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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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[1:35] *Cassy Price*: Hello, and thank you for joining me for another episode of Supplementing Health. Today we are joined by Dr. Joanne Day. She is a naturopathic doctor here in Alberta who is passionate about helping her patients live their healthiest lives. Welcome, Joanne.

[1:47] *Dr. Joanne Day*: Thanks, Cassie.

[1:49] *Cassy Price*: So today, we're going to be discussing arthritis and some of the treatments available. Should we start by discussing what causes joint pain or inflammation?

[1:57] *Dr. Joanne Day*: Sure. There are quite a variety of different causes of joint pain or inflammation, but I would say the two main causes that I see in my practice are pain or inflammation that are caused by degeneration or osteoarthritis, which is the wearing down of the joints over time or injury. Say someone is playing a sport or doing a hobby, and something goes wrong, and they injure that joint.

[2:23] *Cassy Price*: Okay. So then, a lot of us will hear our joints popping or cracking when we're doing certain activities. Is this also a cause of inflammation, or is this a positive thing?

[2:34] *Dr. Joanne Day*: That cracking and popping actually has a name. It's called crepitus. It can be caused by a few different things. It can be caused by the movement of fluid or gas in a joint, or it can be caused by the movement of tendons and ligaments over scar tissue or inflamed joints. On its own, the crepitus is not a cause for concern. Some people just have noisy joints. But if you have any instability or pain in that joint, then that joint needs some attention.

[3:09] *Cassy Price*: When I was younger, growing up, I don't know if it's a rumor or not, but people would say if you're cracking your knuckles or cracking your neck on purpose that could cause arthritis. Is that true?

[3:21] *Dr. Joanne Day*: My 12-year-old actually does that all the time. No. There have actually been studies that have shown that, no, that won't cause any inflammation or any arthritis over time.

[3:34] *Cassy Price*: Okay. So then, how is arthritis actually diagnosed?

[3:37] *Dr. Joanne Day*: Well, arthritis can be diagnosed by the signs and symptoms. So a lot of people, of course, have pain and instability in that joint when they have arthritis. Some of the other signs are swelling of the joint, or sometimes the joints can become enlarged from some of the bony growths. You can especially notice that in the fingers and in the knuckle joints if you have arthritis in the knuckle joints. Also, of course, you can use x-rays to help determine if you have arthritis and to show how much the arthritis has progressed.

[4:22] *Cassy Price*: What are some of the most common types of arthritis?

[4:28] *Dr. Joanne Day*: The two most common types are osteoarthritis, which is degeneration of that joint over time. The other common cause of arthritis is rheumatoid arthritis. That is inflammation of the joints, but that's caused by an autoimmune reaction in the body, not by degeneration over time.

[4:53] *Cassy Price*: Do they have different symptoms for the different types?

[4:56] *Dr. Joanne Day*: Yes. The classic rheumatoid arthritis would be: you wake up; your joints are very stiff and sore. They may be inflamed and red and hot. Typically, that might get better over the day. As you move them, they might loosen up a bit. Whereas osteoarthritis develops over time, and it's usually localized to one or two joints in the body. Whereas, rheumatoid arthritis many times will affect both hands, both feet, and that kind of thing.

[5:37] Usually, the rheumatoid arthritis, because it's autoimmune, can ebb and flow over someone's lifetime. So they'll have periods of time where it can be quite severe, and then they may have times where it's in remission. Whereas, the osteoarthritis starts somewhere in your 40s, 50s, 60s, and then it tends to get worse over time.

[6:03] *Cassy Price*: That's good to know the differences. How can you tell the difference between joint pain from muscle tension or other causes versus those of arthritis? I'll give you an example here so that it's clear what I mean. When I've been working out a lot or running a lot or things like that, my IT band gets tight. I notice my hip joint will get quite tight and painful, especially because I do have a desk job, and I sit a lot. So I notice that will happen. I know [inaudible 6:35], and things like that will fix it, which I assume means it's probably not arthritic. Whereas arthritis would not be as easily resolved, I assume. Is that correct?

[6:46] *Dr. Joanne Day*: Yes, that is a good indication, although arthritis in a joint can be made worse by any muscle imbalances or tightness around the joint. So, yes. A thorough history can definitely help you distinguish, but I would say getting an x-ray of that joint would help determine that as well, just to see. It can be those joints that we've had a previous injury in. Say you had an injury in your 20s. A lot of times, those are the joints that are going to develop arthritis because the tracking may not be correct in that joint.

