Opening on Omega-3s and Muscle Function

It's arguable whether maybe our needs for omega three starts to go up with age a little bit as well. And so maybe an older person needs to eat a little bit more omega threes to maintain their like healthy omega three status.

But that's where the vast majority of help is actually coming, is that we see an improvement in older patients who are not eating enough fish oil by that like 12 or 14 week mark.

They have more muscle mass if they were deficient in fish oil to begin with.

Podcast Relaunch and Episode Overview

And they see increased function. So their grip tests, their, sets and tasks, which is a test we use in the elderly for, muscle function. They all improve if we add fish oil.

Welcome to Doctor Talks. The podcast where every episode leads to a healthier you. Join us as we navigate the world of optimal health, uncovering groundbreaking strategies to conquer chronic disease.

In each episode, we'll bring you the latest insights from leading health experts, medical innovators, and wellness warriors. If you're seeking to transform your health journey, or if you're looking for answers to burning questions, you've come to the right place.

Get ready to unlock the secrets of lifelong health and vitality. This is Doctor Talks, real talk from real doctors on the issues that matter to you most.

Welcome to real integrative Medicine. This is our round two of relaunching this podcast, and it's such a good lesson in behavior change. Honestly, I had really struggled to, consistent with my podcast last year.

Took a huge break from it. I was finding the, the tech needs, like all of the things that were happening. I started podcasting like in 2018, where and I've said this in the last episode, I could literally sit in my jammies in a hotel room and rip out episodes, and no one knew what I was wearing.

The lighting didn't matter. We never published any video. And the complexity of publishing podcasts now has, it became a huge barrier for me to actually do it.

And it's only when I got to this point where I realized how much support I needed to continue. And actually leaned into that. Were we able to make this, like, big promise, for 2025?

And so I'm really excited. We've committed to a full year of episodes. I'm excited for some of the guests that we have lined up. I'm really excited about, having some discussions with you and bringing back some discussions that maybe we had a couple of years ago, honestly.

But the research has changed a little bit. What we know about it's changed a little bit. And truthfully, some of these things need to be brought back to the front, so that we can talk about them again.

So today's episode, we're going to focus on, muscle and specifically whether or not supplements make a huge difference to muscle mass. This is a really good question.

And it brings up a lot of points that we kind of struggle with in integrative medicine, honestly, where, you know, supplementation is quite often fixing, dietary deficiency.

And when we supplement above and beyond whatever, you know, the regular needs are for the body. We don't usually see a tremendous amount of improvement.

And where, you know, the people that benefit the most from oral supplementation of almost anything, to be honest, are people that have either a baseline dietary deficiency or they themselves have a need.

That's maybe more than the average person. And so eating the regular, you know, standard diet maybe doesn't provide their body was quite enough to function optimally.

There's a few cases where people, you know, maybe have a baseline need that's higher than the person beside them, or they take a medication or they have a condition that means that they need more than the person beside them.

But for the most part, dietary supplements are bringing us up to sufficiency and that's where the benefit kind of stops, right? Like the receptors in your body, the absorption of those nutrients is all really tightly controlled.

And it's hard with a natural substance or with a food based substance for us to blow past those body's, mechanisms for regulating all of those pieces.

Why Muscle Loss Happens With Age

Right, that it takes to run your body. Well, it's hard to do that with food. It's hard to do that with supplements. I'm sure you've heard people say, you know, the things that we learned to you.

Just like urinating away all of the benefits. And and that's not exactly accurate, right? It's not like if you, you know, taken the supplement and you got enough that you just immediately dump it into your urine.

However, that concept is not, totally wrong, that, like, if we exceed the amount that our body can, you know, sort of navigate or manage that anything above and beyond that is not particularly helpful.

But muscle is maybe kind of this, I can just call it a unique situation. Not because we can overcome and and, you know, supplementing is, you know, beating diet or it's seen as above and beyond what diet can provide.

