Supplements at Midlife Transcript

[00:00:00]

Supplement Marketing Myths

Anna Barbieri: What do you think are your biggest pet peeves when it comes to supplements?

Francesco Callipari: Um, I think you touched upon them a little bit. I think this level of marketing that really just obfuscates exactly what's going on or this over-hyping of what they can do. And the other part is that believing that a supplement is gonna cure everything that ails you.

Mm. Those are big ones, right? Again, you need to be rational in your approach, systematic, curious, and I think you need just to follow the evidence and not be, um, and not looking at all the shiny things up here looking for a quick fix.

Podcast Intro and Guests

Anna Barbieri: Welcome to Horology, the new podcast from the Mount Sinai Health System, advancing women's health through cutting-edge science and compassionate care. Our show is brought to you by the Carolyn Rowan Center for Women's Health and Wellness here at Mount Sinai. I'm your co-host, Dr. Anna Barbieri. Today, we're unpacking the essential supplements for women's health during midlife.

[00:01:00] What are the must-have supplements, and what supplements are just empty promises? We're cutting through the menowashing to find out what actually works. To walk us through, I'm joined by my co-host, Dr. Joanne Stone, who leads the Department of OBGYN as chair here at Mount Sinai, and Dr. Francesca Jalapari, the Medical Director of the Rowan Women's Health Center and an expert in women's integrative health.

Welcome to the show. Supplements, that's the topic for today, and it's a giant one, right? I mean, I hear about supplements every day. I get asked about supplements. I walk down that CVS aisle. I'm intimidated by supplements sometimes. So it really comes up a lot, and I think traditionally in medicine, on the medical school side in residency, we really don't know so much about supplements.

We're never really exposed to that information, and I think that creates kind of this, this situation where we don't really know how to counsel patients or even how to think about supplements. But today, we're going to talk about all of that. [00:02:00] I'm so happy to be joined by my colleagues, um, Dr. Joanne Stone, Dr.

Francesca Jalapari. You are our expert guest on this. Tell us a little bit how you came to know more about this topic, because that's kind of unusual, right? Like, most doctors actually don't know so much and, and think that supplements are sort of useless most of the time.

Francesco Callipari: Right. So that's a very good point.

I find the same thing, um, myself with all my colleagues. So I guess the inspiration was you, actually, um- Oh. ... because you did, you did complete, um, this amazing fellowship in integrative, uh, care and integrative medicine, and actually I'm following in your footsteps. I'm in my second year of, uh, the Andrew Weil School for Integrative Medicine, and- Lots and lots of the lectures that we have do integrate and speak about supplements, micronutrients, um, botanicals, um, as they pertain to different elements of traditional and conventional medicine.

Um, and I think we're gonna be focusing on, uh, midlife and women's care [00:03:00] and perimenopause and menopause, and they are really, really germane to that aspect of women's, uh, life's journey.

Anna Barbieri: Well, thank you for that. And for our audience, um, Francesco and I go way back. Yes. You were actually one of my mentors in residency.

Francesco Callipari: Thank you.

Anna Barbieri: I may have been a little bit afraid of you back then. But no longer. Um, but it's great to work with you, and I think, you know, when it comes to supplements, vitamins, minerals, certainly the, the impression I had is that we don't know what we don't know, and it behooves us to know more about, about this topic that is so important for our patient.

It comes up a lot. And I'm sure with, uh, Joanne Yu, given your, uh, maternal-fetal medicine and obstetrical work, you see it all the time, all those questions about, what can I use before I'm pregnant? What can I use when I'm pregnant? How... Do you find that a lot?

Joanne Stone: All the time. Patients are always asking, "Do I need to take DHA?

W- how much folic acid should I take? Can I take magnesium? Is there any benefit?" There, there's so much out there. [00:04:00] Um, and people also are, like, afraid to take things and then afraid not to take things. So it's really good to get the information out there.

Anna Barbieri: Totally. And there is, you know, there's so much information.

I mean, supplements are a, you know, that market is worth billions of dollars. Billions. The marketing is very sophisticated, but when you, like, look under the hood, the evidence may or may not be there. So we're here today to really talk about supplements in a practical way, get some practical takeaways, and have a little fun section at the end, too.

Um, let's start.

What Supplements Really Are

Anna Barbieri: T- Francesco, tell us what supplements are, 'cause I think that's also a confusing definition for people.

Francesco Callipari: Right. So I think the, the classification really is that supplements are these, um, bioactive compounds. Um, a lot of them do come from plants or natural elements, and fortunately or unfortunately, they're not as well studied as pharmacologic agents, so they don't fall under the [00:05:00] same exact guidelines and, um, so they're out in the market often with a lot of sort of, uh, let's say, marketing, um, uh, attestments, uh, in terms of health benefits.

Now, they're not allowed to say that they cure diseases. They're not allowed to say that they treat diseases, right? That is actually one of the, the government laws that exists right now, but there's a lot of latitude even within that. Um, and they do sort of make these inferred, um, these inferred statements about effectiveness.

So that's what supplements are, and that's how they're different sort of than, than medications or drugs, which are very highly regulated. Um, what the good thing is that right now there's more and more data that's coming out with supplements. There are more and more ver- emerging, um, evidence-based studies, um,

between clinical trials and randomized controlled trials and systematic reviews as well.

So I think we're in a good place in terms of learning much more and getting more evidence-informed, um, [00:06:00] opinions and actually statements and recommendations that we as practitioners can give to the patients. It gives us that much better structural framework for recommending them. We feel a little bit safer.

Anna Barbieri: I, I think that's a good point. You know, I mean, supplements are not drugs. They don't go through the same approval process that pharmaceutical agents go through. But that does not really mean, right, that we would say, "No, no, no. No supplement is worthwhile." And I think that's kind of can be that extreme opinion that's easy to give, but that doesn't serve us well as individuals and certainly doesn't serve our patients well.

What about, um, are supplements... So do they all come from plants, or is there, is there a difference between what's a vitamin, mineral- Right ... botanical? Right. Like, it's a, it's a, it's a wild world out

Francesco Callipari: there. It is wild. No, that's very well stated. It is a wild world. And I mean, we're the, I guess, we're the Western cowboys trying to wrangle it in and-

and find, uh, some kind of way to bring some order.

Anna Barbieri: Yes.

Francesco Callipari: Some systematic order [00:07:00] and some logic to it, right? Logic and- Common sense ... a rational... Yes.

Joanne Stone: Right.

Francesco Callipari: Yeah, yeah, a rational approach, right? Yes. Um, so let's do a little bit of organizational stuff. So there are certain things like minerals, right? So there's magnesium, which is one of the most common minerals found in the body.

Um, magnesium is involved in hundreds and hundreds of enzymatic reactions, um, both at the intracellular level and even extracellular level. Um, it's involved-

Anna Barbieri: That's inside the cell and outside the cell? Yes.

Francesco Callipari: That's right. Inside the cell- Yeah ... and out. Thank you. That's right. Um, there are things like, uh, vitamins.

Vitamin D is a great example, which is both a vitamin and a prohormone, actually.

Anna Barbieri: I know. I'm the, I'm the hormone girl. You are. So I always say that vitamin D is a hormone.

Francesco Callipari: Yes. Yeah. So vitamin D really sort of, you know, sh- straddles both worlds of, uh, of being a vitamin and being a pro- prohormone. And then there's things like botanicals, and a great example in, on our world, in our space, is black cohosh, um, which, um, comes from, uh, different plants, um, and has some effects [00:08:00] actually in terms of, uh, menopausal management of hot flashes, vasomotor symptoms.

Um, so those are just sort of three examples from the three different worlds, I think.

Anna Barbieri: Yeah. So I think, you know, supplements would be the umbrella term- Right ... and then minerals, um, vitamins, and botanicals- Botanicals, right ... right? Yeah. I think it's important to distinguish that. I also sometimes, you know, when I think of them, talk about things that are meant to replace certain deficiencies.

Right. So often we'll talk about things like iron and vitamin D here, and then things that really have pharmacologic actions, so something that you may be taking for hot flashes- Right ... would be in that category. And pregnancy is a whole other thing. I mean, I think everybody's used to taking prenatal vitamins and all the stuff that's in there, which is, I think, mostly vitamins and minerals- Yeah

you know, botanicals.

Joanne Stone: Yeah. Um, mainly, but there are additional supplements in there as well. So- I mean, folic acid is one of [00:09:00] the most important components of a prenatal vitamin. We know, and you know, it's interesting 'cause there really is some actual real data, right? So we know from proven randomized controlled trials that, um, folic acid is super important in terms of prevention of neural tube defects.

So the minimum amount is, you know, 400 micrograms a day. Um, many prenatal vitamins have a little bit more than that. Um, but that's just a baseline, so you need to talk to your doctor. If you have a history of having had a prior pregnancy where there was a neural tube defect, it's commonly known as spina bifida or anencephaly, or you have diabetes, you have to take more.

So the recommendation in those circumstances is 4, um, milligrams. So it really, really depends, but folic acid is super important. And even just prenatal vitamins is important. Studies have shown that people who take three prenatal vitamins, hopefully at least one month, but, like, preferably three months before conceiving, have a lower [00:10:00] incidence of having a baby with a, a fetal malformation.

So super, super important

Anna Barbieri: Do you think that's because we just can't get enough of these substances from diet? You know, I would ask- Yeah ... both of you that. So- Like, we often talk to patients about eating healthy- Yeah ... but still people, you know, uh, we see it in the labs, right? Lots of people are deficient in certain very basic micronutrients.

