some of these. Hormonal or physiological changes that you've mentioned could have an impact then on either someone's dietary choices or what we do with, metabolism wise. So one of the areas that was very interesting that you outline in the

book is going some way to explain why there may be differences in things like cravings or appetite across a menstrual cycle.

And I think this is really useful and informative because it's something that intuitively I'm sure many people know, but having some underpinning and understanding what's going on is quite useful. Can you maybe just speak to that for a moment of some of those differences based on these hormonal fluctuations.

**Hazel Wallace:** Yeah, absolutely. I found this really interesting as well, and quite like empowering to really fully understand why it happens, because I think like you alluded to nutrition as a complex topic in itself, but. And women have these unique nutritional needs across a lifespan and a random menstrual cycle.

But women also tend to have more food related issues and body dissatisfaction. And also I feel like they can be huge targets by the diet industry. So when it comes to cravings and things like that, the message is always “restrict, restrict, avoid”. And so I found this was quite like an interesting way of framing it and allows women to fully understand why they might maybe be, feel in a way.

So, around the menstrual cycle, typically in the Luteal phase. And that's, so that's the second phase of the cycle after ovulation at this point, estrogen and progesterone are high and progesterone is actually slightly higher. There's an increase in resting metabolic rate which is, it varies from woman to woman, but the typical ballpark number in the research is 100 to 300 calories extra per day that women are burning at rest.

And the thing is the human body is really intuitive and very clever at adjusting for changes. And so that's why we think that's why we see this increase natural increase in food craving. Food intake. And when it comes to cravings, it's particularly for carbohydrate and fat and women tend to report particular cravings for chocolate, which I think is interesting because there is a narrative around your period.

You tend to crave chocolate. The other thing is insulin sensitivity, maybe lower in that phase. And so it may be difficult as well. You may be requiring extra kind of sugar to feel like you're getting anything. in terms of energy wise. And so that may also be contributing to cravings.

So from a kind of food perspective, understanding this, I think is a really empowering, it's not that you need to account for this and every day in your luteal phase. Increase your calorie intake by 300 calories, but it may be smart to maybe increase your intake of complex carbohydrates around that time, higher fiber foods. Get in more like lean sources of protein across the day. Just ensuring that you're feeling satiated, but you're also fuelling your body not restricting and not feeling like you need to depend on energy dense, foods of low nutritional value.

**Danny Lennon:** Yeah. And like you say, I think it's a really empowering. To note because rather than think, oh at these times I have this increase in cravings or hunger, and this is something I need to push back against and just use willpower to re restrict myself from falling prey to, and in fact, it's more the opposite.

It's an understanding of, okay, there's going to be an. Increase in appetite and cravings around this time. But because there's an increase in energy expenditure, it's just a completely normal adaptive process and it's nothing to necessarily worry about. And then that layer on top, like you say, you can use that information to say, “okay, we're going to have an overall dietary intake that I'm following some healthy diet principles”. On the other side, in relation to the time around or related to the menstrual cycle would be that there are certain at risk nutrients for premenopausal women. And one that is probably most of interest to start with because of how prevalent it is, but also how it's directly related to menstruation is probably relation to iron and iron insufficiency or even iron deficiency.

Can you maybe just talk first of all, about that connection between iron as a function of not only iron intake, but also what's going on around menstruation and then what we see in terms of the degrees of iron deficiency in premenopausal women specifically. But I think that goes across the life stage as well.

**Hazel Wallace:** Yeah. So iron is I guess one of those nutrients that we are very cognizant that women can be more deficient in because we. Obviously have that monthly bleed. And so you're more at risk of losing iron through blood loss. But also women typically tend to lean towards more vegan and veggie diets.

And it's not to say that they're iron deficient, but typically you have to be a bit more aware. Of where you're getting your sources from. So that's another risk. And so again, like even, a lot of the women who I speak to and work with in my community are very active women. And again, layering on top like activity exercise in itself can be a risk for iron deficiency.