It's often actually that are there are dietary needs for adequate muscle as we age isn't being matched by like most of us. And so supplementation for muscle mass actually becomes, a very promising thing because it's not like we're meeting all those dietary recommendations to have great, to great muscle mass as we age.

So the supplements actually maybe have more merit in this particular, scenario. So we're going to talk through like the couple of supplements that are important for muscle, that have been shown in the evidence to either improve muscle function.

So sort of strength, or muscle mass as we age. We're going to go through the evidence for, for those supplements so you can think about, whether or not your patient needs it or if you are a patient having a conversation with your practitioner about whether or not these are things that would make sense for you based on your dietary intake and where you're adding more life.

I became interested in, sarcopenia and muscle loss a long time ago. I wrote my first paper, one of my first published papers as a practitioner was actually on sarcopenia.

I looked at leucine, which we'll talk about. It's, bcaa or a branch chain amino acid. I wrote about supplementing with leucine in older populations and whether or not that was going to help combat age related muscle loss.

Now, we've learned a lot since 2011. Right. And that's the beauty of being in medicine, is that we learn new things every year. Things we thought that were connected aren't things that we thought, you know, we're a chicken and the egg is actually the other way around.

You know, I find this so fascinating. And this is one of the things I love the most about, my work with the confident clinician is that we are continuously updating, continuously evolving, and that is exciting to me to find out that I might have been wrong about something two years ago.

And then here we are updating it and and getting on a more true path. I find that so fascinating. But the reason I find sarcopenia, such an interesting discussion is because it really impacts lifespan and healthspan.

It's really been under discussed, and I will say in 2011 when I wrote that paper, I don't even know if, like colleagues, that I had knew how important sarcopenia was.

Now, you know, muscle and, muscle for women, especially as we age, is a hot topic. And so I hope that this is not a novel idea for you. I think that we're having better and more discussions about it.

And so hopefully, you know, it's a very different, baseline education that we have at this point than we did in 2011, where, you know, I felt like I was, you know, I put this paper out and people were like, who cares?

So why I find this so important? So essentially, without remarkable planning and lifestyle, practices, we have significant muscle, muscle loss with age.

Right. And that's both in male and female patients. We have remarkable muscle loss. And you'll see different numbers posted all over the place. And I'm not going to, get us married to any particular statistics.

But around that third, fourth decade. Right. 30s and 40s, you start to see a progressive loss of muscle mass. And that's happening for a lot of reasons.

I think sometimes we will, try and make this sound like it's so simple. Right? It's like it's your hormones. Your hormones are destroying it. It's so complicated what happens to people between their 30s and 50s?

Their lives are different. Their exercise is different. Their, metabolism, blood sugar regulation, insulin resistance is very different. There are a lot of things that change in those 20 years.

Yes, hormones absolutely change in both men and women. But the complexity of life also changes quite a bit during that time. And so for us to only blame one, you know, biologic action or one particular body system or one hormone is a bit of a misnomer.

It's actually our whole lives that are influencing, muscle loss. You know, we've documented even things as we age, like appetite changes and protein intake and having, the elderly meat protein goals is really difficult as they, their marital status may change, they may become widowed, they may end up in, more community based living or institutional living where the food choices and changes that are made there are usually under the dietary recommendations for muscle.

We also see big changes in activity levels. And so when people had a really, dedicated exercise program in their 20s and 30s, the by the time people are in their 50s, they have had this like progressive loss of sport, progressive loss of exercise.

And so combining all of those things together, right, hormonal changes that just kind of tip the scale towards more muscle catabolism. We see like actual metabolism changes, which we'll talk about in a second where it's harder to build muscle, even given the seems circumstances, it's harder to build muscle.

As we age, we get the life changes where activity levels are different. Exercise is different. And then we get the nutritional changes, which we see. There's again, progressive decline in protein intake while your needs actually are going up.

So the delta of what is required versus what you eat changes with age. So even if you're like, no, no, no, I eat exactly the same, eat the same amount of protein as I did when I was 20.