So what, what do you think about the statement- Yeah ... "Get whatever you can from your diet"?

Francesco Callipari: So that's a great concept if it were actually doable, right? So you have to look at historical data and what's happened with our farming systems and the use of pesticides, um, and just the big changes that have occurred.

Um, even the use of, uh, fertilizers has changed. Over the last 100 years, the plants themselves are not as nutritious. You just don't get the same phosphate levels at the root level, just to be very technical. Um, there's a lot of gene modification has occurred because there [00:11:00] were pressures to generate enough food for the growing population of the earth.

So yes, there's a reason for it, but the, the downstream effect is now that food's not as nutritious, and it does lack some of these critical micronutrients. And, and that's where the supplements come in, um, especially again, a judicious use of supplements, a judicious use of micronutrients, and the vitamins as well.

So yeah, it has to do with farming and even some of the pesticides, and we were talking about this before the show, about endocrine disruptors, things that

actually change the way some of the, uh, hormones work in your body. Mm-hmm. Um, and this would be a, a good case, uh, usage of, of, of adding in supplements, again, where it's appropriate.

Joanne Stone: Yeah. And li- li- I feel like lifestyle too, right? Like, we're all told to avoid the sun so we don't get- That's

Francesco Callipari: right ...

Joanne Stone: wrinkles.

Anna Barbieri: I wish I knew that like 30, 40 years ago. I didn't do that either.

Joanne Stone: Yeah. So like, so, so many people are vitamin D deficient, right? 'Cause they're, like, avoiding sunlight. So, you know, it's [00:12:00] our lifestyle too.

Anna Barbieri: And we should do a whole other podcast just on that- Oh, yes ... because I find so much- Tons to say ... true vitamin D deficiency in pretty much everyone. And you know, we're here in New York, and it's been like the longest l- winter ever- Right ... so I get that too, but pretty much everyone is vitamin D insufficient.

And I think you're right. You know, we do need sunscreen, prevent skin cancer, but we just, by using that, we're also bypassing the way humans make vitamin D. It's very tough to find food with enough vitamin D, and that's why some food is, um, of course- Uh, has added vitamin D to it, but we really make it through sun.

So that is where I wish I could say everybody go to the beach for 20 minutes a day. Right. Sign me up. I'm there, too. But, um, that's where vitamin D supplements may be- Yeah ... may be

Francesco Callipari: helpful there. In a per- in a perfect world, what the recommendation is is to be out between, like, 9 and 10:30 in the morning for about 20 minutes with no-

Anna Barbieri: We're on, like, meeting six by then.

I-

Francesco Callipari: of [00:13:00] course. Yeah Like, that's, in a perfect world, that- that's where you should be, where the sunlight hits you.

Anna Barbieri: In a room like this. In a room

Joanne Stone: like this, right. We're a technology podcast and

Francesco Callipari: But it- it- it's really the least obnoxious rays of sun that you're gonna get, and it's not bad. But, and speaking of vitamin D, I mean, that's a great example of an important supplement, um, to start, uh, thinking about.

That's a good one where you can actually do a blood level. You can do something called the 25-vitamin D deficiency level. You've got some certain numbers that you have to hit. Um, the- the deficiency level is- is quantified as less than 30 nanograms per mil, but the optimal range is between 40 and 60 because that's where the best action is for- for the vitamin.

And as you know, all of you know, it's got an important impact on bone Even on muscle development, on, as I said, it's a big prohormone. It's important for calcium metabolism, the way that we ingest calcium, the way that calcium gets transported from the intestines to the bloodstream, and then of course, how [00:14:00] the calcium is put into our bones.

Anna Barbieri: Totally.

Francesco Callipari: You know, fracture risk is a thing, right? That is a really important thing as we get older- Oh, my- ... especially for women.

Joanne Stone: I have to be better

Francesco Callipari: at- You gotta think about

Joanne Stone: it. Yeah, I have to... You know, so I have a... Okay, truth be told, I have a bag in my office. It's like a Ziploc bag that has magnesium, vitamin D, calcium.

Right. Somehow Colace, a stool softener, got in there for I don't know why. I think I, I think I took the bag 'cause I thought I was giving it to a child. I don't know which is which, so I haven't taken anything because I don't know what I want to take- Wow ... the Colace. So

Anna Barbieri: let's talk about that. Yeah. Let's like, uh, I thought, I think, Francesca, you brought up an important point, right?

Like, how does someone know that they need to take supplements? Right. Right? Do we test for that? Do we go by symptoms? How do you think of that when- Right ... you're working with patients?

Midlife Essentials Vitamin D and Magnesium

Anna Barbieri: And then, you know, given the age that we are, and there's a lot of interest in this thing, let's talk about some supplements specifically for women in midlife, um- Great

'cause we get asked [00:15:00] that all the time.

Francesco Callipari: The, in, in fact, it's one of the most common, um, questions that we have when we're doing a menopause consultation or a perimenopause, perimenopause consultation. So starting with vitamin D, even though I said that, um, you sh- you, you should be checking a vitamin D deficiency level, you can go ahead and start people on 1,000 to 2,000 international units or IUs a day.

That's a very safe dose. Yeah.

Anna Barbieri: Nothing bad is gonna happen.

Francesco Callipari: Nothing bad's gonna happen. However, if someone is deficient, and then their physician should be looking at much bigger doses, don't do those by yourself. You should be doing that in conjunction with a physician that's gonna be managing the numbers and looking at levels.

Magnesium. Magnesium's a tough one because most of the magnesium in our bodies is really not in the bloodstream, so looking at a level in the bloodstream is not as helpful for magnesium. However, there's, we do know from population studies that magnesium levels are pretty low. They're pretty low. And let's dive into-

Anna Barbieri: Having to do with that food [00:16:00] quality that you mentioned- Food, with the

Francesco Callipari: food quality

earlier. Exactly. Yeah. So on the money. Yeah. Right. So in terms of supplementation also, this is where you have to nuance the kind of magnesium you're gonna get. So there's tons of stuff out there which has magnesium oxide or magnesium malate, and of course my personal favorite, magnesium glycinate, and there's a reason for that.

The magnesium glycinate is probably the easiest on your gut, and it doesn't create a lot of intestinal problems like diarrhea or loose stool, and it probably has a lot of effectiveness for a couple of things. Number one, for bone health and muscle health, but also for sleep. And taking 300 to 400 milligrams of magnesium glycinate in the evening right before bedtime is extremely helpful.

Anna Barbieri: Yeah, some people

Francesco Callipari: find it very helpful. And sleep is a problem, right? Yeah. For perimenopause, for lots of reasons.

Anna Barbieri: Oh, I'm living it.

Francesco Callipari: So, you're living it. So that magnesium glycinate would probably be my strong recommendation. Yeah. And around that

Joanne Stone: dosing. Is

Francesco Callipari: it anti-inflammatory as well? Yeah. It's, it's very much an [00:17:00] anti-inflammatory.

Yeah. Extremely. A lot of these have that crossover- Yeah ... uh, functionality, yes.

Anna Barbieri: Magnesium, it's a good... I agree with you. I think magnesium glycinate's a good overall magnesium. Overall. But if somebody's suffering from constipation, then there are- The magnesium- ... these magnesium mixes and, you know- The oxide magnesium.

Right, yeah ... the old, um, kind of, um, the old colonoscopy prep was- Right ... actually magnesium citrate that you drank. I still remember. And it, it worked.

Francesco Callipari: I remember it. It

Anna Barbieri: works, yeah.

Francesco Callipari: From personal experience, right?

Anna Barbieri: Yeah. So some things we can test for, right? Vitamin D you mentioned. Vitamin D, right. Iron. Iron levels.

Yeah. Iron level for sure. B12 levels. B12, another, another important- You know, B12 is another one. Yeah. Another important deficiency. Yeah. Like, I, I think I find that all the time. You know, we see so many women in midlife who come in with fatigue, hair loss, um, just lower energy. And often, especially today, like they're bombarded with messages about just get more estrogen, get on estrogen, get on testosterone.

That's right. And we forget that there are other things that go on in the [00:18:00] body other those, than those things. So I'm also an advocate for actually checking those levels in this population because you can really uncover B12 deficiencies, iron deficiencies- Right ... you know, and, and really help people through a very, very simple way, either by recommending- A dietary change, and yes, ideally we would get sun and get food, or using supplements in a smart way.

Yeah.

Francesco Callipari: You know? And, and B12 is a very good one because you may have this underlying irritability or mood change that's not attribul- attributable to anything else, and it m- actually might have just have been as simple as a B12 deficiency, which as you said- Correct ... Anna, is so easily correctable by a supplement- So

Anna Barbieri: easily

or by foods. Yeah. And there is some- Yeah ... good emerging data on methylfolate too- Right.

Francesco Callipari: As well.

Anna Barbieri: Right ... for mood, so that's, that really becomes, like, the second arm- Yeah ... of it too. It's really fascinating and- Yeah ... you know, I'm still, like, it, it boggles my mind that we learned none of this in medical school.

Francesco Callipari: Well, so- Like- ... fortunately for you and I, we're learning it now, and [00:19:00] actually one of the opportunities that we have now is to really propagate and really teach our own colleagues and-

Anna Barbieri: Yeah ...

Francesco Callipari: and bring this to the fore. And this podcast is a great example of that. Yeah. So thank you for that.

Anna Barbieri: And really in a very nuanced way, you know?

I don't think here we're, we're not really endorsing any specific companies- Right ... or the use, overuse of supplements, and we do need to remember that some of them are, uh, I guess, some of them are useless. Right. And the marketing is not right, and it's all a bunch of phooey, but it's, it, but some are really worthwhile.