[7:30] *Cassy Price*: Are there certain sports that are more likely to result in arthritis later in life?

[7:39] *Dr. Joanne Day*: I would say it's not necessarily the sports that would be contributing to the arthritis, but more possibly the injuries as a result of those sports. I've never seen any kind of studies or anything like that that link certain sports to arthritis, but I would say in my experience, it's the injuries, and so possibly the higher impact sports, or the more intense sports. So certain sports that athletes tend to do in their youth for a lot of hours in the week, those would probably contribute more to arthritis.

[8:23] *Cassy Price*: Are there other lifestyle factors that can contribute to your risk of developing osteoarthritis?

[8:34] *Dr. Joanne Day*: Definitely, a family history of arthritis is going to be an indicator that that might be something that can happen, but 100% lifestyle will play a part in that. Definitely, your diet can contribute to inflammation in your body, so the better you eat, the more whole foods, the more anti-inflammatory your diet is, the better your body is going to work, the better your joints are going to function.

[9:08] Smoking can contribute to degeneration of the joints. Activity is definitely important for joints, and you want to keep moving. But there is that fine line. If you do an activity with a lot of repetitive motion, then definitely those joints that are affected by that repetitive motion, whether it's a sport or whether it's your work, can contribute to arthritis.

[9:39] *Cassy Price*: Arthritis is often thought of as synonymous with pain, so does it always result in severe pain, or can there be other presentations?

[9:50] *Dr. Joanne Day*: Most people with arthritis are going to have some pain. But the mode of degeneration of the joint is not always going to correlate with the amount of pain that someone

is experiencing. Many times, we'll see an x-ray, and the joint doesn't look too bad on the x-ray. There's quite a nice little bit of joint space there. But that person is really experiencing a lot of pain.

[10:16] Then the visa versa can happen. Sometimes, we see an x-ray, and the arthritis looks like it's very advanced and there's very little joint space left, but that person doesn't necessarily have a lot of pain. So, there are other factors involved in the amount of pain that someone is experiencing when they have arthritis. It's not always correlated with more advanced disease.

[10:40] *Cassy Price*: If you are still practicing your preferred sports, do braces help to prevent progression of arthritis?

[10:50] *Dr. Joanne Day*: The braces aren't necessarily going to help prevent the progression on their own. But staying active is very, very important for helping treat arthritis. If they help you stay active, then that would be a good thing.

[11:16] *Cassy Price*: For most injuries, people either put heat or ice on them depending on what the injury is. Is one or the other better for joint pain, or do both work?

[11:29] *Dr. Joanne Day*: That's a bit more complicated, I would say, than we thought it was 20 years ago. Ice is going to decrease blood flow and decrease inflammation in that area where you apply the ice. But blood flow is important for healing, so we don't necessarily want to downregulate that.

[11:49] Ice can help decrease the perception of pain in the area, which is a good thing. So if that gets you moving a bit more when you ice something, that's good. But heat can help with the stiffness and relax tight muscles. So most of the patients that I see have more chronic joint pain. Typically, heat is a better choice for them.

[12:14] *Cassy Price*: Okay. That's good to know. That's interesting. We know that excess weight definitely puts excess pressure on our joints, so is weight management part of your typical protocol for your patients?

[12:28] *Dr. Joanne Day*: Definitely, weight can worsen osteoarthritis, especially in those weight-bearing joints – the knees, hips, and back. Yes, not just weight loss, but eating an anti-inflammatory diet and eating whole foods. Activity is definitely a very integral part of treatment.

[12:59] *Cassy Price*: Awesome. Some people say, especially living here in Alberta where we get chinooks and weather can go from -30 to +10 within a matter of hours. They say that change in temperature, they feel it in their bones or in their joints. Is there any truth to this, or is it more of a placebo effect?

[13:18] *Dr. Joanne Day*: It's not necessarily the cold that can aggravate the arthritis, although some people definitely feel better in the heat. I would say in Alberta, it's a lot of the barometric changes that happen. We have these really wide shifts that can happen, especially when chinooks come in. It's these barometric changes that I would say most people notice in their joints and can make the joint pain a lot worse for those few days when that's happening.

[13:55] *Cassy Price*: Are there children that are affected by arthritis as well, especially if it's due to injury?

[14:01] *Dr. Joanne Day*: Not typically children, no, because after an injury, it does take 10, 15, or 20 years for that arthritis to possibly develop. Kids can get an autoimmune version of arthritis, but not osteoarthritis. I would say I do see some people in their 20s or in their 30s that are already developing some arthritis. It can happen in young adulthood, but I've never seen a teenager or a child with osteoarthritis.