So, runners, for example, from like foot strike, from blood loss to the gut from Through sweat losses. There's lots of risks, risk factors there for a woman, particularly an active woman. So it's one of those nutrients that we need to be really on top of, from puberty all the way up to the menopause.

And it's not that we just forget about it after then. It's still extremely important. And not just for obviously iron's really important for red blood cells and one of the risk factors or one of the risks of having to low iron is anaemia. But also iron's really important for, from a kind of fertility perspective.

And also if we are pregnant and in breastfeeding, we also have higher needs. So it's one of those nutrients that comes up in all these really important vulnerable periods that a

woman will go through or may go through throughout her lifespan. And speaking towards the kind of premenstrual phase as well.

There is some evidence that women with higher intakes of non-heme iron, so that's the plant based sources of iron, tend to have lower symptoms of PMS. So, these are observational studies, but it's just another interesting thing pieced around iron and female health.

**Danny Lennon:** So just as you bring up at PMS, because this is again, something where the degree of, or the extent of the symptoms obviously varies quite a lot. And some people have very severe symptoms and looking forward some degree of relief and one place that maybe they look to is things like supplementation, or maybe even dietary changes.

Do we have any degree of good evidence around different types of supplements. We have something that might be suggestive of benefit. Have you found even through what people have reported that there might be some benefit? How have you tended to weigh up the role of either diet or supplementation and potentially using as something that might at least mitigate some of the symptoms that occur at PMS?

**Hazel Wallace:** Yeah, I think, I mean, before I get into it, what you said in the beginning was really important and. We have very scant evidence when it comes to this area of research and in all of female health. So when I talk about these things, they should always be like a guide and not a rule. And we certainly need more evidence, especially in the supplement space.

Like, you know, yourself, it's completely, it's just not like as regulated or as like rigorous in terms of the. The quality of supplements out there when we're comparing that compared to kind of medication. But when it comes to nutrition and PMS, I think I know that. Anecdotally I've been told and lots of women have been told that kind of sugar and carbohydrates can increase your risk of having PMS symptoms.

And that was one of the kind of core things I really wanted to look at for as part of the book. And there is no clear link between carbohydrate intake and the risk of PMs. But I think circling back to what we just mentioned in terms of that luteal phase when there's increased food cravings for high carbohydrate foods, it may be wise that we're just opting for those kind of complex energy sustaining carbohydrates over kind of simple sugars, but that's not to say that it's going to make your PMS symptoms worse, so if you do need chocolate or ice cream or what, whatever it might be, I just don't want women feeling like they're causing their symptoms to be worse. The other thing that's quite interesting is because you're feeling like you need more energy. A lot of women will lean towards having more caffeine around that time.

And caffeine's obviously a stimulant and it can affect our not only our sleep, but our gut function and our mood. And. That's one of the things that I tend to advise that women try

to cut down at least around that phase. Because in that second phase, the luteal phase, it's almost like everything's happening, but your temperature is slightly higher as well. It is half a degree to one degree higher. This contributes to insomnia like symptoms around that time. So again, if you're someone who's struggling with mood symptoms and insomnia, you don't want to be racking up the caffeine. So that's something you could probably try cut down on, or at least for the second half of the day magnesium supplementation does have some evidence, especially when it comes to bloating bloating and kind of breast tenderness.

But again I lead lean towards like a food first approach where possible, I think if you can optimize what you're getting there. So getting lots of like nuts and seeds so black beans, those kind of foods, they're quite rich in magnesium. If you want to dabble in with magnesium supplementation then do, but again it's not essential.

We mentioned iron then calcium and vitamin D is the other kind of area of research. That's quite interesting. In the UK and Ireland, obviously we try to get as many people to supplement with vitamin D anyway, especially in winter, but then it seems to be that calcium vitamin D together can reduce symptoms of PMS compared to people who are not taking them.