Yeah. Yeah.

Francesco Callipari: So, you know- And, um- Yeah. Go, I'm sorry.

Joanne Stone: Go. Yeah. No, I, I just wanted to, um, come off of what you said about methylfolate 'cause I, this comes to me a lot in patients who are pregnant or wanting to get pregnant. Oh, yes. Right?

Anna Barbieri: Big controversy. Yeah.

Joanne Stone: It's a big controversy 'cause it's all over, like, you know, social media.

Yes. You should take methylfolate instead of r- the regular folate or folic acid. But the truth is that the only randomized trial looking at reduction of, like I said before, of neural tube defects is with folic acid. Yes. It's not been [00:20:00] studied with methylfolate. And yes, methylfolate may be more, better absorbable, um- Some patients who have a specific gene mutation in what's called MTHFR- Mm-hmm

I mean, I, I call it Monday through Friday, MTHFR. Right. I love that. MTHFR. Because like every day of the week, somebody's diagnosed with it, right? Um, but it, it still has not been really shown. I mean, it can... It's plausible that it might be better, but it has not been shown, and this is why most prenatals, um, have folate or folic acid.

Some now are putting the methylfolate, but I'm a l- little worried that that's done without really scientific data behind it.

Anna Barbieri: Yeah. I, I agree with you. Right. I think there's a pu- big push towards this MTHFR awareness and methylfolate without hard data about outcomes- Yeah ... from it, you know? So,

Francesco Callipari: yeah, and that's a good point also for some other, uh, botanicals and supplements.

For example, now you hear a lot about creatine and collagen. Mm. Those are big ones, too.

Anna Barbieri: Yeah. Te- tell [00:21:00] us the stuff. What do, what do I need to do?

Francesco Callipari: Well, it, so it depends, right? So I think that nothing works in a silo, and especially if you're looking at creatine, which is a protein derivative, and it's gonna break down into amino acids, and you're gonna be using it to help build up your muscle.

The reason we keep harping on, uh, building up your muscle is because the musculoskeletal system is linked. It goes back to fracture and reducing fracture risk because if you build up your muscles, you're gonna build up your bones, and then you will live with a lot less frailty, without risk of falling.

And as we get older, that's a big deal because women that have a fracture in their 50s, 60s, 70s, the stats are, are really, really worrisome. You know, one out of two, one out of two women that have a serious hip fracture will not retain full functionality.

Joanne Stone: You know, I was just reading- Yeah ... in the, it was in The New York Times, I think yesterday, in The Science Times, and they were talking about the importance of building up your glutes, your-

Francesco Callipari: Yes

Joanne Stone: can I say butt on the [00:22:00] on this podcast? No, no, yeah. So not only to have a nice looking- Steven ... a nice looking butt- ... but it actually is, it's the biggest m- It's your biggest muscle ... muscle in the body, right?

Francesco Callipari: Yep, in the whole body.

Joanne Stone: And it's most important for stability and preventing fractures, so. And

Francesco Callipari: standing up.

Yeah. It keeps you upright.

Joanne Stone: Yeah, exactly.

Francesco Callipari: That's

Joanne Stone: what its function is. So when we're sitting down all day long, you know, like we're losing our glutes, so we have to do like... I mean, taking creatine and doing things like squats and stuff like that really help. You know,

Anna Barbieri: I have to say, having worked with so many women across the lifespan but also now seeing my family members, especially that higher, you know, older generation really become much older and the frailty that comes with that that robs you Of your function, and when you're robbed of your function, you're robbed of your joy of life.

And your purpose, right? If you cannot-

Francesco Callipari: And your purpose, all

Anna Barbieri: of it, right? ... get out of the chair, if you cannot walk across the street, that means you cannot go have dinner with your family out, you can't go to your barbecue. Like, it's really important. So, um, one of the... This is [00:23:00] such an aside. We should do another episode on this.

Francesco Callipari: We- Right, right, on, on that. But-

Anna Barbieri: One of the best exercises, get down, get up.

Francesco Callipari: Get do- From your seat. Get

Anna Barbieri: down,

Francesco Callipari: get up. That's right.

Anna Barbieri: That's right. Get down, get up, or get down on the floor, get up. Get up, right. Yeah.

Francesco Callipari: That is the best, one of the best ones. So- Low tech, right? Low tech, easy to do ...

Anna Barbieri: creatine, that sounds like that's in the stack.

You mentioned- So creatine's

Francesco Callipari: important. Um- ...

Anna Barbieri: vitamin D.

Francesco Callipari: Vitamin D. Yeah. Magnesium.

Anna Barbieri: Mm-hmm.

Francesco Callipari: Right? Um-

Anna Barbieri: B12 if you need it.

Francesco Callipari: B12. Okay. And we didn't talk very much about, I think, free fatty acids or omega three fatty acids- Okay ... which I think are- Let's talk

Anna Barbieri: about that ...

Francesco Callipari: Let's talk about that. Yeah. So the reason they're important is because with the SAD, which is the standard American diet, we have so many ultra-processed foods and processed foods that we're eating, and we're not eating the whole foods, the organic foods.

And one of the shifts that we should be looking at is shifting towards the anti-inflammatory diet, which I think deserves its own

Anna Barbieri: podcast- We'll, we'll do that another episode, yes ...

Francesco Callipari: But part of the anti-inflammatory diet is that you're gonna get in the omega-3 and the omega-6 fatty acids. The proportion is important, right?

[00:24:00] We eat about 10 times more omega-6 fatty acids versus omega-3s, which are quite inflammatory, the omega-6s. Bringing up the omega-3s will mitigate that, it will reduce that. It will really bring an anti-inflammatory component, um, to your diet. How do you get them? Well, um, you get them

Anna Barbieri: from- You eat Italian.

Francesco Callipari: How do you get...

You get them from salmon, fatty fish. You eat Italian, Greek, also that whole Mediterranean area. Um, sardines, mackerel. Actually, albacore also has a fair amount of omega-3 fatty acids. Mm. And a nice plant source is actually unroasted walnuts.

Joanne Stone: Oh, I didn't know that. How

Francesco Callipari: do you like that?

Joanne Stone: Why, why unroasted?

Francesco Callipari: What happens when you roast- Because when you roast them, you de- you d- if you roast them or cook them- Oh, you denature the-

you denature the lipid composition. Mm. And so they don't work as well. Um, and so you don't just get the same bang for the buck. So that's- All right ... an important co- uh, this would be an important supplement that I would add to the [00:25:00] toolbox. Got it. One little minor point is, um, these are fatty acids, they're lipids, they can become rancid.

So if you expose them to bright light, if you don't keep them in sort of a covered area, a cool dry area, they can denature and they won't work as well. Just a minor point, but I think an important one. You

Anna Barbieri: know- With that point in mind, right? Because I, I'll say to patients also, if you're going to buy omega-3s- Mm

make sure they are in a bottle that's not translucent- That's right ... or clear, or preferably dark, so they, their shelf life is better. Right. Let's talk about

Francesco Callipari: that. And they shouldn't smell, they shouldn't smell, like, very fishy either. So that's a problem if they smell very- So- When you open the bottle- Yeah

if they're really fishy, not good.

Anna Barbieri: Yeah.

Joanne Stone: I mean, I get questions about, like, DHA supplements all the time in pregnancy. Oh, sure. And, you know- Data is a little bit iffy about it, right? People think about it's gonna make their kid go to [00:26:00] Princeton or Harvard or something like that, right? But, um, the data on, like, the IQ and cognitive development is really not great.

It's really... There's no real hard science saying that improves that. I mean, s- well, I think there was one study that showed pre-conceptually might help for fertility. Um, can it hurt? No, probably not. But I do encourage people to eat fish that are high in omega-3s- Yeah ... as you mentioned. We have to avoid the high mercury fish.

Right. You know, kingfish, swordfish, mackerel, mackerel- Right ... uh, tuna in larger quantities. Um, but, um, you know, and getting it through fish I think is better. I think we need two to three- Yeah ... portions a week. Yeah. Um, but it also can help reduce pre-term birth risk as well.

Anna Barbieri: Yeah, and I, I agree, you know? And I think it goes to, Francesco, your point.

Like, nothing exists in a silo, right? And we just... Humans love simple solutions to complex problems. And, [00:27:00] you know, taking an omega-3 supplement is not gonna guarantee anybody going to whatever school or this or that. Right. But I do think if, you know, getting it from food, wonderful. If you need to get it a different way, fine.

But let's be careful about making these long-term statements or promises or guarantees, unless that is something that's based on evidence, and I don't think we have that here.

Francesco Callipari: Right. And I think that's a good point about when we make a recommendation about a supplement or a vitamin, it's never in a vacuum.

It's always contextual. For example, back to the creatine. You're gonna take creatine to increase your muscle mass. Well, you really can't do it unless you're exercising-

Anna Barbieri: Yeah ...

Francesco Callipari: and unless you're doing specific types of exercise. The

Anna Barbieri: powder alone- And, you know- ... is not gonna make you grow muscles.

Francesco Callipari: It's not, unless you're engaging in, in some serious resistance exercise.

Oh, God. And I think that also deserves this whole other-

Anna Barbieri: Yes ... conversation. A whole other thing.

Joanne Stone: And we definitely should have something on

Anna Barbieri: exercise. Um, yes. Definitely. And we're going to have- Definitely ... an episode [00:28:00] on all the, let's say, the powders that every midlife woman has on the counter. Oh my goodness.