At 28, you're actually much more metabolically efficient in building muscle. And you can it's funny, like if you think about like 20 year old men, or the teenagers, like, they can turn a grilled cheese into a muscle, right?

Exercise as the Foundation for Muscle Health

Like it does not need to have a significant amount of protein. Obviously, they do better if they have actual like hit their actual protein needs, but they literally can take a grilled cheese and turn it into muscle mass.

There's so efficient. Their muscles have no insulin resistance. They don't have, like this idea of like protein resistance, which we do have as we age.

And even if they're a little under on their dietary needs, we don't see this like incredible loss of muscle mass. But then as we age, we end up with this almost anabolic resistance in muscle, meaning that we almost have to eat more protein and give more substrate, like, almost like more materials, more more goods to actually produce muscle in an older body than we did in a younger body.

So that grilled cheese is no longer going to work. We need to like oversupply compared to what we needed to offer when we were in our 20s. So protein needs like as, grams per kilogram of body weight actually go up with age.

And it's partly it's to try to overcome that anabolic resistance that we have to building muscle as we age. We're trying to balance that like anabolic is building muscle, whereas catabolic is and, you know, breaking it down.

We're trying to balance those two with age and overcome this natural tendency towards catabolism all the time. Again, hormonal, whether that's nutritional, whether that's lack of exercise.

So when we start to talk about, how to build and maintain muscle with age, you know, we we can't get away from the exercise part of the conversation. So you'll see when we go through each of the supplements that, yes, the supplements and in some cases the supplements help even if you don't exercise.

And I don't even like saying that because I would like you to exercise. And I think it's, huge disservice if we make it sound like you can do what we want you to do, with just supplements and not exercise like that.

That's not true. Even though we have a little bit of data that they help, even if you don't exercise. But exercise has to be there. And we have more data around the kinds of exercise that need to be there.

And resistance training obviously is coming out on top as the star. So I love your Pilates. I love your walk. It's not good enough, right? It's the it's not actually providing the stimulus that's needed to grow muscle.

And so we need to look at resistance training as a priority for people as they're aging. And so, you know, when I was in practice, it's funny when I thought about the people that I referred to the most, it was often, psychologist with number one, and number two was often to have someone guide, with exercise and, I mean, I have successfully lifted weights for more than ten years.

The success of that has hinged 100% on my investment in a coach. There have been lots of, windows, and Covid was a great example. I went a full year without any formal support.

I lifted weights like almost never during Covid, even though I had all the equipment at home. Having a person who actually helps you overcome the emotion of whether not you feel like exercising, who helps program something for you that your brain doesn't think you're capable of, but you are.

That's like conversation for another day, but your brain will train. Given the amount of effort and exercise you put in for the most part. And you need this like you know person on your shoulder, whether it's an angel or devil, I'll leave that up to you.

I think my coach can, like, play either role in either moment, which I actually find incredibly important for me. But

you need that person on your shoulder to be able to say, like, look, this is, you know, you just do it, right?

Like, I don't care. I don't care how you're feeling. I don't care that you forgot your hair elastic, right? Like, just do the thing. Jordan. And so you need that person, like, and I think if we want real change or real behavior change, we need to include humans in that.

We're seeing some improvement with home based exercise, app based accountability and research trials, but truthfully, they never perform as well as when we insert a human into that interaction.

And so having someone who is checking in on you occasionally, or modifying or adjusting the workouts based on what your personal capability is, that goes a really long way.

And if we're going to have exercise based prescriptions, we have to treat them like prescriptions and actually follow what the the guidelines are. Well, I went on a huge tangent with the exercise, and I kind of forgot what I was, saying about that.

But I think the premise of it was that we can't not talk about exercise. So even if we're going to talk about nutrients that improves muscle mass and muscle function, we can't, we can't ignore the fact that exercise is probably the more important thing.

