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*\* \* \* Intro Music \* \* \**

Welcome to Supplementing Health, a podcast presented by Advanced Orthomolecular Research. We are all about applying evidence-based and effective dietary, lifestyle and natural health product strategies for your optimal health. In each episode, we will feature very engaging clinicians and experts from the world of functional and naturopathic medicine to help achieve our mission to empower people to lead their best lives naturally.

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[1:45] *Cassy Price*: Hello, and welcome to another episode of Supplementing Health. I'm your host, Cassy Price, and today I'm joined by Dr. Andrea Proulx. Andrea is a naturopathic doctor, an athlete, and a fitness enthusiast passionate about sharing her knowledge with others. Thanks for being here, Andrea.

[1:59] *Dr. Andrea Proulx*: No worries. Thanks for having me.

[2:01] *Cassy Price*: Today, we're going to be discussing how steroid hormones directly affect digestion and the ability to lose weight and gain muscle and bone mass. So, would you mind starting by explaining what steroid hormones are?

[2:14] *Dr. Andrea Proulx*: Of course. Steroid hormones are actually, by definition, a class of hormones that come from cholesterol. They have a biochemical structure very similar to cholesterol, and they have certain properties that are similar to one another in certain ways. But there are different classifications. But generally, when we think of steroid hormones, we tend to think of the androgens. That's like your testosterone and your DHT and DHEA, and your estrogens and progesterone.

[2:47] There's actually more than one type of estrogen, which a lot of people don't realize. Then there is also cortisol, and also vitamin D is actually considered a steroid hormone. It definitely needs to be rebranded because it acts much more like a steroid hormone because it has that same structure. It all comes from the original cholesterol molecule.

[3:10] *Cassy Price*: Okay. Cool. So then, how do these hormones affect your body composition?

[3:14] *Dr. Andrea Proulx*: They do a bunch of different things. We tend to think of testosterone as being all about building muscle mass. It's considered anabolic. We talk about anabolic steroids often in an illegal sense of using external steroids, but testosterone has that anabolic characteristic, which means it helps us to grow things, so grow our muscle mass.

[3:41] But estrogen is also anabolic, so it helps us women who have these higher levels of estrogen compared to men – I'm sorry, testosterone – estrogen helps us gain our muscle mass. Of course, not as strong as the ability of testosterone to gain muscle, in particular, but it does have that effect.

[4:00] And then you have the flip side where another steroid hormone, cortisol, often described as the stress hormone, it actually does the opposite. So, it's catabolic. It breaks things apart. So high levels of stress and high levels of that stress hormone, cortisol, have a negative impact on muscle, but also on bone because it tends to break things apart.

[4:23] *Cassy Price*: Okay. So then, when you're focusing on helping patients to improve their body composition, do you tend to focus first on bone structure, making sure they have that foundation and then the muscle building? Or do they go hand-in-hand, or does it matter?

[4:43] *Dr. Andrea Proulx*: Great question, and I like to do things as holistically as possible, but also stage things in a way that makes sense for that particular client that I have in front of me. Yes, absolutely, muscle mass and bone go together and are dependent on one another, but I find, typically, unless there's something like an osteopenia or an osteoporosis, but for most people, their bones are doing relatively well.

[5:13] It's at those insufficient muscle mass, and they come to me wanting to lose weight or just generally be healthier, and I'm focusing on, "Tell me about what you do for your muscles because it's using your muscles and kind of stressing your muscles in a healthy way." That stress or strain of the muscle, that pulling, pulls on the bones. That tells the bones, "Hey, guys. You need to grow strong and healthy" so that the bone structure can handle what the muscles are asking it to do. Then, the muscles, in turn, will help around general metabolism and fat metabolism and so on.

[5:48] To your question, I work on both because you need that bone structure, but, for sure, most people need a bit more assistance in how to work on the muscle component.

[5:59] *Cassy Price*: Okay. That makes sense. Women in general, tend to have a higher body fat percentage than men, just on average. I realize that can vary, but how do the hormones play into that?