The collagen peptides, the, you know, protein powder and creatine. Right.

Choosing Quality and Quick Verdicts

Choosing Quality Products

Anna Barbieri: So let's talk about how we can navigate that, you know, that supplement aisle. How does, how does somebody even choose a supplement? If I wanted to buy, I don't know, magnesium glycinate, how, how do I know that what I'm buying is right?

Because there is that regulatory or lack of regulatory aspect. There's differences in quality. How, how do I, as a consumer, know what to look for?

Francesco Callipari: That's a great question, and it's completely daunting and overwhelming and confusing. So there's a couple of little things that you can do.

Um, you should look for, uh, the USP label, which is the US Pharmacopeia mark.

Um, that means that it's been vetted sort of for its potency, that it really is the substance that they're saying it is, and typically it's also vetted for the amount of milligrams or grams that it is. [00:29:00] Now, it's not gonna say that it works or it doesn't work, but at least that's a good starting point. Um, and they also tend to vet the sourcing, so the sourcing really is contaminant-free.

Another company that I use, and again, I'm not... have no financial, uh, ties to it, but is

Anna Barbieri: I- None of us do. Yeah.

Francesco Callipari: Right. But it's ConsumerLab's. Yeah. So ConsumerLab's takes bottles of supplements and vitamins off the shelf, and they test them. They test them, again, for potency, dosing, and contamination, and they will give, like, their best picks or recommended, and they'll also tell you which ones fail the test, and I found it actually very helpful, and I do use it with my patients, actually.

Yeah. I, I think that's- Um, so tho- those are two big, big things I think that people can start doing.

Anna Barbieri: Yeah. I think that's really great advice. So looking for that NSF seal. Right. Um, US- sorry, US- um, USP. USP. NSF is another organization that gives them third-party testing if, you know, that information is available.

Um, and then ConsumerLab is... I think it's a [00:30:00] great resource. Right. And,

Francesco Callipari: and fi- if you really wanna do the effort, you can get a certificate of analysis if you wanna call the company and find out from them- Yeah ... what their analysis is on their batches. Um, so that's, that takes a little bit more work, but it might be worthwhile.

Anna Barbieri: Yeah. Yeah. The other thing, you know, that sometimes I use also, just look on the back and look at the ingredient list. If ig- look at the front. If the front is promising magic- Right ... it's probably too good to be true. Too good to be true.

Francesco Callipari: Right.

Anna Barbieri: If the back just lists, you know, proprietary blend and you don't know what's in it, okay, that, that's a red flag, honestly, no?

Like, I w- I would- Yeah ... you know, I would be wary of buying something where I don't really know what's in the back. Yeah. The proprietary

Francesco Callipari: blends are tricky because- Yeah ... you don't know if they're really meeting the levels of where you're gonna have-

Anna Barbieri: Ah ... clinical

Francesco Callipari: effectiveness- It's another thing ... which is another

Anna Barbieri: thing.

Right. Yeah. It's a big... It's, that's also f- maybe for another episode. Yeah. But often, you know, and we didn't even get into phytoestrogens- Right ... or blends, and you know, I, I do a lot in the perimenopause, menopause world, and all [00:31:00] the time I see supplements come through that seem to have the right botanicals, but they put like 25 of them in a bottle at levels that have never been even studied or shown to be effective just to Make someone believe that, "Oh, I'm taking it, it's going to be helpful."

Right. So I think, you know, looking at the right ingredient at the right level that has been tested for efficacy, it's important. And it's a, again, it's a confusing world out there. Even our, um, societies, and I think we need to come clean about that, the Menopause Society does not recommend any supplements for menopause symptoms.

Do you think it's important to talk about it? Because while hormone therapy is the most effective way to manage those symptoms, lots and lots of women, I think the statistic is maybe 55 or 60%, do use supplements-

Francesco Callipari: Right ...

Anna Barbieri: and especially women that, um, who feel they cannot use hormone therapy. So we'll do maybe another thing.

So-

Francesco Callipari: Yeah, yeah. We, we would have to dive into things like [00:32:00] isoflavonoids and soy products. I mean, that really deserves its own, um, thing. But just sort of as, as a teaser, there are things out there that can help with some of the vasomotor symptoms. It's not a panacea, and they're not quite like estrogen. They don't give you all the benefits that estrogen does.

But in terms of some of the symptom relief, um, looking at some soy products, soy foods, um, even more so than soy supplements.

Anna Barbieri: Yeah.

Francesco Callipari: I mean, that, that really is a whole- Yeah ... area to discuss and dig

Anna Barbieri: into. And there we also get into, you know, women who may be at high risk of breast cancer or those with breast cancer- That's right

because we wanna also be careful about what could have hormonal effects versus not and all of that. Joanne, I think we gotta get Frank back on the show.

Joanne Stone: I know. Um, you know-

Anna Barbieri: Yeah

Francesco Callipari: It's, it's been great. For sure. Thank you.

Joanne Stone: We spent a weekend at a meeting, and he was, like, studying the whole time and, like, reading to me all about the supplements and mushrooms and all the stuff on-

Francesco Callipari: Oh, medicinal mushrooms.

Right. My goodness. Yeah,

Joanne Stone: we have

Anna Barbieri: a whole

Joanne Stone: episode

Anna Barbieri: on

Joanne Stone: that.

Francesco Callipari: Okay.

Anna Barbieri: That's a whole thing. [00:33:00] So that is my current passion. So for this episode, do you know that mushrooms are pretty much the only food that can synthesize vitamin D? So if you have fresh-picked mushrooms and you put them out in the sun, they will make vitamin D that you can then absorb.

I never knew that.

Francesco Callipari: Right. That's fascinating. And

Joanne Stone: I learned from you- Yes ... that you have to cook them, mushrooms.

Francesco Callipari: You must cook them- Yes ... to have the- Yes.

Anna Barbieri: Yeah.

Francesco Callipari: That's right. Yeah. For their adaptogenic or immunologic effect, yes. And

Joanne Stone: hen of the woods are the best.

Francesco Callipari: Hen of the woods. Yeah, there's lots of them.

Lion's mane, reishi.

Anna Barbieri: Oh, lion's, uh, lion's mane is delicious. Shiitake,

Francesco Callipari: maitake.

Anna Barbieri: Yeah. I'm waiting for Italian oysters to come- Let's do it ... through my logs.

Francesco Callipari: We, we make a nice risotto with that,

Anna Barbieri: actually. Yes. I'd love that.

Francesco Callipari: A nice homemade risotto.

Rapid Fire Verdicts

Anna Barbieri: So, um- For the end, let's do a quick round of, uh, sort of our supplement verdict part.

Sure. Okay? So let's do maybe yay, meh, or nay type of thing.

Francesco Callipari: Oh yeah, sure.

Anna Barbieri: Yeah?

Francesco Callipari: Thumbs up, thumbs down. Uh,

Anna Barbieri: yeah.

Francesco Callipari: [00:34:00] Sure. Yeah.

Anna Barbieri: What's the saying in Italian? Mezza

Francesco Callipari: mezza. Mezza mezza. Mezza mezza. Half and half. There we go. Let's

Anna Barbieri: go with that for

Francesco Callipari: today. Okay. Okay.

Anna Barbieri: All right. Vitamin D?

Francesco Callipari: Yay.

Anna Barbieri: Okay. Magnesium?

Francesco Callipari: Yeah. Yay.

Anna Barbieri: All right.

Francesco Callipari: That's a big yay.

Anna Barbieri: Iron supplements

Francesco Callipari: I think that depends. You know, I think that depends, a meds a meds, uh, depending on, um, what you're doing. I think discuss it with your doctor and get the levels- If you're iron

Joanne Stone: deficient, though-

Francesco Callipari: Well, I was gonna say, get your levels checked, and if you're iron deficient, it's a big yay.

But,

Joanne Stone: you know- It's important- Yeah ... in pregnancy especially. For

Francesco Callipari: sure.

Joanne Stone: Yeah. For

Anna Barbieri: sure.

Francesco Callipari: For sure.

Anna Barbieri: Melatonin.

Francesco Callipari: Ah, that's a little bit of a tricky one. Opening up a... I don't know. That's a meds a meds, uh, bordering on no, and I'll tell you why. The, the problem with melatonin, um, the stuff that's in the market, is way overdosing what you really need.

They're giving you five to 10 to 20 milligrams in the dosing, and when, what you really need for sleep aid is a fraction of that. Yeah. 0.3 to 0.5, a tiny amount.

Anna Barbieri: Those high doses are way more- Yeah ... than what our bodies produce.

Francesco Callipari: And they're pharmacologic doses. Yeah. They, [00:35:00] they have a lot of effects- Yeah ... um, outside of the sleep hygiene.

And so it's a meds a meds to a

Anna Barbieri: no. All right. Black cohosh.

Francesco Callipari: Yeah. So black cohosh is great. There's, there's a lot of good data on black cohosh. It works for a lot of women, not all women. I think for vasomotor symptoms, for me, it's a yay. Um, it's a... I w- I would say it's a, it's a big yay for me. Oh.

Anna Barbieri: Yeah. There's some newer data on it coming out too.

Yeah, I like it a lot. It's interesting. All right. I think I know what you're gonna say.

Francesco Callipari: Try me.

Anna Barbieri: Menopause detox tea- Ugh ... and belly blends.

Francesco Callipari: Mamma mia. You know, this goes back to a proprietary business. And if you can't decipher what the heck is in it, it's a strong no. No way.

Anna Barbieri: Well, I think we've done it.

Francesco Callipari: Wow.

Anna Barbieri: Um, thank you.