So that's quite interesting as well. Calcium supplementation, again, I'm just a bit nervous about, people overdoing it and always stick to whatever the recommended dose is. On the label, because just because one thing is good for us too much of it can be bad as well. The other supplement that tends to be recommended is vitamin B6.

And that's something that's in, in the guidelines, that's roughly recommended, but actually I could find very little evidence to support that. And I think, again, I would caution loading up on loads of supplements just in that phase. B vitamins you can get in so many different food sources from like whole grains and all the way to animal products.

So it's something that like, if you're getting in, if you have a well-balanced diet that is inclusive of most foods, then you should be. The other thing is which is similar to the menopause and I think will come on to it later is soya products and it's, they think that potentially the isoflavones in soya may help with PMS symptoms again.

So soy-based foods you can find in tofu, tempeh, edamame, soya-based milks and (alternative) dairy products. And the final thing then is omega three fatty acids. Again, this is based on supplementation trials, but I think if you can optimize your omega three intake around that time, anti-inflammatory menstruation in itself as like an inflammatory process.

So up your oily fish or walnuts, flax seeds. That kind of thing around that time, unless you are supplementing with omega three. So there's a couple of things there. I think like a lot



of them don't have very much concrete evidence and we're just things are just coming out, but I think it's something that's interesting.

And if we could really push more research into that space, we may help women during that time, because majority of women will report that they're experiencing symptoms in that premenstrual phase. In fact, I think it's like 150 different symptoms are reported by women during that time. So it's like, it is a big problem.

**Danny Lennon:** Yeah. I think something really important that you mentioned is that we have this massive degree of really a lack of regulation almost with the supplement industry. And you get all sorts of weird products with crazy claims and targeting people who really need help. And so this would be one particular area and...

but on the flip side, because of the lack of evidence and the lack of research that we've gone into exploring these questions, there's no doubt, some compounds or some combination of nutrients that could likely have a benefit, but we just don't have that evidence for. But, probably most of the supplements on the market that are targeted at a certain thing are probably not going to do all that much, but because we don't have any good recommendations or really solid consensus recommendations to give people, it makes complete sense why they are going to go and turn to those.

And I think the really important thing you said around, like the focus on. Nutrients is and we've discussed this before, when you look at any supplementation trial of a micronutrient, the one thing you need to first look at is, well, what is people's baseline intake? What is their baseline status of this nutrient?

And if they're already getting enough of that from the diet, you don't really tend to see. An impact, which you'd expect. Right. Whereas if you give it to someone who's deficient and a nutrient, you're probably going to likely see some degree of a benefit. So that is that gives us some degree of ability to say, okay, these nutrients could have an impact.

So let's get them in the diet and you're not doing any harm that way. So I think that's a really useful piece of advice that I wanted to emphasize. At that point you made I did want to pull back to one thing you had mentioned a bit earlier Hazel, and it was a relation to much of your audience being very active and they're looking to change their diet.

They're getting involved in physical activity and exercise and all these very beneficial things, but. One of the things that can happen where our dietary choices, particularly in combination with high degrees of exercise can impact. Then the menstrual cycle is around either a loss of a menstrual cycle that typically accompanies low energy availability, which we have tons of evidence on athletes.

But of course that's not now isolated athletes. We can see this in. People who are just recreationally active, depending on the degree of restriction. I wonder, can you just



mention some of the irregularities that might come up in relation to the menstrual cycle that could be traced back to women, maybe not fuelling appropriate that time.

And then some of the typical recommendations you would tend to give for people that find themselves in this position. And also just clarification on what is normal and what's not normal.

**Hazel Wallace:** Yeah, absolutely. So with active women, the biggest risk is having irregular or absent periods. And you touched on the reason why that might be, and it's basically comes down to low energy availability. Now the prevalence of this is estimated to be about like 30% of secondary amenorrhoea.