[6:17] *Dr. Andrea Proulx*: Yeah. You're right. On average, women, we tend to carry more fat than men do. We all remember being back in high school and maybe measuring those body fat percentages and really seeing those numbers. But, in general, we women carry more fat overall, and we also carry it in different places, whether that be like more hips and thighs and breast tissue, but also in terms of internally, like visceral fat versus external, so there are sex differences and how we carry our types of fat as well. So, there's that piece.

[6:53] High-end athletes, there are going to be some differences there, but as women, our estrogen levels tell us to carry fat in certain places and having a certain amount because, in theory, we women are ready to have children in terms of our ancestors, that was always the plan, it was to reproduce. So, as women, we need to have that fat reserve to protect us and also to give us the energy to sustain this kind of growing life.

[7:25] *Cassy Price*: You mentioned visceral fat. What is the difference between a visceral fat and – I don't know what the technical term for visible fat would be.

[Laughter]

[7:36] *Dr. Andrea Proulx*: Visceral fat is the stuff that wraps – it's in our viscera, so it wraps around all of our organs. All of these organs, our lungs, our heart, our pancreas are all sitting inside our body, our core, and they need to be cushioned. So, there's some fat in there that helps to cushion those little organs, so they don't bump up against each other every time you jump up and down. So that visceral fat wraps in-between.

[8:06] You need a certain amount of that visceral fat to keep those organs protected, but too much has been linked to a variety of health concerns and chronic health issues. Men, generally, tend to have more of that visceral internal fat, which is why a man, you might be able to still see muscle, like a six-pack, like an abdomen definition, even though their fat composition might be a bit higher.

[8:30] Whereas, we women, we don't carry it so much on the inside. We carry it more on the outside. So, I make jokes that men might have a beer belly, but you still see those abs; even though their tummy is really extended, because the fat is behind the muscle. Whereas, women, we put it out in front. So, women might have some of the rolls that are a little bit lovingly easier to grab because around – particularly around the central, like the abdomen area – our love handles and muffin tops sort of thing.

[9:01] *Cassy Price*: All the things we tend to criticize ourselves about right?. [Laughter]

[9:04] *Dr. Andrea Proulx*: Unfortunately, yes. But a certain amount of [f] that is necessary- as in the fat, not the criticism.

[9:11] *Cassy Price*: Yeah. Do you know if that difference is because we have more organs inside with our ovaries and reproductive system being internal as opposed to men's that are external?

[9:22] *Dr. Andrea Proulx*: That's a good question. I've never actually even thought of it that way. That could be very much true. I think it's more about where we carry our fat externally. It's probably to keep us warm because before we had clothes and homes with heating to live in, we needed to stay warm for ourselves and maintain this longer-term energy source.

[9:43] One, when a woman is pregnant, but also, those fluctuations of the menstrual hormones and how that affects our metabolism. Part of the reason why we carry that fat is more of this carrying on and reproduction sort of reason. So I don't know if it's necessarily about where we keep certain organs.

[10:04] *Cassy Price*: Okay. Cool. For body composition, is there a standard that would be optimal for everyone, or does it vary from person to person?

[10:16] *Dr. Andrea Proulx*: It varies partially by sex, obviously, male or female, in terms of what is optimal body composition. Body composition, we've been talking a lot about muscle and bone, but it's also about fat, where that fat is located, and also about water. I tell clients all the time, "I don't necessarily care how much you weigh; I just want to make sure you have a healthy amount of muscle, a healthy amount of fat, and a healthy amount of water in the right spots.

[10:42] There are ways of measuring those kinds of stats, whether it be with a bioimpedance analysis to check out those water levels or calipers. There are different methods to get numbers and measure these things. So, in terms of what's optimal for someone, it depends, again, partially, genetically male or female, but also your age. Our body composition does change as we age, partially due to hormones and partially due to the natural ageing process.

[11:17] There's no optimal, necessarily, because it depends on age, gender, and also your body type. I rarely make jokes about, "Oh, I just have big bones." Well, some people do have bigger bones. They're a bigger skeleton, and you can see that in pro athletes just how wide someone's shoulders or hips are. So, the optimal percentage depends on a lot of different factors.

[11:39] *Cassy Price*: You had mentioned that, obviously, those factors play into your predisposition for certain conditions. What are some of the top conditions that are affected by poor body composition?