Francesco Callipari: Thank you. This has been tremendous. Thank you so much. So much

Anna Barbieri: fun. Yeah. It was so fun.

And, and

Joanne Stone: educational. I hope that the audience- Yeah ... really listens and

Anna Barbieri: learns a lot. I know. As my mind is on mushroom risotto right about now.

Francesco Callipari: Let's, let's do

Anna Barbieri: it. [00:36:00] But-

Joanne Stone: And I'm thinking pesto with walnut, not ro- toasting my walnuts when I put them in pesto. Right.

Anna Barbieri: Yeah, I don't toast them either-

Francesco Callipari: Don't,

Anna Barbieri: yeah ...

Francesco Callipari: for pesto.

You know you can make the nice pesto with the walnuts- Yeah ... a little garlic, some parsley, and good extra virgin olive oil. We didn't even- And basil ... get to that. Olive oil. Yeah. A wonderful monounsaturated fatty acid. An amazing product.

Parting Wisdom and Wrap

Anna Barbieri: Any, um, any parting words of wisdom for the end?

Francesco Callipari: Yeah. What I'll say is, um, go-

Anna Barbieri: It could be, it could be a recipe.

Just- It

Francesco Callipari: could be a recipe. Um, and I'm happy to provide that, um, an anti-inflammatory risotto recipe. Um, I would say- Of course ... that for, for patients looking at supplements and botanicals, go in with curiosity, but go in with an open mind and a little bit of skepticism, so much that you are discussing with your doctor.

Um, go and do a little bit of the research that we discussed, find out exactly what the data shows, and, and, and let yourself be led by the data and by the evidence. I think that's probably the most prudent way to go and the most realistic way to go.

Anna Barbieri: Love that. Agreed

Francesco Callipari: Thank you. [00:37:00]

Anna Barbieri: Thank you both so much.

Francesco Callipari: Thank you for having me. It's our pleasure. Thank you.

Anna Barbieri: That's it for this episode of Herology. I'm your host, Ana Barbieri. For more groundbreaking conversations on women's health, subscribe to Mount Sinai Health System's Herology podcast on YouTube, Apple Podcasts, Spotify, or wherever you get your podcasts.

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Supplement Marketing Myths

Anna Barbieri: What do you think are your biggest pet peeves when it comes to supplements? Um, I think you touched upon them a little bit. I think this level of marketing that really just obfuscates [00:38:00] exactly what's going on or this over-hyping of what they can do, and the other part is that believing that a supplement is gonna cure everything that ails you.

Francesco Callipari: Mm. Those are big ones, right? Again, you need to be rational in your approach, systematic, curious, and I think you need just to follow the evidence and not be, um, and not looking at all the shiny things up here looking for a quick fix.

Anna Barbieri: Welcome to Horology, the new podcast from the Mount Sinai Health System, advancing women's health through cutting-edge science and compassionate care. Our show is brought to you by the Carolyn Rowan Center for Women's Health and Wellness here at Mount Sinai. I'm your co-host, Dr. Anna Barbieri. Today, we're unpacking the essential supplements for women's health during midlife.

What are the must-have supplements, and what supplements are just empty promises? We're cutting through the menowashing to find out what actually works. To walk us through, I'm joined by my co-host, Dr. JoAnne [00:39:00] Stone, who leads the Department of OBGYN as chair here at Mount Sinai, and Dr. Francesca Caulipari, the Medical Director of the Rowan Women's Health Center and an expert in women's integrative health.

Welcome to the show. Supplements, that's the topic for today, and it's a giant one, right? I mean, I hear about supplements every day. I get asked about supplements. I walk down that CVS aisle. I'm intimidated by supplements sometimes, so it really comes up a lot. And I think traditionally in medicine, on the medical school side in residency, we really don't know so much about supplements.

We're never really exposed to that information, and I think that creates kind of this, this situation where we don't really know how to counsel patients or even how to think about supplements. But today, we're going to talk about all of that. I'm so happy to be joined by my colleagues, um, Dr. JoAnne Stone, Dr.

Francesca Caulipari. You are our expert guest on this. Tell us a little bit how you came to know more about this topic, [00:40:00] because that's kind of unusual, right? Like, most doctors actually don't know so much and, and think that supplements are sort of useless most of the time. Right. So that's a very good point.

Francesco Callipari: I find the same thing, um, myself with all my colleagues. So I guess the inspiration was you, actually, um- Oh. ... because you did, you did complete, um, this amazing fellowship in integrative, uh, care and integrative medicine. And actually, I'm following in your footsteps. I'm in my second year of, uh, the Andrew Weil School for Integrative Medicine.

And- Lots and lots of the lectures that we have do integrate and speak about supplements, micronutrients, um, botanicals, um, as they pertain to different elements of traditional and conventional medicine. Um, and I think we're gonna be focusing on, uh, midlife and women's care and perimenopause and menopause, and they are really, really germane to that aspect of women's, uh, life's journey.

Anna Barbieri: Well, thank you for that. And for our audience, um, Francesco and I go way [00:41:00] back. Yes. You were actually one of my mentors in residency. Thank you. I may have been a little bit afraid of you back then. But no longer. Um, but it's great to work with you, and I think, you know, when it comes to supplements, vitamins, minerals, certainly the, the impression I had is that we don't know what we don't know, and it behooves us to know more about, about this topic that is so important for our patient.

It comes up a lot. And I'm sure with, uh, Joanne Yu, given your, uh, maternal-fetal medicine and obstetrical work, you see it all the time, all those questions about, what can I use before I'm pregnant? What can I use when I'm pregnant?

How... Do you find that a lot? All the time. Patients are always asking, "Do I need to take DHA?

Joanne Stone: W- how much folic acid should I take? Can I take magnesium? Is there any benefit?" There, there's so much out there. Um, and people also are, like, afraid to take things and then afraid not to take things. So it's really good to get the information out there. Totally. And there is, you know, there's so much information.

Anna Barbieri: I mean, [00:42:00] supplements are a, you know, that market is worth billions of dollars. Billions. The marketing is very sophisticated. But when you, like, look under the hood, the evidence may or may not be there. So we're here today to really talk about supplements in a practical way, get some practical takeaways, and have a little fun section at the end, too.

Um, let's start.

What Counts as Supplements

Anna Barbieri: T- Francesco, tell us what supplements are, 'cause I think that's also a confusing definition for people. Right. So I think the, the classification really is that supplements are these, um, bioactive compounds. Um, a lot of them do come from plants or natural elements. And fortunately or unfortunately, they're not as well studied as pharmacologic agents, so they don't fall under the same exact guidelines.

Francesco Callipari: And, um, so they're out in the market often with a lot of sort of, uh, let's say, marketing, um, uh, attestments, uh, [00:43:00] in terms of health benefits. Now, they're not allowed to say that they cure diseases. They're not allowed to say that they treat diseases, right? That is actually one of the, the government laws that exists right now.

But there's a lot of latitude even within that. Um, and they do sort of make these inferred, um, these inferred statements about effectiveness. So that's what supplements are, and that's how they're different sort of than, than medications or drugs, which are very highly regulated. Um, what the good thing is that right now there's more and more data that's coming out with supplements.

There are more and more ver- emerging, um, evidence-based studies, um, between clinical trials and randomized controlled trials and systematic reviews as well. So I think we're in a good place in terms of learning much more and

getting more evidence-informed, um, opinions and actually statements and recommendations that we as practitioners can give to the patients.

It gives us that much better structural framework for recommending them. We feel a little bit safer. I, I think that's a [00:44:00] good point. You know, I mean, supplements are not drugs. They don't go through the same approval process that pharmaceutical agents go through, but that does not really mean, right, that we would say, "No, no, no.

Anna Barbieri: No supplement is worthwhile." And I think that's kind of can be that extreme opinion that's easy to give, but that doesn't serve us well as individuals, and certainly doesn't serve our patients well. What about, um, are supplements... So do they all come from plants, or is there, is there a difference between what's a vitamin, mineral- Right

botanical? Right. Like, it's a, it's a, it's a wild world out there. It is a... No, that's very well stated. It is a wild world, and I mean, we're the, I guess we're the Western cowboys trying to wrangle it in and- ... and find, uh, some kind of way to bring some order. Yes. Some systematic order and some logic to it, right?

Francesco Callipari: Logic and- Common sense ... a rational... Yes. Right. Yeah, yeah, a rational approach, right? Yes. Um, so let's do a little bit of organizational stuff. So there are certain things like minerals, right? So there's [00:45:00] magnesium, which is one of the most common minerals found in the body. Um, magnesium is involved in hundreds and hundreds of enzymatic reactions, um, both at the intracellular level and even extracellular level.

Um, it's involved- That's inside the cell and outside the cell? Yes. That's right. Inside the cell- Yeah ... and out. Thank you. That's right. Um, there are things like, uh, vitamins. Vitamin D is a great example, which is both a vitamin and a prohormone, actually. I know. I'm the, I'm the hormone girl. You are. So I always say that vitamin D is a hormone.

Yes. Yeah. So vitamin D really sort of, you know, str- straddles both worlds of, uh, of being a vitamin and being a pro- prohormone. And then there's things like botanicals, and a great example in, on our world, in our space, is black cohosh, um, which, um, comes from, uh, different plants, um, and has some effects actually in terms of, uh, menopausal management of hot flashes, vasomotor symptoms.

Um, so those are just sort of three examples from the three different worlds, I think. Yeah. So I think, you know, supplements [00:46:00] would be the

umbrella term- Right ... and then minerals, um, vitamins, and botanicals- Botanicals, right ... right? Yeah. I think it's important to distinguish that. I also sometimes, you know, when I think of them, talk about things that are meant to replace certain deficiencies.