[14:39] *Cassy Price*: Usually, we think about arthritis in joints like the elbow, or like you said, in your hands, your knees, hips, and places like that that are more movement-related. Can you also get arthritis in your spine or other areas like that?

[14:58] *Dr. Joanne Day*: Yes, 100%. In the spine, it would be the facet joints. Those are the little joints between your vertebra where the vertebra touch each other. That's the area you would develop the arthritis in your back, and yes, that's very common as well.

[15:17] *Cassy Price*: Okay. You've been mentioning diet a few times throughout our conversation. What kind of foods are most important to an anti-inflammatory diet?

[15:29] *Dr. Joanne Day*: You want to focus on the whole foods, just making sure that what you eat looks really close to what it looked like when it was harvested. So lots and lots of vegetables. I eat lots of whole foods, like whole grains. Meat is fine as long as it's unprocessed, and you really want to make sure that you're as low as possible in your diet on things like sugar and also flour because flour is just one step away from sugar when it enters your body. Those are the things. Then lots of healthy fats from avocado, fish, olive oil, eggs, and those kinds of things.

[16:18] *Cassy Price*: Awesome. Now that we've got a better understanding of what actually arthritis is, where it came out, and that sort of thing, what are some of the common treatments that are available for people?

[16:31] *Dr. Joanne Day*: The most common conventional treatments for osteoarthritis are pain killers, like Tylenol – steroid injections into the joints. Then, when it really progresses, then, of course, joint replacement. Other more natural treatments are also available, too, and are very effective. They can include prolotherapy, physical therapy, and some supplements or herbs.

[17:01] *Cassy Price*: For steroid injections, most people, when they hear steroid, they think of the illegal injections that athletes use when they are trying to push themselves to that next level. Would these sorts of steroid injections be the same thing, or are they different?

[17:19] *Dr. Joanne Day*: These would be injections right into the joint of a steroid that would turn off or turn down that inflammatory process that's going on in the joint. They're related, definitely, and there's some systemic action of that steroid injection into the joint, but no, they would be two different things.

[17:44] *Cassy Price*: Great. You mentioned physical therapy, as well, so what would be the benefits of taking on physical therapy as part of your treatment?

[17:53] *Dr. Joanne Day*: Physical therapy or physiotherapy would be a great choice because it can help improve the functioning of that joint and the tracking and the movement of that joint. It can also help to release any tight muscles that we were talking about before – tight muscles around the joint. That can contribute to the pain of osteoarthritis.

[18:18] *Cassy Price*: Water exercises help to reduce the pressure on the joints, so are there benefits to staying active within the water and doing aquatic exercises instead of other options?

[18:32] *Dr. Joanne Day*: Yeah. It is definitely a good choice. The water itself provides some resistance to your movement, so that's already great to have some resistance there to help build up those muscles. Then, of course, when you're in the water, there's less pressure on those weight-bearing joints, so that's also a positive.

[18:52] *Cassy Price*: Okay. Then I'd like to deep dive a little bit more into prolotherapy. It's a therapy that I've definitely found very interesting. Can you share a little bit about what it is?

[19:04] *Dr. Joanne Day*: Prolotherapy is an injection therapy that helps to stimulate the healing of tendons, ligaments, and cartilage in the joint. The treatment involves the injection of procaine, which is an anesthetic, and dextrose, which is a sugar solution. Both of them are very active in the treatment: the dextrose and the procaine. The dextrose is in a concentration that it causes some irritation of the tissue in that area, which activates the healing cascade.

[19:35] The procaine is also really important too because it helps to reset the nervous system in the area. It's also a vasodilator, so it opens up those blood vessels to help bring in more blood flow to the area.

[19:51] *Cassy Price*: Awesome. So what injuries are treatable by prolotherapy?

[19:56] *Dr. Joanne Day*: Most mesolectal injuries respond to prolotherapy. I would say in my practice I treat a lot of backs, shoulders, rotator cuffs, and lots of knees. But, definitely, most other joints of the body, I treat as well. I just think the joints that cause the most problems are the low backs, knees, and the shoulders.

[20:31] *Cassy Price*: Is it a painful treatment?

[20:35] *Dr. Joanne Day*: Prolotherapy, it's not a fun treatment. It is injecting into an area that's already kind of angry, but it doesn't take long, and most people tolerate it really well. It's just a few minutes of discomfort, and then the treatment is done. If you have some discomfort after the treatment, though, which is not a negative side effect. It's part of the treatment because, as I was saying earlier, you're bringing in blood flow. You're creating irritation of that joint, so you can feel that after, but just for a few hours after, and then usually by the next day, people don't have any discomfort left from the treatment.