So amenorrhoea is loss of periods, "secondary" means that you previously had a period and then you lost it. It would be primary amenorrhoea if you went through puberty, but you just never got a period. So these are women who used to have a cycle and then they've lost it. And so. There's lots of reasons why that may be.

And I always caution before you just assume that it's down to exercise your nutrition. It's always really important to like, speak to your doctor and rule out other causes because things like thyroid problems or PCOS can also cause this say that's been ruled out, it's been estimated that about 30% of active women suffer from this.

And I would hazard a guess that it's actually higher and it might be just because I'm, in that echo chamber on Instagram. And I just see, and. Of it because women see me talking about it and they come to me, but it seems to be such a big issue. And so, we term it functional hypothalamic amenorrhoea and 'hypothalamic' meaning that it's coming from hypothalamus.

And then amenorrhoea, again, loss of periods and 'functional' because there is no physical problem, but it's a kind of system problem. And the basis for amenorrhoea. In this particular scenario is down to what we call low energy availability or energy availability. And how I explain it to people is that kind of, we have an energy pool which is all of the energy that we take from food.

And that must go towards all the kind of functions that we are doing on a day to day basis for our body to just live and breathe. So our. Our lungs to breathe our heart, to pump our brain, to think. And then on top of that, we also need the energy demands from exercise and training. And so if there's an imbalance between how much energy we're taking in and how much we're expending, then we go into kind of this power saving mode and to our body producing or conceiving is not something that is life sustaining.

So our hormones will then regulate and. Move our energy sources towards more important things. So that's basically in a nutshell why it happens. And so with active women, it tends to be that they're not eating enough calories to meet their training needs.

And this is not always intentional, sometimes it's unintentional or it's that they are have increased their training load. And this happens a lot with kind of athletes who are going through a new season and they've not matched up their energy intake or a combination of both significant weight loss and low body fat can also contribute. And then stress is also of a huge factor.

And often we see that it will be like this whole kind of triad of things that cause a woman to lose her period. And it's not to say that men are. Not vulnerable to this either, but it's almost as if men can hold on longer before falling off a cliff when it comes to cutting calories or losing body fat.

And I think because our menstrual cycle is our first sign, typically losing our menstrual cycle is the first sign that we've run into danger. It's almost easier for a woman to, to spot that. She's in a situation where her body is not fuelled correctly or she's not in a healthy state.

And that's just tip of the iceberg. And it's one of the reasons why there's now a lot of doctors and physicians calling for the menstrual cycle to be almost considered like a vital sign, because it tells us so much if you've lost your period, it's not normal and it's not healthy.

And I like try to hammer that home to so many women, because I think some people will say to me, well, do you know what, like I, I'm not thinking about having a baby yet. And I'm like, it's not just the fact that you've lost your period and you're not having a regular bleed. This is feeding into everything, your bone health, your mood, your kind of performance, your energy everything, your metabolism.

So it's not something that we should sit back and ignore.

**Danny Lennon:** Yeah. mean, that's just such a useful thought for people of, it's not just this isolated thing, it's essentially the, like you say, the indicator of many other things that are likely going on that we can't see. Right. So the risks on bone health, as an example that we know happens in this state is not something you could really know about until a long time course and something like a fracture happens, but this is a way that you can see.

A very early indicator. And just like, the prevalence of it same as you, maybe because of the areas that I'm in. But much of my work when I was working in nutrition practice was with weight class based athletes particularly in things like combat sports. And so not only here, do you see people with really high training workloads, but you actually have a goal of restricting weight to a certain weight class and the amount of female combat sport athletes who just see it as normal to not have a period is just, it's just like really comments like, oh, well this is just what happens when I train. And this is okay. I'll deal with it another time, which might be just an athlete mentality. But as you say, this is an indicator of things are not okay.

So this is something that needs kind of attention, I guess.

**Hazel Wallace:** Yeah, absolutely. It's like, don't ignore it if it's happening to you. And I think, some, sometimes people feel like. Doctors won't take them seriously because sometimes they'll have completely normal blood panels using the thresholds and the blood tests that we would do in a standard GP practice.