Anna Barbieri: Right. So often we'll talk about things like iron and vitamin D here, and then things that really have pharmacologic actions, so something that you may be taking for hot flashes- Right ... would be in that category. And pregnancy is a whole other thing. I mean, I think everybody's used to taking prenatal vitamins and all the stuff that's in there, which is, I think, mostly vitamins and minerals- Yeah

you know, botanicals. Yeah. Um, mainly, but there are additional supplements in there as well, so- I mean, folic acid is one of the most important components of a prenatal vitamin. We know, and you know, it's interesting 'cause there really is some actual real data, right? So we know from proven [00:47:00] randomized controlled trials that, um, folic acid is super important in terms of prevention of neural tube defects.

Joanne Stone: So the minimum amount is, you know, 400 micrograms a day. Um, many prenatal vitamins have a little bit more than that. Um, but that's just a baseline, so you need to talk to your doctor. If you have a history of having had a prior pregnancy where there was a neural tube defect, it's commonly known as spina bifida or anencephaly, or you have diabetes, you have to take more.

So the recommendation in those circumstances is four, um, milligrams. So it really, really depends, but folic acid is super important. And even just prenatal vitamins is important. Studies have shown that people who take pre- prenatal vitamins, hopefully at least one month, but, like, preferably three months before conceiving, have a lower incidence of having a baby with a, a fetal malformation.

Diet Deficiencies Explained

Joanne Stone: So super, super important Do you think that's because we just can't get enough of these substances from diet? [00:48:00] You know, I would ask both- Yeah ... of you that. So- Like, we often talk to patients about eating healthy- Yeah ... but still people, you know, uh, we see it in the labs, right? Lots of people are deficient in certain very basic micronutrients.

Anna Barbieri: So what, what do you think about the statement- Yeah ... get whatever you can from your diet? So that's a great concept if it were actually

doable, right? So you have to look at historical data and what's happened with our farming systems and the use of pesticides, um, and just the big changes that have occurred.

Francesco Callipari: Um, even the use of, uh, fertilizers has changed. Over the last 100 years, the plants themselves are not as nutritious. You just don't get the same phosphate levels at the root level, just to be very technical. Um, there's a lot of gene modification has occurred because there were pressures to generate enough food for the growing population of the earth.

So yes, there's a reason for it, but the, the downstream effect is now that food's not as nutritious and it does [00:49:00] lack some of these critical micronutrients. And, and that's where the supplements come in, um, especially again, a judicious use of supplements, a judicious use of micronutrients, and the vitamins as well.

So yeah, it has to do with farming and even some of the pesticides, and we were talking about this before the show, about endocrine disruptors, things that actually change the way some of the, uh, hormones work in your body. Mm-hmm. Um, and this would be a, a good case, uh, usage of, of, of adding in supplements, again, where it's appropriate.

Joanne Stone: Yeah. And li- li- I feel like lifestyle too, right? Like, we're all told to avoid the sun so we don't get- That's right ... wrinkles. I wish I knew that like 30, 40 years ago. I didn't do that either. Yeah. So like, so, so many people are vitamin D deficient, right? 'Cause they're, like, avoiding sunlight. So, you know, it's our lifestyle too.

Anna Barbieri: And we should do a whole other podcast just on that- Oh, yes ... because I find so much- Tons to say ... true vitamin D deficiency in pretty much everyone. And you know, we're here in New York, and it's been like the [00:50:00] longest l- winter ever- Right ... so I get that too, but pretty much everyone is vitamin D insufficient.

And I think you're right, you know, we do need sunscreen, prevent skin cancer, but we just, by using that, we're also bypassing the way humans make vitamin D. It's very tough to find food with enough vitamin D, and that's why some food is, um, of course- Uh, has added vitamin D to it, but we really make it through sun.

So that is where I wish I could say everybody go to the beach for 20 minutes a day. Right. Sign me up. I'm there, too. But, um, that's where vitamin D

supplements may be- Yeah ... may be helpful there. In a perfect, in a perfect world, what the recommendation is is to be out between, like, 9:00 and 10:30 in the morning for about 20 minutes with no- We're on, like, meeting six by then.

I, of course. Yeah . Like, that's, in a perfect world, that, that's where you should be, where the sunlight hits you. In a room like this. In a room like this. Right. We're a technology podcast and But it, it, it's really the least obnoxious rays of sun that you're gonna get, and it's not [00:51:00] bad. But, and speaking of vitamin D, I mean, that's a great example of an important supplement, um, to start, uh, thinking about.

Francesco Callipari: That's a good one where you can actually do a blood level. You can do something called the 25-vitamin D deficiency level. You've got some certain numbers that you have to hit. Um, the, the deficiency level is, is quantified as less than 30 nanograms per mil, but the optimal range is between 40 and 60 because that's where the best action is for, for the vitamin.

And as you know, all of you know, it's got an important impact on bone Even on muscle development, on, as I said, it's a big prohormone. It's important for calcium metabolism, the way that we ingest calcium, the way that calcium gets transported from the intestines to the bloodstream, and then of course, how the calcium is put into our bones.

Anna Barbieri: Totally. You know, fracture risk is a thing, right? That is a really important thing as we get older- Oh, my- ... especially for women. I have to be better at- You gotta think about it ... yeah, I have to... You know, so I have a... Okay, [00:52:00] truth be told, I have a bag in my office. It's like a Ziploc bag that has magnesium, vitamin D, calcium.

Joanne Stone: Right. Somehow Colace, a stool softener, got in there for I don't know why. I think I, I think I took the bag 'cause I thought I was gonna be traveling. I don't know which is which, so I haven't taken anything because I don't know what I want to take the Colace. Wow.

Midlife Supplement Stack

Joanne Stone: So let's talk about that. Yeah. Let's like, uh, I thought, I think, Francesca, you brought up an important point, right?

Anna Barbieri: Like, how does someone know that they need to take supplements? Right. Right? Do we test for that? Do we go by symptoms? How do you think of that when- Right ... you're working with patients? And then, you

know, given the age that we are, and there's a lot of interest in this thing, let's talk about some supplements specifically for women in midlife, um- Great

'cause we get asked that all the time. The, in, in fact, that's one of the most common, um, questions that we have when we're doing a menopause consultation or a perimenopause, perimenopause consultation. So starting with vitamin D, even though I [00:53:00] said that, um, you sh- you, you should be checking a vitamin D deficiency level, you can go ahead and start people on 1,000 to 2,000 international units or IUs a day.

Francesco Callipari: That's a very safe dose. Yeah. Nothing bad is gonna happen. Nothing bad's gonna happen. However, if someone is deficient, and then their physician should be looking at much bigger doses, don't do those by yourself. You should be doing that in conjunction with a physician that's gonna be managing the numbers and looking at levels.

Magnesium. Magnesium's a tough one because most of the magnesium in our bodies is really not in the bloodstream, so looking at a level in the bloodstream is not as helpful for magnesium. However, there's, we do know from population studies that magnesium levels are pretty low. They're pretty low. And let's dive into- Having to do with that food quality that you mentioned.

Anna Barbieri: Food, with the food quality. Right. Yeah. Exactly. So on the money. Yeah. Right. So in terms of supplementation also, this is where you have to nuance the kind of magnesium you're gonna get. So there's tons of stuff out [00:54:00] there which has magnesium oxide or magnesium malate, and of course my personal favorite, magnesium glycinate, and there's a reason for that.

Francesco Callipari: The magnesium glycinate is probably the easiest on your gut, and it doesn't create a lot of intestinal problems like diarrhea or loose stool, and it probably has a lot of effectiveness for a couple of things. Number one, for bone health and muscle health, but also for sleep. And taking 300 to 400 milligrams of magnesium glycinate in the evening right before bedtime is extremely helpful.

Anna Barbieri: Yeah, some people find it very helpful. And sleep is a problem, right? Yeah. For perimenopause for lots of reasons. Oh, I'm living it. So, you're living it. So that magnesium glycinate would probably be my strong recommendation. Yeah. And around that dosing. Is it anti-inflammatory as well? Yeah. It's, it's very much an anti-inflammatory.

Francesco Callipari: Yeah. Extremely. A lot of these have that crossover- Yeah ... uh, functionality, yes. Magnesium, it's a good... I agree with you. I think magnesium glycinate's a good overall magnesium. Overall. But if somebody's suffering from constipation, then there are- The magnesium- ... these [00:55:00] magnesium mixes and, you know- The oxide might be the way, yeah

Anna Barbieri: the old, um, kind of, um, the old colonoscopy prep was- Right ... actually magnesium citrate that you drank. I still remember. And it, it worked. I remember it. It works, yeah. From personal experience, right? Yeah. So some things we can test for, right? Vitamin D you mentioned. Vitamin D, right. Iron. Iron levels. Iron level for sure.

B12 levels. B12, another, another important- You know, B12 is another one. Yeah. Another important deficiency, yeah. Like, I, I think I find that all the time. You know, we see so many women in midlife who come in with fatigue, hair loss, um, just lower energy. And often, especially today, like, they're bombarded with messages about just get more estrogen, get on estrogen, get on testosterone.

That's right. And we forget that there are other things that go on in the body other those, than those things. So I'm also an advocate for actually checking those levels in this population because you can really uncover B12 deficiencies, iron deficiencies- Right ... you know, and, [00:56:00] and really help people through a very, very simple way, either by recommending- A dietary change, and yes, ideally we would get sun and get food, or using supplements in a smart way.