[11:51] *Dr. Andrea Proulx*: Central adiposity, that's the official name for that kind of middle tummy, love handles sort of accumulation of fat. You tend to accumulate more fat in that tummy-tire area, particularly when we have higher cortisol or higher stress hormones. That

central fat has been linked to increase risks of Type 2 diabetes, heart disease - like cardiovascular issues, general systemic inflammation, and also with dementia. So it's also like a long-term, not just a physical heart health, but also our brain and overall mental health.

[12:35] *Cassy Price*: How interesting. Researchers have found that aromatase expression in adipose tissue or, like you were saying the fat, can result in increased estrogen levels, which I always understood as a negative because it can lead to estrogen dominance. But if the estrogen is anabolic, is that not a positive thing?

[12:59] *Dr. Andrea Proulx*: Good question, and sort of. Because there are three different types of estrogens (there are actually more than three), but there are a few different types of estrogen, and they have different affinities for different cellular receptors, so they'll trigger different signaling to occur.

[13:15] So you want to have safe protective amounts of the right types of estrogens, but also the appropriate levels. Yes, those are aromatase inhibitors, in terms of fat tissue, can increase the estrogen, and like you said, lead to more of an estrogen dominance picture, and that's partially because there's just too much estrogen in terms of overall amount, but also when compared to progesterone levels. So, it's that ratio, as well, that's going to play a role. It's a bit of a tricky question because it's not that estrogen is good or bad. It's that you want to have the right amount of the right kind and also have it balanced with progesterone.

[13:55] *Cassy Price*: Okay. So then, does diet play a role in getting that balance or keeping that balance as needed, and, I guess, the removal of the excess?

[14:09] *Dr. Andrea Proulx*: Yeah. There are lots of different ways of helping those aromatase enzymes and inhibitors to metabolize things. We talk a lot about the cruciferous family or like the broccoli family of vegetables, and there are active ingredients in there that help us to process extra estrogens. There are a variety of supplements that are derived from that cruciferous family of vegetables to have that direct impact on metabolizing some of those stronger excess estrogen levels.

[14:40] As an aside, that cruciferous family also acts as an antioxidant that helps our muscle mass. So, it's kind of a dual bonus. I have to give some high-fives to the broccoli family. And, of course, green tea also helps to metabolize some of those estrogens. Looking at the facts of that balance, particularly around estrogen and pooping. I know we're not here to necessarily talk about body composition around poops, but making sure your bowels are working well allows you to eliminate the excess, unnecessary estrogen, too.

[15:13] *Cassy Price*: Right. Absolutely. So, then, you had mentioned, obviously, that body composition changes with age, and so does the bone makeup and all of that. So does the way these steroid hormones affect muscle and bone mass change depending on the stage of life, not even just necessarily age, but whether you're pre-puberty, post-puberty, pre-menopausal, post-menopausal, those sorts of stages that we go through.

[15:39] *Dr. Andrea Proulx*: Yeah, totally. At different stages of our life, we have different circulating amounts of hormones, whether it be steroid hormones or the other hormones that help us grow muscle and maintain muscle. It's about thinking about ... our body's constantly remodeling, so we're constantly getting nutrients from food and trying to build new bones, build new muscle, build new tissues. But at the same time, we're also constantly breaking it apart to try to rebuild something that's even better or stronger or that's needed in this scenario.

[16:14] So as different stages in our life, like you said around puberty, is all about growing, the growth. The building is happening a lot faster than the tearing down, which is why we generally get taller. Among other things, other tissues grow. Then, throughout our adult life, then we're generally and hopefully in a healthy balance between building and breaking apart because building can mean building strong muscles and bones. But it can also mean building more reserve fat and just carrying it around – all that extra fat that we build up. So, it's not always a good thing to be building extra things.

[16:52] Then, when we hit that menopause or andropause – so andropause is the male version of menopause, where our circulating estrogens and progesterone and testosterone start dropping. So, throughout our adult life, we have a certain circulating hormone level that helps with bone density and muscle. It does gradually go down as we get older, and then when we get closer to menopause or andropause, we see a significant shift in terms of those circulating levels.