And the research on the supplements is that generally, they're helping the improve the effect of resistance training. They're not having this like magical muscle increase on their own.

So for what it's worth, I think the exercise is probably the most important part of the conversation. And if you don't want to take any supplements, then do the exercise anyways, I had a really difficult postpartum experience and I would never want another person to go through that.

I'd love to invite you to the thriving trimesters free online summit that I'm hosting with my favorite colleagues at the Confident Clinician.

Protein Supplementation and Adequacy

This summit is intended for the public, so if you are in the family planning stage, if you're in a fertility journey, if you are in pregnancy, trimester one, 2 or 3, or you are in the postpartum time phase, this summit has something for everyone.

We're talking about mindset, nutrition, exercise, supplements, pelvic floor, how to recover from your birth, and more. I am so excited and thrilled to showcase my colleagues who have absolutely the most evidence based strategies for supporting people in that perinatal period.

We want you to feel well-supported while you focus on taking care of your baby. You can register for the summit today. It starts February 24th and is absolutely free to attend.

Use the link in the show notes for you to get access to. Enter your email. Okay, so jumping in to talk about the supplements, the three that I really want to focus on, one is protein.

And then some of the like, you know, sort of smaller, single molecules that are related to this concept of protein adequacy. I want to talk about creatine and I want to talk about fish oil, actually, I follow the fish oil, research for so long, there's a there was a great research team, run by Chris McGorry at McMaster University, which is where I have taught for the last 15 years.

And they ran so many cool fish oil based, intervention trials where they put people in camps and gave them fish oil and watched muscle atrophy with fish oil.

He's now moved on since to a different institution, but I have followed this body of work around the impact that fish

oil has on disuse. So like if you are not exercising, if you, have a mobility.

So if you are bedridden for a week, if you have a cast, it's just fascinating the fish oil research. So we're going to go there as well. And we'll tackle that, that guy.

Third, for the most part, when we look across all three of these nutrients, the common denominator or common theme is, is that we can help you up to a ceiling of improvement.

But then beyond that, right, there isn't a hugely significant benefit. So we talked about it earlier in the episode that like if you eat an amazing amount of protein, you probably don't need to supplement protein.

And sometimes when you'll see these wars online about who are bcaas for and are you an influencer just trying to sell your protein powder? We we see these like sort of wars.

And what they're missing is the nuance of like is the person we're talking to, you know, enough protein on a regular basis to meet their health needs, if you are in the benefit of additional supplementation is probably lost on you.

Right. Save your money, spend it on your chicken or your tofu or whatever it is that's helping you meet your protein goals and needs. Where protein supplementation really comes in is for people that are not meeting their dietary intake.

And I will say, especially for women. And that's my, like, dominant, experiences working with, perimenopausal. Another powerful women is that it's sometimes hard for women to meet their protein needs while skiing in their calorie needs, right?

Many, especially if you're omnivore and you eat, animal based protein when we just give the instructions, eat more protein, that actually turns into eating more calories for a lot of patients.

And then they get frustrated that their goals of increasing their muscle mass have led to a side effect of maybe some weight gain. And as we're working towards like, better metabolism in a lot of these bodies and trying to reduce insulin resistance and a lot of these bodies, maybe fatty liver, we're not trying to be in caloric excess, for the most part.

And so when we talk about protein supplementation, it's having almost a dual purpose in many patients where we're providing in 2025, maybe 30, if you found it, really, hard core protein powder, grams of protein at a relatively caloric, inexpensive cost, right?

100 calories, 120 calories. Whereas to eat that same amount of protein in food, you would probably be double or maybe even triple, depending on the source of protein.

You've chosen number of calories to deliver the same amount of protein. So protein powder, as the like protein supplement is meeting a lot of needs for a lot of people.

It also is a relatively fast food. And so when we look at behavior change with patients and we start to ask them to eat more protein, if we don't have a solution that's like ready next out of a jar, good luck finding the scoop.