Yeah. You know? And, and B12 is a very good one because you may have this underlying irritability or mood change that's not attribul- attributable to anything else, and it m- actually might have just have been as simple as a B12 deficiency, which as you said- Correct ... Anna, is so easily correctable by a supplement- So easily

or by foods. Yeah. And there is some- Yeah ... good emerging data on methylfolate too- Right. As well. Right ... for mood, so that's, that really becomes, like, the second arm- Yeah ... of it too. It's really fascinating and- Yeah ... you know, I'm still, like, it, it boggles my mind that we learned none of this in medical school.

Francesco Callipari: Well, so- Like- ... fortunately for you and I, we're learning it now, and actually one of the opportunities that we have now is to

really propagate and really teach our own colleagues- Yeah ... and, and bring this to the fore. And this podcast is a great example of that. Yeah. So thank you for that. And really in a very nuanced way, you know?

Anna Barbieri: I [00:57:00] don't think here we're, we're not really endorsing any specific companies- Right ... or the use, overuse of supplements, and we do need to remember that some of them are, uh, I guess, some of them are useless. Right. And the marketing is not right, and it's all a bunch of phooey, but it's, it, but some are really worthwhile.

Yeah. Yeah. So, you know- And- Yeah. Go, I'm sorry. Go. Yeah. No, I, I just wanted to, um, come off of what you said about methylfolate 'cause I, this comes to me a lot in patients who are pregnant or wanting to get pregnant. Oh, yes. Right? Big controversy. Yeah. It's a big controversy 'cause it's all over, like, you know, social media.

Joanne Stone: Yes. You should take methylfolate instead of r- the regular folate or folic acid. But the truth is that the only randomized trial looking at reduction of, like I said before, of neural tube defects is with folic acid. Yes. It's not been studied with methylfolate. And yes, methylfolate may be more, better absorbable, um- Some patients who have a specific gene mutation in what's called [00:58:00] MTHFR- Mm-hmm

I mean, I s- I call it Monday through Friday, MTHFR. Right. I love that. MTHFR. Because like every day of the week, somebody's diagnosed with it, right? Um, but it, it still has not been really shown. I mean, it can, it's plausible that it might be better, but it has not been shown, and this is why most prenatals, um, have folate or folic acid.

Some now are putting the methylfolate, but I'm a l- little worried that that's done without really scientific data behind it. Yeah. I, I agree with you. Right. I think there's a p- big push towards this MTHFR awareness and methylfolate without hard data about outcomes- Yeah ... from it, you know? Right. Yeah. So, yeah, and that's a good point also for some other, uh, botanicals and supplements.

Francesco Callipari: For example now, you hear a lot about creatine and collagen. Mm. Those are big ones, too. Yeah. Tell, tell us the stuff. What do I, what do I need to do? Well, it, so it depends, right? So I think that nothing works in a silo, and especially if you're looking at creatine, which is a protein derivative, and it's gonna [00:59:00] break down into amino acids, and you're gonna be using it to help build up your muscle.

The reason we keep harping on, uh, building up your muscle is because the musculoskeletal system is linked. It goes back to fracture and reducing fracture risk. Because if you build up your muscles, you're gonna build up your bones, and then you will live with a lot less frailty, without risk of falling.

And as we get older, that's a big deal. Because women that have a fracture in their 50s, 60s, 70s, the stats are, are really, really worrisome. You know, one out of two, one out of two women that have a serious hip fracture will not retain full functionality. You know, I was just reading- Yeah ... in the, it was in The New York Times, I think yesterday, in the Science Times, and they were talking about the importance of building up your glutes, your- Yes

Joanne Stone: can I say butt on the on this podcast? No, no, yeah. So not only to have a nice looking- Steven ... a nice looking butt- ... but it actually is, it's the biggest m- It's your biggest muscle ... muscle in the body, right? Yep, in the whole body. And it's most important for stability and preventing [01:00:00] fractures, so. And standing up.

Francesco Callipari: Yeah. It keeps you upright. Uh-huh. Yeah, exactly. So- That's what its function is ... when we're sitting down all day long, you know, like, we're losing our glutes, so we have to do, like... I mean, taking creatine and doing things like squats and stuff like that really help. You know, I have to say, having worked with so many women across the lifespan, but also now seeing my family members, especially that higher, you know, older generation, really become much older, and the frailty that comes with that, that robs you Of your function, and when you're robbed of your function, you're robbed of your joy of life.

Anna Barbieri: If you cannot- And your purpose, right? And your purpose, all of it, right? ... get out of the chair, if you cannot walk across the street, that means you cannot go have dinner with your family out, you can't go to your barbecue. Like, it's really important. So, um, one of the... This is such an aside. We should do another episode on this.

Ri- Right, right, on, on that. But- One of the best exercises, get down, get up. Get do- From your seat. Get down, get up. That's right. That's right. Get down, get up, or get down on the floor, get up. Get up, right. Yeah. [01:01:00] That is the best, one of the best ones. So- Low tech, right? Low tech, easy ... creatine, that sounds like that's in the stack.

You mentioned- So creatine's important. Um- Vitamin D. Vitamin D. Yeah. Magnesium. Mm-hmm. Right? Um- B12 if you need it. B12. Okay. And we

didn't talk very much about, I think, free fatty acids or omega three fatty acids- Okay ... which I think are- Let's talk about that ... Let's talk about that. Yeah. So the reason they're important is because with the SAD, which is the standard American diet, we have so many ultra-processed foods and processed foods that we're eating, and we're not eating the whole foods, the organic foods.

Francesco Callipari: And one of the shifts that we should be looking at is shifting towards the anti-inflammatory diet, which I think deserves its own podcast- We'll, we'll do that another episode, yes ... But part of the anti-inflammatory diet is that you're gonna get in the omega-3 and the omega-6 fatty acids. The proportion is important, right?

We eat about 10 times more omega-6 fatty acids versus omega-3s, which are quite inflammatory, the omega-6s. Bringing up the omega-3s will mitigate that, it will reduce [01:02:00] that. It will really bring an anti-inflammatory component, um, to your diet. How do you get them? Well, um, you get them from- You eat Italian. How do you get...

You get them from salmon, fatty fish. You eat Italian, Greek, also that whole Mediterranean area. Um, sardines, mackerel. Actually, albacore also has a fair amount of omega-3 fatty acids. Mm. And a nice plant source is actually unroasted walnuts. Oh, I didn't know that. How do you like that? Why, why unroasted? What happens when you roast- Because when you roast them, you de- you d- if you roast them or cook them- Oh, you denature that

you denature the lipid composition. Hmm. And so they don't work as well. Um, and so you don't just get the same bang for the buck. So that's- All right ... an important co- uh, this would be an important supplement that I would add to the toolbox. Got it. One little minor point is, um, these are fatty acids, they're lipids, they can become rancid.

So if you expose them to bright light, if you don't keep them in sort [01:03:00] of a covered area, a cool dry area, they can denature, and they won't work as well. Just a minor point, but I think an important one. You know- With that point in mind, right? Because I, I'll say to patients also, "If you're going to buy omega-3s- Mm

Anna Barbieri: make sure they're in a bottle that's not translucent or- That's right ... clear or preferably dark so they, their shelf life is better." Right. Let's talk about that. And they shouldn't smell, they shouldn't smell, like, very fishy either. So that's a problem if they smell very- So- When you open the bottle- Yeah

Francesco Callipari: if they're really fishy, not good. Yeah. I mean, I get questions about, like, DHA supplements all the time in pregnancy. Oh, sure. And, you know- Data is a little bit iffy about it, right? People think about it's gonna make their kid go to Princeton or Harvard or something like that, right? But, um, the data on, like, the IQ and cognitive development is really not great.

Joanne Stone: It's really... There's no [01:04:00] real hard science saying that improves that. I mean, s- well, I think there was one study that showed pre-conceptually might help for fertility. Um, can it hurt? No, probably not. But I do encourage people to eat fish that are high in omega-3s- Yeah ... as you mentioned. We have to avoid the high mercury fish.

Right. You know, kingfish, swordfish, mackerel, mackerel- Right ... uh, tuna in larger quantities. Um, but, um, you know, and getting it through fish, I think, is better. I think we need two to three- Yeah ... portions a week. Yeah. Um, but it also can help reduce pre-term birth risk as well. Yeah, and I, I agree, you know, and I think it goes to, Francesco, your point.

Anna Barbieri: Like, nothing exists in a silo, right? And we just... Humans love simple solutions to complex problems. And, you know, taking an omega-3 supplement is not gonna guarantee anybody going to whatever school or this or that. Right. But I do think if, you know, getting it from food, [01:05:00] wonderful. If you need to get it a different way, fine, but let's be careful about making these long-term statements or promises or guarantees, unless that is something that's based on evidence, and I don't think we have that here.

Francesco Callipari: Right. And I think that's a good point about when we make a recommendation about a supplement or a vitamin, it's never in a vacuum. It's always contextual. For example, back to the creatine. You're gonna take creatine to increase your muscle mass. Well, you really can't do it unless you're exercising- Yeah

and unless you're doing specific types of exercise. The powder alone- And, you know- ... is not gonna make you grow muscles. It's not, unless you're engaging in- Yes ... in some serious resistance exercise. Correct. And I think that also deserves this whole other- Yes ... conversation. A whole other thing. And we definitely should have something on exercise.