[17:24] *Cassy Price*: So is there supplementation or certain nutrients that people should be including in their diet as they age to help counteract that excessive drop?

[17:39] *Dr. Andrea Proulx*: Yeah, for sure. In general, you want to think about always giving your body good foods and supplements for building whatever you're trying to build. For muscle, we'd be looking at a variety of proteins. For bones, there are a lot of micronutrients, like your vitamin D, vitamin K, and so on. You definitely want to be fueling with good quality components.

[18:00] Then, as we age, it becomes more and more of a factor of looking at really supporting that muscle mass. So, making sure we're getting good protein into us from a variety of sources, which probably means cutting back on the carbs. Particularly, as women, after menopause, it is a lot harder for us to process carbohydrates.

[18:23] And so, we really want to make that shift as women like before menopause or after menopause and around that time to really take a focused look at starting to reduce unnecessary carbs and increasing that protein. Men, too. I don't want to forget about men. That's important, too, for them around andropause. But for us women, it's just a more dramatic shift.

[18:45] *Cassy Price*: Then, for women who are still menstruating, does the monthly cycle of hormones also affect body composition?

[18:53] *Dr. Andrea Proulx*: It does to a certain degree. Our first half of our cycle is more of a lower hormone phase, the follicular phase. Overall, hormones are a bit lower, and then right before ovulation, which is in theory, we say day 14, but not necessarily. But day 14 in a 28-day cycle. Then, we get a small spike of estrogen, among other things, and then we see a gradual overall increase of both estrogen and progesterone in the second half of our cycle, the luteal phase, or like a high hormone phase.

[19:29] That's assuming someone is going through these cycles and not on birth control pills, so if you're doing it with your own hormones, the first two weeks, you have a lower hormone phase, then a small spike of estrogen, and then we get into this high hormone phase. So, you can tailor exercise and nutrition based on what phases you're in.

[19:49] There are some great apps out there. One that the U.S. Women's Soccer team actually used to track their menstrual cycles and use that to help with their training so that in the first phase of their cycle, when they're in a lower hormone phase, then they were looking at more intensive weightlifting and using more protein sources to assist with those higher muscle needs in terms of heavier lifting.

[20:15] The second half of the cycle as progesterone starts to rise, as well, we want to shift a little bit more into perhaps some more cardiovascular style exercises because as that progesterone increases, also our joints become a little bit more relaxed, so it's being mindful also of is there a potential for increased injury in there? I don't want to scare any women around heavy lifting in the second half of their cycle, but it's being aware of that. So, fueling with lots of protein when needed and then shifting to lesser protein during the second half of that cycle.

[20:50] *Cassy Price*: Are there different types of protein that should be consumed because I know there are differences between, say, a vegan or a vegetarian diet and more of an omnivore diet and the way that they get their complete proteins would be different. So, are there certain types of protein that would be better for different phases or even for different processes?

[21:13] *Dr. Andrea Proulx*: Yeah. In particular, it's looking at leucine and where you can find leucine. Leucine is one of your branched-chain amino acids, so it's found in your BCAA combination supplement sort of thing. As women, in particular, we really want to focus on getting some of that leucine into us to help with that recovery from exercise.

[21:37] Where you find leucine – you can find it in a good quality BCAA supplement, and you can still find it in animal meats, but also in eggs, in firm tofu, navy beans, pumpkin seed is another great source. You can have some omnivore sources, but also some vegetarian sources as well. In particular, around that leucine, which you really want to focus on, especially in that second half of our cycle.

[22:07] *Cassy Price*: Another supplement or component that people are talking about a lot these days is collagen. What are your thoughts around collagen and how you should incorporate it into your training regime?

[22:20] *Dr. Andrea Proulx*: I love the use of collagen. It's an easy thing to mix in a smoothie or a post-workout drink, so it's compliance I find, is generally pretty good with collagen. Collagen, of course, comes in different size molecules, where you want to be looking at different collagens for bone and ligament and tendon and muscle versus skin health collagen sort of thing.