It's always at the bottom. What we've actually asked them to do is cook more. And for many patients, as we move through behavior change with them, asking them to shop differently and cook more on D1 is kind of a recipe pun intended for failure.

Whereas if we can come in with a easy ready mix, use a scoop, put it in your blender if you must. Kind of solution. We're often helping people achieve the outcome immediately, and then if we get tired of it, or if we want to figure out how to be more food based at a later date.

Awesome. But quite often what I've noticed is that we prescribe eating more protein. We give people lots of protein

handouts. Here's how much is in chicken, here's how much is in soy milk.

And then we check in with them like three months later and we're like, how do you do when they're like, oh, like I'm eating a little bit for protein. Like, if we care about this at the same level that we should care about every other prescription, which in my opinion, we should, they actually need to be successful on the very first day.

So give it to them in a way that's actually going to improve that success on the first day. Which I would say protein powder is probably where you're going to achieve that.

And then if you want to get creative later with like protein pancakes or a whole bunch of other things, totally fine. But the supplement is meant is intended to bring you up to dietary adequacy immediately.

That's what we're going for. So what your needs are, are going to change a little bit depending on what you do with your body on a regular basis. Again, we'll see a lot of internet wars about what the right amount of protein is.

And honestly, you know what? I actually I see less comparing us to elephants, where people are like, you know, elephants eat grass all day. Look how big and strong they are.

We don't need as much protein as they say. I see that last one they did like maybe a decade ago. I think we're all hopefully on the bandwagon that we need more.

Protein in our diet and elephants. But again, depending on what you do with your body is going to change your needs. It's common for, endurance based athletes to actually need a little bit more protein than the average person because of the way that they're training their bodies.

But we would see as we're aging that somewhere in that 1.2 to 1.7 grams per kilo per day is a great baseline number. Now, if you are super special in some regard, whether that's you're usually like based on your training or what your goals are, those numbers might be different.

So don't get mad if your numbers are different or if someone has coached you for your numbers to be slightly different than that. But I'm talking population health wise.

As we age, that should be the number that we're shooting for. And if you're under that on a regular basis, that's where protein supplementation makes the biggest difference.

That's where things like leucine or B hydroxy methyl butyrate, which are like single amino acids that drive muscle animal ISM okay. So leucine is maybe our most anabolic, amino acid B is like a leucine derivative that really drives anabolic or muscle growth processes in our in our muscle.

Those nutrients work the best in people who were eating enough protein in the first place, right? So when we supplement the elderly who are institutional ized, when we supplement people who are eating under that 1.7g per kilo per day, when we add it to, things like post-workout, meal, etc., we do see an increase in muscle growth, but mostly in people who weren't eating enough protein in the first place.

So if you're hitting your goals out of the park, then adding a bcaa or adding extra leucine or extra HMG may not offer any additional benefit. I got so excited there for a couple years about the mX b data on strength gains in young trained individuals, right?

And if you think about it, those are the people that we maybe expect to not have a supplement work in them at all. Like they eat well and they're exercising.

And there were a couple of trials where if we added HMD, like their, you know, their bench press, one rep max, one up in their back squat, one rep max one up. And it was so awesome.

In recent years, like, the focus has been a little bit more on sarcopenia and the elderly. And we're talking again

about that like protein deficient population.

And so do they work? Yes. Each and B tastes terrible. And I always found a compliance with me was horrendous. Trying to get that in on a regular basis.

But again, we have to think about it in context. Do those supplements, are those supplements, fixing a dietary deficiency? If they're not, then we may not need to focus on them specifically to improve, muscle function.

But when we bring aging adults up to protein adequacy, they see a slowdown in the loss of muscle if they're not exercising. So rather than like falling off this steep cliff, they see a slowdown in the loss of muscle.

If you don't exercise, you will still lose muscle, even if you eat a lot of protein. But it's it's decreased, right?