And so it'll be come back in, six months or three months and, we will come back. But oftentimes it. A lot of support and it's like if you're a part of a team, then you typically would have, medics involved in dieticians and even psychologists who can support you there, because it's not like an easy thing to do.

And I'm sure if you've been dealing with women, who've experienced that it, the timeframe in terms of getting your period back is hugely variable. It can be a year, it can be three years and it often it requires a big. Overhaul for someone who is very much invested in their health and exercise.

And they may feel like they're at their healthiest ever, but they've lost their period because, They've gotten that lean, but what they need to do then is increase their calorie intake. They're likely going to have to reduce their training load. If not stop completely and gain weight and body fat and reduce their stress levels and doing all of that is not just a big life shift for people, but psychologically, it can be very hard to deal with.

**Danny Lennon:** Yeah. That's such an important point. And I think it's the understanding, like you say the time course that it's not just a switch that you're going to flick and oh, all. Eat a bit more for the next couple of weeks and things are going to be okay. This can be many months, many years as you noted and being ready to invest in, in going through that process of consuming more to the point that is one that psychologically needs to be prepared for. Before we start getting towards anything else as well. I did want to get to. Issues in and around the onset of menopause. Obviously this is another point in the women's life course that there are particular nutrition not necessarily interventions, but certainly nutritional changes or dietary approaches that may be beneficial.

Much of this relates to some of the physiological changes that happen at the onset of menopause. Could you maybe outline what those physiological changes are? And then afterwards we can maybe discuss their relevance to nutrient intake.

**Hazel Wallace:** Yeah, absolutely. I think menopause is having such a moment at the moment which is really great because one of the things that's really important for, I think us to understand as a society is. A woman will live a third of her life after the menopause. And so I think oftentimes it's like cognizant with the end of someone's life.

It's just the end of your reproductive life. It does not mean that, you should stop living your life where that we just stop. It's considering our health and our health needs. So it's

really important that we consider nutrition amongst other things. And that's both from a symptom kind of control perspective.

Obviously when you go through the menopause, a lot of women will experience symptoms like hot flashes, insomnia mood changes, skin changes but also from a risk perspective. So the biggest thing that you experience when you go through the menopause is a big drop in estrogen and like leading back to what we mentioned in the beginning, estrogen is not just governing your reproductive health, it has wide kind of spread effects on the body. Especially the bone health, especially heart health and brain health. And they're the kind of three key areas that women tend to be more vulnerable in after the menopause. So what's happening from a physiological perspective. In addition to losing estrogen women typically gain weight going through that menopausal transition and it's different for everyone, but it can be up to two to three kilos in weight. And I think a lot of women or anyone who knows someone who's gone through the menopause, they tend to report that they've gained weight or they're finding it difficult to lose weight.

And this is due to lots of reasons. Some of them are lifestyle related. We tend to be more sedentary when we're in that phase of our life. We may have different priorities in that phase of our life. But also with age, there's reduced metabolism that occurs as well, then body fat distribution changes.

So typically women will hold weight in their hips and their bum, which from a cardio metabolic perspective is slightly more there's a lower risk versus holding it around your waist. So central adiposity. But that actually shifts after the menopause. So it's almost like you develop this more male pattern in terms of where you're holding your fat.

And so that's going to increase the risk of heart disease and also type two diabetes. So that's another, that's the second thing that's going to change. Blood pressure increases as well. and that's, that seems to be due to the lack of estrogen, because estrogen helps to keep the vessels really really flexible and can dilate and constrict quite easily.

But if that's really rigid, then you're just going to shoot up your blood pressure. That again is going to increase the risk of heart disease during that time. The other things type two diabetes is more common, not because of the menopause, but again, with age that's a risk factor. So they're. Four things that are increasing your risk of heart disease, just going through the menopause then thinking about bone health, estrogen's so important for our bones, which I don't think a lot of people are aware of.