[22:46] Most items out there have a bit of both, so you get some of that skin, kind of anti-wrinkle, but more importantly – not more importantly. That's important too, but also looking at the muscle kind of structure part. I love adding it into a post-workout smoothie. At anytime during a menstrual cycle, as in the full month, and for men as well.

[23:11] *Cassy Price*: Earlier, you had mentioned that hormonal contraceptives change the way that your muscles and your bones are all affected by your hormones. Can you elaborate a little bit on that?

[24:24] *Dr. Andrea Proulx*: Yeah. One thing I want to clarify is that, women often talk about having their period even when they're on a birth control pill or a hormonal contraceptive, but it's not a true period. It's more of like a withdrawal bleed. When you're taking an external hormone or hormonal contraceptives, basically, you're now taking this external, exogenous hormone, whether that's a pill or a patch or a ring, which will then suppress your body's natural hormones, which is why it offers this like contraceptive quality.

[23:39] And so, one, I always remind people it's not a period that you're truly having. It's a withdrawal bleed because you've stopped taking the pill, or you've now moved to the placebo or the sugar pill. To be honest, there aren't a ton of studies around female athletes and the use of hormonal contraceptives, which is a bit unfortunate, given how many female athletes are taking hormonal contraceptives and just how many women are trying to be active and are taking a birth control or contraceptive pill.

[25:29] Some studies, so far, though, have shown that on the birth control pill, it could potentially slow muscle of recovery after a workout. One study recently even looked at younger women between 25-31 years old, I believe. And it showed that on the birth control pill, these women gained less muscle mass compared to the women not on the birth control pill. One study said up to even like 40% less muscle mass, which is quite significant both for the athlete and for the kind of everyday fit person.

[25:06] *Cassy Price*: Yeah. Forty percent is huge. That's crazy. I can't believe it. So, we're living longer than we used to, and with our extended life expectancy, women are still going through menopause at around the same age. I know it varies from person to person, but this is generally resulting in more years post-menopausal. Has this increased life expectancy impacted the issues for post-menopausal women of muscle loss and bone deterioration?

[25:37] *Dr. Andrea Proulx*: Well, to a certain degree, yes, because if you're living longer, then we're hoping that – well, hoping these women are exercising longer. They're involved in more

sports and more activities. We see this huge growth of activities for seniors or growth of the Master's Division in sports around the world, which is really exciting to see 60-year-old, 70-year-old, 80-year-old women doing Ironman Triathlons. It's amazing.

[26:06] And, of course, with that, the more you do something or the longer, the more years you add, you increase risk of just general injury that comes with sports and everyday living, for sure. But it's also just that. Are we taking the opportunity before menopause to gain the muscle mass that we can while our estrogen levels are at a higher level? So that as you enter into menopause and the many years after menopause, you want to go in there with a high muscle mass so that there's going to be a natural decrease, and some of that we just can't avoid.

[26:47] But if you start off high, then you have a long way to come down, which is awesome versus if you're not getting in that muscle growth before menopause, then this sets people up for increased risk of fractures whether it be from falling or just – we naturally start to lose our balance with age, men and women, this increases the risk of some of the safety concerns.

[27:11] *Cassy Price*: That makes sense. So, one of the myths that's around women lifting is that they'll bulk up. And I think that's starting to go away, but can you speak to why women don't bulk up the way that a man does in the same, like, I guess, beefy kind of composition?

[Laughter]

[27:32] *Dr. Andrea Proulx*: Absolutely. There are different types of exercise that enable us to build different types of muscle mass. There's the type of exercise, the type of stimulus, like what are you telling the muscle you want it to do? Then, of course, there are the hormones that are in the body that can then listen to that message and create change.

[27:56] There's also the genetics in terms of your ability to make those hormones, but also to build that muscle mass. Women generally don't get as big and bulky, partially because of that hormonal factor. We just have less testosterone compared to men, for sure.

[28:17] But what's interesting is that women also, like on the flip side, we have a better ability to recruit more muscle fibres. So, we can get in there and create those neuromuscular connections to recruit more fibre. It's sort of like instead of getting your army of 100 people where you only have three of them who are huge and strong and really intense. Instead, we women have 100 who are all strong, but maybe not as big and intense about it, but we recruited more fibres to do the job. That gives us our strength in a different way without the bulk that some women don't want. Some women definitely do, but a lot don't.