Creatine for Strength and Muscle Mass

Because we've provided the substrate, we're trying to overcome the biochemical loss of muscle. That's happening with age. But unless you use the muscle, right, we don't expect a huge amount of increase in muscle mass in the elderly.

Even if we fix their protein deficiency. You have to put the two of them together. So that's the protein conversation. And the dose again, we're not I don't want to argue about the dose.

I sometimes we'll see very, very high levels of protein recommended on line. It's not harmful. We used to think it was harmful. Then we showed it wasn't.

And it's like as soon as we decided it wasn't harmful, all of the gym bro's decided that we should just eat like 100% protein diet. That's not really how that works.

Just because it's not harmful doesn't mean it's helpful. When you as soon as you get above some of those numbers, a it's taking up space in your diet.

And so you're probably not getting enough of all the other things that we need you to eat. Protein is not the only nutrient. And depending on your source, it may be having some negative health consequences.

Right. We're going to talk about the carnivore diet on a on a different day. But if you eat all of your, if all of your protein is coming from red meat, like, good luck with your cholesterol.

All right, let's just say that, and so we don't need to exceed or need to, like, blow the doors off of our protein intake. It stops being beneficial after a point.

And it's taking up space in your diet that would otherwise be used for vegetables. And so you don't want it to, exceed those amounts. Okay. Let's talk about creatine and creatine.

Creatine is having its like shining moment honestly. Especially in that like menopause and perimenopause training space, which makes me very happy. I love the research that's come out on, cognitive function and benefit.

I'm not going to talk about that today. I just want to talk about, using it for muscle. But it's funny, I actually did this topic, for the confident clinician in 2002, and there wasn't a lot to say at that time.

There were a few trials that had been published in early 2021. But I really and I, I did the, the presentation like really early in 2022. So if you followed this research, like to a team, it was early in 2022, which means I'll all I had to work with with some of the 2021 publications.

And there wasn't like a ton to say. And like, I am a huge fan of creatine, which is totally my bias. And I was disappointed that there were like these, like hordes of trials that I could pull together for our audience to be like, this

is what you should do, and this is why you should give it.

There was a couple of review articles that looked like a cross, like the age span, for creatine, and they found, you know, that it was helpful in older populations.

But what I really wanted to see was, you know, a deep dive on this population that generally has deficiency. Right? That's what I really wanted to see.

So now there's so much more to say and it's so much fun. The research on creatine even showing I'd like effect in untrained like not exercising individuals, which I am not using this as a this is not like your ticket to not exercise.

Okay. Which I've already said multiple times. It's not your ticket to not to, exercise, but it's incredibly important for all people, whether you are starting to exercise or not.

And creatine sometimes. I've definitely met people that seem to only take it when they exercise. They do that with their protein too. Like you actually need that every day, not just, on the days you exercise.

So creatine, if you have a plan to start at the gym four weeks from now, like you should have started your creatine yesterday, it doesn't matter that you're not lifting weights.

The benefits of it are independent of your exercise, which is really, really great. So since 2001, like now, creatine has actually been include it in a lot of the, recommendations.

That and we are very clear about this like cause and effect relationship between intake of creatine and muscle strength and function and and muscle mass, for people as they age. So creatine we can we can we can actually make it in our body.

And I think this is why there's maybe been a bit of a delay in us even having this conversation about creatine is that we can make it endogenously. And when that happens, right, like when we can make it ourselves, sometimes we don't study it, right?

Like, why would we give it if we can manufacture it? But what we've learned or noticed over the decades is that it's almost what we call conditionally essential, which means, yes, we can make it.

We're supposed to eat some two. In many cases, our needs exceed what we're capable of making, and in most cases, our needs exceed what we've been ingesting.

So creatine is in animal products only. It's, it's coming from, meat for the most part. And for many people, especially since we're talking about a protein deficient population, we're also talking about a creatine deficient population.