And it's also something that I want younger women to think about as well. So if you're not having your period, you're not having that kind of very strong signal sent to your bones. And that's why it puts women at higher risk of osteoporosis and fractures. And again, it's not just a kind of a fracture if you're older and you have a fracture, that's going to put you in hospital that puts you at risk of other infections, and it reduces your like independence later in life.

So there's huge repercussions to not having estrogen on board. And we can talk about nutritional and kind of physical activity, things that you can do around that to help support you through that phase. There's also an increased risk of Alzheimer's disease in women after the menopause.

This is generally an increase for women and we're not fully, we're not fully aware why, but it seems like going through the menopause seems to be a very vulnerable period for women. And a lot of women will report that. They feel like they're experiencing brain fog, which I do talk about in the book. And for most women that is recoverable and they'll go through the phase and then they'll find that actually they'll come through that haze and there'll be no change to cognition. But for some women, it will be the first signs of cognitive decline. So it's just one of those things that I never want to cause women to be fearful of.

But I know that's a conversation that's happening now and I there's a lot more research going into it. I had on my podcast, Dr. Lisa Mosconi, and she's a neuroscientist, but doing loads of research into Alzheimer's disease, she's got her own center for women's health and Alzheimer's disease because it runs in her family.

And so she's got a huge area of interest there, and they're looking into what are the specific risks for women and how can we reduce those risks? So it's fascinating area of research, and there are things that can help reduce it.

**Danny Lennon:** Yeah. And I definitely want to talk about for all those different outcomes that you just mentioned, potential things we can do diet wise that may mitigate some of that risk. But before doing that I think because at least for some of the mechanisms around cardiovascular disease that you mentioned, we can trace that back to this massive drop in estrogen.

From a treatment perspective, there is a lot of conversations sometimes misconceptions as well around hormone replacement therapy. So I was wondering, could you maybe touch on hormone replacement therapy after the onset of menopause where people should frame this conversation, what things we do know and what things are maybe misconceptions people have what's the kind of I suppose the broadest overview we could give of this topic.

**Hazel Wallace:** Yeah. HRT is a really tricky subject to broach because there's lots of considerations. It's not suitable for all women, and there are lots of different kind of formulations and ways that you can take it. So it's something that should always be considered on a kind of case by case basis. But saying that I do think there's a lot of fear around HRT and a lot of that stems from old poorly done research, which I guess is a common theme in lots of things. But I guess to summarize for most women under the age of 60 who have symptoms relating to the menopause, so things like Hot flashes insomnia and things like that, the benefits of HRT generally outweigh the risks.

But that's not to say that there are no risks. And so there are some benefits and I think the biggest. Concern that women have is around breast cancer and cardiovascular disease. So there is a small risk of breast cancer, increased risk of breast cancer with combined HRT. So estrogen and progesterone but there's little to no risk with estrogen only HRT.

But we always give progesterone with estrogen, to women who still have a womb and that's to protect the endometrial kind of lining. So with women who only have estrogen only HRT, there's an increased risk of endometrial cancer. There again, these are quite small risk when you're looking at in terms of a case number basis in terms of cardiovascular disease.

There is no risk and potentially a decreased risk in cardiovascular disease, if HRT is started within 10 years of starting the menopause, or if you're under the age of 60 and where this was all causing, a lot of confusion is the, a lot of the research was based on women over the age of 70, who were starting HRT for the first time.

So it wouldn't, it would not be started in someone of that age. There's also a small risk. Stroke in combined or estrogen-only HRT. But again, that depends on the dose and the route. So I'm talking about oral HRT, but there's no risk with transdermal HRT. So... and there's lots of other benefits.

There's a few things that are inconclusive; dementia risk is inconclusive. The evidence mixed also colorectal cancer, again, possible risk reduction, but I'm I don't feel like we can say so yet. And then in terms of the benefits, obviously the biggest benefit for a woman is if she is symptomatic, then it is effective at reducing your risk of menopausal symptoms.