[29:00] *Cassy Price*: Do you have specific types of exercise then that you suggest for building bone over building muscle fibre?

[29:09] *Dr. Andrea Proulx*: Yeah. Building bone strength is all about stressing the skeleton, which is also through using the muscles to put that stress – and I mean that in a good way, a

positive stress on the bones. Even just doing jumping. Jumping 20 times, twice a day, has been shown to increase bone mineral density because of that stimulus, that impact of jumping up and down in your living room on a regular floor stresses the skeleton, and the skeleton says, “Hey, if I’m jumping up and down again tomorrow, I want to make sure that my bones are strong and I can manage that.” So, kind of a quick life hack is to do 20 jumps. They don’t have to be super high. You just jump up and down to get that bone density, that positive bone stress.

[30:02] And then, of course, there’s that muscle piece. As soon as you’re using your muscles, you’re going to be helping your bones, but you really need to be lifting more than just your bodyweight, which is tricky because unfortunately, there’s – there are a lot of great Pilates, there are a lot of great home videos; Yoga has really taken a huge boom in the last decade or so.

[30:24] And while these exercises are good from a core strength perspective and in helping our balance and also giving us a sense of calm, they’re not enough to truly add good muscle mass to a person. So, we need to be doing more than the bodyweight exercises and actually lifting weights, which means going into the gym when that’s safe and appropriate to do so or getting weights at home to get that muscle recruitment component.

[30:56] *Cassy Price*: Those shake machines that some people either have or have seen where you stand on it and the platforms shake for you, do those actually help with bone mineral density? Do you know?

[31:09] *Dr. Andrea Proulx*: I, unfortunately, don’t know exactly that the mechanism of the shaking machines, but I don’t know that it would because you really need to be stressing the actual skeleton. These studies were around jumping even more so than just regular running or cycling.

[31:31] Interestingly, bone density in cyclists actually isn’t that great. Even elite cyclists that do a ton of exercising, they’re always on their bike doing the exercise, and so they’re not getting that bone stress. They’re getting lots of kind of jiggling, vibrations when you’re cycling because roads are never perfectly flat. I’d have to look into it more, but I’d suspect that those giggling vibration machines aren’t nearly as helpful as jumping or going for a casual jog.

[32:02] *Cassy Price*: Okay. Good to know. What other lifestyle changes – I know we mentioned working out, and diet obviously play a role. Do other things like sleep or other lifestyle factors such as that, are important to counteracting the negative effects of hormones or low muscle density?

[32:24] *Dr. Andrea Proulx*: I’m definitely going to keep talking about exercise, exercise. I can’t talk about it enough. But, for sure, there are other things you want to do to support your body with those exercises and the good food and real nutrition supplements. Sleep, absolutely, is one of them. You want to get into a good, deep sleep because deep sleep is where we get our muscle growth and repair where we can rejuvenate.

[32:51] Most adults don't get enough of that true deep sleep. There are a lot of cool tracking devices out there, like the [Oura ring](#), different sleep apps, and a lot of cool tracking mechanisms if you're into getting the data around sleep, but you want to maximize that deep sleep so you can grow and repair good-looking muscles and bones.

[33:12] I'd also look at improving detox. You want to remove the things that are obstacles to good muscle and good bone – so reducing stress. It's just that easy. Just reduce your stress – no big deal. But stress is that release of the cortisol, that cortisol stress hormone, that breaks things apart.

[33:33] So you want to reduce your stress. Reduce environmental exposures to different toxicants, different chemicals because they'll impair hormone function. Reduce exposure to negative friends. Especially these days with things on the news. There's so much negativity out there that we really need to try to reduce the negative vibes and increase exposure to positive friends and positive vibes that can help support us in our new projects of gaining muscle mass or trying a new fitness class, or even just going out for a walk. So, getting that positive component in, too.

[34:13] *Cassy Price*: How much deep sleep, on average, would be recommended? I know we hear that eight hours a night of sleep, in general, but if you're not getting the right percentage of that as deep sleep, it's probably not having the same effect. Is that correct?