So even though your body's trying to manufacture it for you, your diet is supposed to make up about 50 or 60% of your intake, and it's generally not. And so it's become almost like vitamin C, where it's become like essential that we ingest it or take it in as a supplement in order for our bodies to perform at its best, and especially as we start to have that muscle decline with age, we actually need to hit like pretty decent sized numbers for us to have the positive effect that we're looking for.

We need about 3 to 5g per day. You're manufacturing usually less than a gram, and so we're not getting that, amount that we need to maintain muscle strength, function, energy, as well as our muscle mass.

So I've been really pleased to see, the, the shift in the research and, you know, as actually focusing on older men, older women, ingesting creatine, it does take some time for you to see the benefits of it.

Right. It's not like, it's not like a pre-workout or you take it and you're stronger. And that dosing strategy of taking it every day, in my opinion, is better for compliance.

I actually suck at taking, supplements. I even brought them here because now we do videos. So we have, demonstrations. I have to take these, windshield washer, blue colored creatine gummies in order for me to remember to take my creatine every day.

Like dumping, five grams of powder anywhere was just not work for me. But the consistency of this one is incredibly important. And so what I would suggest with that is that you pick something that is going to help you actually do it on routine.

It needs to be done, every single day. And we do see some improvement. In when when patients are exercising at about like that 6 to 8 week work. There's a difference between the people who have taken creatine and the people who have not taken creatine by about 6 to 8 weeks.

So if especially if you have soreness and fatigue around your exercise, you may anecdotally see some improvement in your muscle function when you add creatine.

But it actually is helping that foundational building block of muscle creation. And so, ingesting it helps this like underlying goal that we have of increasing muscle mass.

Now I there are a couple of forms of creatine on the market. On Instagram. You can just get the cheapest one that exists out there unless you need them in a gummy, and then you're going to pay a little bit more for it.

Fish Oil, Disuse, and Recovery

I know I don't want to dive too much into the, you know, water retention and whatnot. With creatine. It's usually transient, meaning it goes away. If you're really struggling, try a different form.

But there's really not a lot of evidence on the forms other than creatine monohydrate, to be honest. And so, I usually just encourage people to stick with the cheapest thing and the thing that they're going to be the most compliant with, especially if the ask is that you do it forever, right?

It has to be something that works for you if you're going to, do it forever. And then the last one I wanted to talk about was fish oil. And I like I said, I have this total love for fish oil when it comes to muscle because I find some of the trials that we've done on this just so fascinating.

The interesting part about the research and before someone who's looked at this, you know, jumps down my throat, is that again, we're probably talking about people who don't eat enough omega threes in their diet that benefit the most.

And finally, like fish oils and anti-inflammatory, we would kind of expect that it's helping your muscles by being an anti-inflammatory. It actually doesn't seem to be the case.

Like that's not why it's working. We actually don't really know why it's working to help improve muscle function, especially with disuse or, when you're not using your muscles.

We don't totally know why it works, but it's not like strictly an anti-inflammatory. But people who are omega three deficient. I have never tested someone's omega three status.

Like, I don't know if I should be ashamed or proud of myself for saying that. I've never tested someone's omega three status. All the research studies on fish oil for muscle, do they test omega three red blood cell omega three.

And that's, looking at red blood cell status for omega threes. And if patients are deficient, they actually respond better. So you will see some research that shows that fish oil doesn't work for muscle.

And quite often that's in a population who was eating enough fish. And so like I said earlier in the episode, we can't like we can't push this ceiling, right? These are not drugs.

We can't overcome your body's biology with a supplement. We can take you up to the ceiling, the challenges. And if you think about these three molecules, we've talked about protein, creatine and fish oil.

The vast majority of us, even if we're well-intentioned, don't eat the amount we're supposed to. Right. There's lots of weeks that I don't eat two servings of salmon a week.

And so fish oil is making up that difference in a lot of populations. It's arguable whether maybe our needs for omega three starts to go up with age a little bit as well.

And so maybe an older person needs to eat a little bit more omega threes to maintain their like healthy omega three status. But that's where the vast majority of help is actually coming, is that we see an improvement in older patients who are not eating enough fish oil by that like 12 or 14 week mark.