It can protect against osteoporosis and the risk of fractures. There may be other benefits in terms of improving muscle mass and strength, and also cosmetic benefits. And thinking about the muscle mass and strength piece that also will lead. indirect benefits as well from an independent point of view.

And we know that kind of women and men both start to lose muscle mass as we age. And that can have a knock on effect to our metabolism and risk of metabolic disease. So there's benefits there as well. So it's, as with any medication, it's one of those things that there are going to be risks.

There are going to be benefits and it's not going to be suitable for everyone. And it may be that what works for one woman won't work for you. But it's something that if you are going through the menopause or something, you know, is, and they're symptomatic go to your doctor, sit down with them, ask them the questions, because we have a lot more evidence now than we did 20 years ago. And from what we know, it is a lot more safe than we previously thought.

**Danny Lennon:** Really useful. And I'm sure people will really find that value. One of the things that you mentioned in there in terms of some of the symptoms that people can have after the onset of menopause around hot flashes and in relation to diet, one of the areas that has been suggested that you mentioned earlier was potentially sources of isoflavone.

So most notably soy based products because of this idea that at least in some way, not identically, but in some way they can have. Estrogen mimicking effect to some degree. Can you maybe touch on like what evidence do we have around something like hot flashes dietary intakes, potential use of things like isoflavones where do we stand on that?

**Hazel Wallace:** Yeah, I think, we've discussed this at length with Alan as well. I think when it comes to soya and isoflavones, there's like still this fear around that it's going to increase your risk of. Hormone related cancers like breast cancers and where we are at the moment is that we know that there is no risk and actually phytoestrogens that we would find in soy-based products may reduce symptoms like menopausal symptoms and So consuming soy-based products has been shown to be effective in relieving menopausal symptoms.

So it's thought that these phyto estrogens, while they're not estrogens in themselves, From a kind of, they're able to exert estrogen-like effects. Let's just call it that on estrogen receptors. And so that may be why they're able to reduce the risk of hot flashes. And again, leading back to what we said earlier, they may be effective around PMs when we're having lower levels of estrogen.

And so in order to get this benefit there, you do need consume quite a bit. Soy based products in your diet. And so you can find them in soy based dairy products and milks. You can find them in flax seeds, chickpeas, edamame basically anything, all of those photoytoestrogens have similar effects in terms of reducing their the risk of menopausal symptoms, but I don't think women are consuming the levels that they need to. So you want to be having two to three portions of them a day. So it's not enough of just having kind of soy milk in your tea, coffee, but ensuring that you're having soy based dairy products, maybe having tofu for your dinner or lunch and potentially like a soy based yogurt in the afternoon.

That's just kind of one example of my, how you might spread it out. Again, that's just one thing in terms of a nutritional point of view that can be effective when it comes to hot flashes. Also things like reducing spicy foods, which I think a lot of women are aware of. Can. potentially reduce the risk of hot flashes and then caffeine and alcohol as well.

So reducing the amount of caffeine and cutting down and alcohol. In that time, alcohol is something that you want to be quite cautious of after the menopause as well, because of the risk of heart disease.



**Danny Lennon:** Just to finally to finish on the cardiovascular disease piece, and you noted that there's a number of these different mechanisms at play, where that's changed in blood pressure body fat distribution, but one of the things that. Tends to occur as well. This kind of shift in lipid profiles. So someone may not necessarily change anything to do with their diet, but after the onset of menopause might see a slight change in say LDL cholesterol levels.

And so in terms of trying to at least offset or mitigate that is, is that, does that just come down to maybe being slightly bit more. Cognizant or on top of some of the things we know around dietary patterns at lower cardiovascular disease risk. Is there anything else that you would tend to recommend to people if they are worried about this increased cardiovascular disease risk that comes and the thinking, well, what ways can I maybe offset that?