[34:28] *Dr. Andrea Proulx*: Completely. You could be unconscious for eight hours, so we call that sleep. "Yeah. I was asleep all night. I got a great night's sleep." Like yeah, just being unconscious doesn't mean that you actually cycle through the stages of sleep. So, your light sleep, deep sleep, and your REM sleep.

[34:47] Again, how you cycle through that is hard to measure just by asking yourself, "How did I do last night?" I mean, that's helpful, and I always encourage checking in with yourself and your body. How do I feel when I wake up because it does give us some indication about our sleep? But true, deep sleep, most adults need about an hour to an hour and a half of that good, deep sleep. Again, different apps can help you track some of that stuff, but it's about an hour to an hour and a half of true deep sleep is what we need.

[35:21] *Cassy Price*: And if you're not getting that hour to an hour and a half kind of range, what are some of the things that you could do at home to start trying to move toward that?

[35:32] *Dr. Andrea Proulx*: It's anything that can improve your overall sleep quality, so that could be removing or staying away from screens, staying away from bright lights, getting blue-light blocking glasses or a blue-light blocking app for your screens. Avoiding alcohol at night. That's a big one for helping with sleep.

[35:54] And there are, of course, different supplements right around helping that sleep component or different herbal teas that can be used. So, anything that just generally improves

sleep is going to have a good effect on getting you into more deep sleep. The other big one around deep sleep that most people don't want to hear is you need to go to bed way before midnight. Most adults get their deep sleep or the bulk of it before midnight, so it's turning off the Netflix and getting into bed a bit early is going to do you a lot of good.

[36:29] *Cassy Price*: That's very interesting. I didn't realize the time of night made that much of an impact on it. Jumping back to the exercise portion of our discussion, how much cardio versus weights would you generally suggest if someone's trying to improve their body composition because, obviously, cardio helps us just melt the fat that's there, but it doesn't necessarily build the muscle fibres that we're looking for. So, there's got to be a marriage between the two, I would think.

[37:03] *Dr. Andrea Proulx*: Yeah, absolutely. You can get into different zones of training in terms of heart rate, and there are lots of different devices to help you track those heart rate pieces. It's also about how hard is your body working and not just about what is your body actually doing? So, it can get quite complex, but in terms of the big picture, I suggest the older we get, the more we need to be looking at doing muscle-building work because the older we get, the harder it is to gain muscle mass and maintain muscle mass. So we're helping to reverse that process or slowdown that process.

[37:45] So it's easy to do cardio, and sometimes cardio is sometimes wonderful to just let our brains zone out. Hop on the treadmill or go for a run or walk around the block. But I always caution like being mindful of not doing too much of that cardio or slipping into that easy cardio component. So, as we age, looking at more strength and less of that cardio.

[38:09] Partially that depends on your likes and dislikes but focusing more on that muscle aspect. It's hard for me to give an exact percentage, but in an ideal world, I would love for people to be lifting weights twice a week and then adding in cardio, some long, slow casual cardio, as well as some high intensity cardio stuff.

[38:32] Which can be high intensity interval training, or doing hill runs, or cycling along a hill, or changing your treadmills settings to have these different intensities of effort. You need to be stimulating the different muscle fibres as well.

[38:53] *Cassy Price*: Ok, that's awesome, that makes total sense. So, we've actually reached the end of our time for today but I really appreciate you joining me. I was wondering, if our listeners wanted to get a hold of you, how could they go about doing that?

[39:05] *Dr. Andrea Proulx*: Ya, so they can find me all sorts of places on the internet. We website is [Andreaproulxnd.com](http://Andreaproulxnd.com) and you can also find me on Instagram as well as Facebook, [Andreaproulxnd](https://www.facebook.com/Andreaproulxnd). So, there's lots of ways to find me as well.

[39:24] *Cassy Price*: Awesome, well thank you so much Andrea for joining us, this has been a fantastic conversation and thank you to the listeners who tuned in today, we hope you tune in next week for more ways to supplement your health.

[39:36] *Dr. Andrea Proulx*: Thank you!

[audio ends 39:38].

*\* \* \* Outro Music \* \* \**

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