They have more muscle mass if they were deficient in fish oil to begin with, and they see increased function. So their grip test, their, set standard tasks, which is a test we use in the elderly for, muscle function.

They all improve if we add fish oil. We also have a lot of studies using fish oil, like I said, for disuse. So if someone's injured immobilized, bedridden.

So for example, if someone has a fracture and they have to be bedridden for a while, that fish oil seems to attenuate the catabolism. That's happening with disuse, which is an incredibly powerful, function brain like, that's incredibly powerful to have something that starts to slow down the catabolism that is happening with disuse.

Most of those studies that actually have been conducted in women. So women where I, we like, cast one leg in them, we make them immobilized and we supplement them with fish oil.

And some people don't get fish oil and then we take their casts off and see how much their calves of atrophied, we actually see, improvement in patients who take the fish oil, during that time, which is so interesting.

So I, I'm just wanting to make sure I'm just checking my notes here to make sure that I actually hit all of the things that I wanted to, suggest with the fish oil, but really, the that maybe the most important thing is just the time it takes to see change.

And this actually is across the board. One of the challenges we have with muscle function and muscle loss is that the change or what you need to execute is like daily use of those things.

And then 2 to 3 times a week of exercise for three months for us to start to see very small changes, but very important changes. And generally like our reward mechanisms and our brain are not built that way.

Like we want to like take something and like immediately have better biceps. Like if that was the case, my compliance with creatine would be like money, but you actually have to take it for a long time in order for you to see the benefit in fish oils and seem so.

We think like if you're deficient in, omega threes, you probably need a supplement for like eight weeks for you to actually become normal, right? For you to be replete in your omega threes.

And it's only at that point that we start to see benefit for muscle. So many of the studies using fish oil for, gains in the elderly actually are six months long.

And if we cut the trial any shorter, we get a little, we get less like these lackluster, results. Because we probably have stopped the trial a little too soon where we didn't actually get to see the functional change in those adults, because it took us, like, eight weeks to dig them out of the hole of their of their fish oil.

So that's where it seems to make the biggest difference. The last one where the with the fish oil, before we wrap up is actually that the fish oil has the greatest benefit in people who also were eating enough protein.

So fascinating. Right. And this probably relates to that whole concept of just use. So disuse. Right. And however we want to call that or that like natural catabolism that's happening over time.

Fish oil is slowing down or halting some of the lost. It's happening there when people are bedridden. It also seems to be halting some of the loss when people don't eat enough protein.

So if they're not meeting their dietary needs and we give them fish oil, it seems to attenuate that muscle loss a little bit. Better than if people don't take can any fish oil.

So I find that really fascinating. Just one quick call out. There's only one trial that looks at trying to use, vegetarian based omega threes, like, flats.

And it it didn't have the same effect. So for what it's worth, I just wanted to, to call that out there. Okay, so to wrap up today's conversation, which is about, can you supplement your way into better muscle mass, like the short answer is yes.

Wrap-Up and Key Takeaways

The long answer always is. It's complicated. Depends on your baseline status. It depends on your goals. It depends on your age. Probably if you are my 16 year old son, listening to this, you again turned your grilled cheese into bigger biceps.

I do not know how. And I'm incredibly envious. But if you are in your, you know, the late third decade, fourth, fifth, sixth decade and beyond, and we're talking about functional fitness, trying to maintain independence, trying to improve muscle mass for longevity.

Seek these three things that we talked about today, combined with resistance training, is that path towards a healthier muscle function. So I hope you enjoyed today's episode.

I am super jazzed to be back with you on a weekly basis. We'd love to hear from you. We'd love for you to subscribe or resubscribe or if we lost you along the way, to the podcast.

So you get those weekly updates, about what we're sharing. We're really excited about our 2025 season. And I will see you next week. Thank you for tuning in to Doctor Talks.

We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

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