What typical nutritional advice do you think would be most pertinent here?

**Hazel Wallace:** Yeah, I think when it comes to cardiovascular disease for men and women, there's a huge Modifiable component in terms of our risk, obviously age and genetics plays a huge part, but our lifestyle's hugely influential. So nutrition's just one piece of the puzzle. But staying active is really important.

And after the menopause, there's a big drop off in terms of physical activity, but. Women need to be not only getting in their kind of 150 minutes of movement per week, but also ensuring that they're doing muscle strengthening exercises at least twice a week. And again, that's something that I think a lot of women aren't doing in that phase, which is really important.

Not just for keeping our strength up and again, independence, but from a bone health perspective and also from a. Heart health cardiometabolic metabolism, point of view. It's really important. Smoking and alcohol again are big risk factors there, but from a nutrition point of view, like I'm sure you've discussed it extensively on the podcast, but there's no specific dietary recommendations for women versus men when it comes to cardiometabolic health. It's very much the same advice that we would give for a heart healthy diet. So I guess typical of like a Mediterranean style diet or a DASH diet, which is lots of colorful fruits and vegetables, lower and saturated fat mostly plant focus, lower amounts of meat and processed foods.

And then thinking about We mentioned blood pressure and cholesterol. So you could increase whole grains in fiber there, which may help with the cholesterol point of view. And then if you do have high cholesterol, you can add in sterols and stanols into your diet that you can get in kind of foods that are fortified with that.

And so there's no real specific. Female guidance around that there may be in the future. But again, it's just like thinking about the lifestyle factors that we can control. And I would

also urge women who are going through. That kind of phase to have kind of basic things checked with their GP, your blood pressure, your cholesterol levels, your weight, and see if there are any things that are there.

And also your blood glucose, because they're the risks that can creep up. And we may not be completely aware of them. And I mean, not everyone has access to. Registered nutritionist or a dietitian, but it can be helpful working with someone like that. Who can help support you in your diet?

Because I realize it can be quite overwhelming when you're going through that phase, that there all these things that you need to consider and all these new risk factors.

**Danny Lennon:** Fantastic. There's so much more that we could keep discussing Hazel, but I'm going to start wrapping things up. But before I get to the very final question, where can people find more information about the book? Where can they get it? Where can they find you on social media? Where's some places that you would like to divert their attention.

**Hazel Wallace:** So the book comes out on the 7th of July, but you can pre-order it now on Amazon and Easons and most places online. It will be in bookstores as of the seventh, but you can find more. I'm on all social media under handle of @thefoodmedic. And we also have a website with kind of an educational hub where I try to deep dive into some of those topics in greater detail.

And that's just the foodmedic.uk. So you can find us

**Danny Lennon:** I will link to all of that stuff in the show notes. So people please go and check that out. If any of this discussion has been of interest to you. So that will all be linked in the. Show notes to this episode. And with that, that brings us to the final question.

I always end the podcast on can be completely related to something outside of what we discussed today, or indeed related to what we've discussed today. And it's simply, if you could advise people to do one thing each day, that would have a positive impact on any area of their life. What might that one thing be?

**Hazel Wallace:** I think the lowest hanging fruit would be to get into bed earlier. One of the chapters in the book is all on sleep. So I had a bit of a deep dive into that and it just seems like there's not one component of health that sleep doesn't influence. And I think as we get busier and our social lives. Pick up again, post pandemic sleep is the thing that we tend to sacrifice.

So if there's one thing that you can't, you feel like you need to change, get into bed earlier.

**Danny Lennon:** With that, Dr. Hazel Wallace. Thank you so much for giving up your time today. Thank you so much for talking. About it. And then also for the work that you've done, it's very much appreciated very much enjoyed going through the book. So, thank you for that. And, yeah. Thanks for coming to talk to me.

**Hazel Wallace:** Thanks for having me.