Anna Barbieri: Um, yes. Definitely. And we're going to have- Definitely ... an episode on all the, let's say, the powders that every midlife woman has on the counter. Oh my goodness. The collagen peptides, the, you know, protein

powder, and creatine. Right. So let's talk [01:06:00] about how we can navigate that, you know, that supplement aisle.

How does, how does somebody even choose a supplement? If I wanted to buy, I don't know, magnesium glycinate, how, how do I know that what I'm buying is right? Because there is that regulatory or lack of regulatory aspect. There's differences in quality. How, how do I, as a consumer, know what to look for?

Francesco Callipari: That's a great question, and it's completely daunting and overwhelming and confusing. So there's a couple of little things that you can do. Um, you should look for, uh, the USP label, which is the US Pharmacopeia mark. Um, that means that it's been vetted sort of for its potency, that it really is the substance that they're saying it is, and typically it's also vetted for the amount of milligrams or grams that it is.

Now, it's not gonna say that it works or it doesn't work, but at least that's a good starting point. Um, and they also tend to vet the sourcing, so the sourcing really is contaminant-free. [01:07:00] Another company that I use, and again, I'm not... have no financial, uh, ties to it, but is I- None of us do. Yeah. Right. But it's ConsumerLab.

Yeah. So ConsumerLab takes bottles of supplements and vitamins off the shelf, and they test them. They test them, again, for potency, dosing, and contamination, and they will give, like, their best picks or recommended, and they'll also tell you which ones fail the test, and I found it actually very helpful, and I do use it with my patients, actually.

Yeah. Um, so those- I, I think that's- ... those are two big, big things I think that people can start doing. Yeah, I think that's really great advice. So looking for that NSF seal. Right. Um, US- sorry, US- um, USP. USP. NSF is another organization that gives them third-party testing if, you know, that information is available.

Anna Barbieri: Um, and then ConsumerLab is... I think it's a great resource. Right. And, and fi- if you really wanna do the effort, you can get a certificate of analysis if you wanna call the company and find out from them- Yeah ... what their analysis is on their batches. Um, so that's, that takes a little bit more [01:08:00] work, but it might be worthwhile.

Yeah. Yeah. The other thing, you know, that sometimes I use also, just look on the back and look at the ingredient list. If ig- look at the front. If the front is promising magic- Right ... it's probably too good to be true. Too good to be true.

Right. If the back just lists, you know, proprietary blend and you don't know what's in it, okay, that, that's a red flag, honestly, no?

Like I w- I would- Yeah ... you know, I would be wary of buying something where I don't really know what's in the back. Yeah, proprietary blends are tricky because- Yeah ... you don't know if they're really meeting the levels of where you're gonna have- Ah, that's another thing ... clinical effectiveness, which is another thing.

Right. Yeah, it's a big... it's, that's also f- maybe for another episode. Yeah. But often, you know, and we didn't even get into phytoestrogens- Right ... or blends, and you know, I, I do a lot in the perimenopause, menopause world, and all the time I see supplements come through that seem to have the right botanicals, but they put like 25 of them in a bottle at levels that have never been even studied or [01:09:00] shown to be effective just to Make someone believe that, "Oh, I'm taking, it's going to be helpful."

Right. So I think, you know, looking at the right ingredient at the right level that has been tested for efficacy, it's important. And it's a, again, it's a confusing world out there. Even our, um, societies, and I think we need to come clean about that, the Menopause Society does not recommend any supplements for menopause symptoms.

Do you think it's important to talk about it? Because while hormone therapy is the most effective way to manage those symptoms, lots and lots of women, I think the statistic is maybe 55 or 60%, do use supplements- Right ... and especially women that, um, who feel they cannot use hormone therapy. So we'll do maybe another thing.

So- Yeah, yeah. We, we would have to dive into things like isoflavonoids and soy products. I mean, that really deserves its own, um, thing. But just sort of as, as a teaser, there are things out there that can help with some of the vasomotor symptoms. It's [01:10:00] not a panacea, and they're not quite like estrogen. They don't give you all the benefits that estrogen does.

Francesco Callipari: But in terms of some of the symptom relief, um, looking at some soy products, soy foods, um, even more so than soy supplements. Yeah. I mean, that, that really is a whole- Yeah ... area to discuss and dig into. But there we also get into, you know, women who may be at high risk of breast cancer or those with breast cancer- That's right

Anna Barbieri: because we wanna also be careful about what could have hormonal effects versus not and all of that. Joanne, I think we gotta get Frank back on the show. I know. Um, you know- Yeah It's, it's been great. For sure. Thank you. We spent a weekend at a meeting, and he was, like, studying the whole time and, like, reading to me all about the supplements and mushrooms and all the stuff

Francesco Callipari: Oh, medicinal mushrooms. Right. My goodness. Yeah. Okay, that's a whole- We have a whole episode on that ... show. That's a whole thing. Okay, so that is my current passion. So for this episode, do you know that mushrooms are pretty much the only food that can synthesize vitamin D? So if you have fresh-picked mushrooms [01:11:00] and you put them out in the sun, they will make vitamin D that you can then absorb.

Anna Barbieri: I never knew that. Right. That's fa- fascinating. And I learned from you- Yes ... that you have to cook them, mushrooms. You must cook them- Yes ... to have the- Yes. Yeah ... that's right- Yeah ... for their adaptogenic or immunologic effect. Yes. And hen of the woods are the best. Hen of the woods. Yeah, there's lots of them.

Francesco Callipari: Yeah. Lion's mane, reishi. Oh, lion's, uh, lion's mane is delicious. Shiitake, maitake. Yeah. I'm waiting for Italian oysters to come- Let's do it ... through in my logs. We, we'll make a nice risotto with that, actually. Yes. I'd love that. A nice homemade risotto. So, um- For the end, let's do a quick round of, uh, sort of our supplement verdict part.

Anna Barbieri: Sure. Okay? So let's do maybe yay, meh, or nay type of thing. Oh, yeah, sure. Yeah? Thumbs up, thumbs down. Uh, yeah. I'm sure. Yeah. What's the saying in Italian? Mezza mezza. Mezza mezza. Mezza mezza. There we go. There we go. Half and half. Let's go with that for today. Okay. Okay. All right. Vitamin D? Yay. Okay. [01:12:00] Magnesium?

Francesco Callipari: Yeah, yay. All right. That's a big yay. Iron supplements I think that depends. You know, I think that depends, a meds a meds, uh, depending on, um, what you're doing. I think discuss it with your doctor and get the levels- If you're iron deficient, though- Well, I was gonna say, get your levels checked, and if you're iron deficient, it's a big yay.

But, you know- It's important- Yeah ... in pregnancy especially. For sure. Yeah. For sure. For sure. Melatonin. Ah, that's a little bit of a tricky one. Opening up a... I don't know. That's a meds a meds, uh, bordering on no, and I'll tell you

why. The, the problem with melatonin, um, the stuff that's in the market, is way overdosing what you really need.

They're giving you five to 10 to 20 milligrams in the dosing, and when, what you really need for sleep aid is a fraction of that. Yeah. 0.3 to 0.5, a tiny amount. Those high doses are way more- Yeah ... than what our bodies produce. And they're pharmacologic doses. Yeah. They, they have a lot of effects- Yeah ... um, outside of the sleep hygiene.

And so it's a meds a meds to a no. All right. Black cohosh. Yeah, so black cohosh is great. There's, there's a lot of good [01:13:00] data on black cohosh. It works for a lot of women, not all women. I think for vasomotor symptoms, for me, it's a yay. Um, it's a... I w- I would say it's a, it's a big yay for me. Oh. Yeah. There's some newer data on it coming out too.

Anna Barbieri: Yeah, I like it a lot. It's interesting. All right. I think I know what you're gonna say.

Francesco Callipari: Try me. Menopause detox- Ugh ... tea and belly blends. Mamma mia. You know, this goes back to a proprietary business. And if you can't decipher what the heck is in it, it's a strong no. No way. Well, I think we've done it. Wow. Um, thank you. Thank you. This has been tremendous. Thank you so much. So much fun. Yeah. It was so fun.

Anna Barbieri: And, and educational. I hope that the audience- Yeah ... really listens and learns a lot. I know. As in my mind is on mushroom risotto right about now. Let's, let's do it. But- And I'm thinking pesto with walnut- uh, not ro- toasting my walnuts when I put them in pesto. Right. Yeah, I don't toast them either- Don't, yeah

Francesco Callipari: for pesto. You know, you can make the nice pesto with the walnuts- Yeah ... a little garlic, some parsley, [01:14:00] and good extra virgin olive oil. We didn't even get to that. And basil. Olive oil. Yeah. A wonderful monounsaturated fatty acid, an amazing product. Any, um, any parting words of wisdom for the end? Yeah. What I'll say is, um, go- It could be, it could be a recipe.

Anna Barbieri: Just- It could be a recipe. Um, and I'm happy to provide that. Um, an anti-inflammatory risotto recipe. Um, I would say- Of course ... that for, for patients looking at supplements and botanicals, go in with curiosity, but go in with an open mind and a little bit of skepticism, so much that you are discussing with your doctor.

Francesco Callipari: Um, go and do a little bit of the research that we discussed, find out exactly what the data shows, and, and, and let yourself be led by the data and by the evidence. I think that's probably the most prudent way to go and the most realistic way to go. Love that. Agreed Thank you. Thank you both so much.

Thank you for having me. It's our pleasure. Thank you. That's it for this episode of Herology. I'm your host, Anna Barbieri. For more groundbreaking conversations on women's health, subscribe to Mount Sinai Health System's [01:15:00] Herology podcast on YouTube, Apple Podcasts, Spotify, or wherever you get your podcasts.

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