[21:17] *Cassy Price*: Are there any negative side effects that do come with prolotherapy?

[21:21] *Dr. Joanne Day*: That discomfort after, but it is actually very well tolerated, and the negative side effects are – as long as you're okay with some discomfort after the treatment, there aren't too many negative side effects.

[21:42] *Cassy Price*: Can pretty much anyone use this therapy because I know especially pregnant women seem to be a group that often can't use certain therapies due to the fact that they're growing life. So is prolotherapy for everyone?

[21:56] *Dr. Joanne Day*: Prolotherapy is for most people. Most people with an injury or degenerative joint, yes. It's a great choice for the elderly because there aren't too many medications that interfere with it. So I do see a lot of seniors, and sometimes they're taking quite a few different medications. No, the prolotherapy is very safe for most populations.

[22:22] *Cassy Price*: Are there any medications that actually do interact with prolotherapy?

[22:29] *Dr. Joanne Day*: Anti-inflammatories would definitely dampen the treatment, so I do ask my patients if they can decrease or even come off some of their anti-inflammatories for a few days before and after the treatment. But that's okay if people have been taking higher doses of anti-inflammatories, and that's something they need to get through the day, then that's definitely okay to take them.

[22:53] There aren't going to be any negative side effects. It's just going to dampen the treatment a little bit, but that's okay. It just probably means they need a few more treatments. But, of course, everyone has to get through their day, so if they need some medication to do that, that's okay. The goal over time would be that hopefully, they can decrease the amount of anti-inflammatories and pain killers that they're taking.

[23:20] *Cassy Price*: Are there any activity restrictions following the injections?

[23:26] *Dr. Joanne Day*: Movement is really good after the injections. We definitely want to keep people moving after, but I always advise people not to do anything after the treatment that they

know is going to aggravate the joint and not to do anything that is outside the box of what they usually do on a day-to-day basis, especially those seasonal things. So if you get a prolotherapy treatment, it's not a great idea to then go harvest your garden or rake the leaves in your yard. Just keep your activities to those everyday motions, everyday movements that you know are not going to aggravate that joint.

[24:09] *Cassy Price*: Awesome. How many visits are necessary, or how many appointments on average does it take for prolotherapy to be effective?

[24:18] *Dr. Joanne Day*: It's definitely different for different people. If it's an injury that occurred when you were at work or during an activity, and it's fairly uncomplicated, then typically, it will be about four to six treatments for something like that. I would say the bulk of my patients have chronic conditions, so they have that arthritis, or they have that degenerative back.

[24:53] So, for people with chronic conditions, the goal is to get them to the place where they can do all their activities. They can go to work; they can do their hobbies, and they're not in pain. For a lot of people, that can be probably six to eight treatments, but then those people typically need some maintenance after.

[25:18] That can look like a treatment a month for some people that are very active, and they want to continue to be active pain-free. Other people, I might not see them for six months or a year, and then things start to act up again, and we need to do a few more treatments at that time.

[25:36] *Cassy Price*: For that first set of treatments, how frequently are you suggesting people get those injections?

[25:43] *Dr. Joanne Day*: The treatment itself is stimulating the body to create that inflammatory response. The treatment happens in the office, but then your body is very busy trying to repair that injury for a few weeks after. So, at the beginning, I like to space out the treatments about two weeks apart just to try and get some momentum and some healing in that joint. Then when we start to see some reduction in pain and some increased function of that joint, then we start to space them out to every three, four, or even five weeks in-between.

[26:21] *Cassy Price*: Are there other treatments like acupuncture or massage therapy or things like that complement prolotherapy?

[26:31] *Dr. Joanne Day*: Definitely. I like the manual therapies in conjunction with the prolotherapy. So, yeah. The massage, the chiropractic, the physiotherapy. Those are great because, with the prolotherapy, I'm trying to stimulate the health of the tissue and try to stimulate those tendons, ligaments, and muscles in the area to heal. Whereas the manual therapies are working on trying to improve the functioning and the tracking and the movement of those joints. So the two therapies really, really work quite well together.

[27:10] *Cassy Price*: Another term we hear a lot is PRP. I know that's an injection therapy as well. Are prolotherapy and PRP the same thing? Are they interchangeable terms?

[27:20] *Dr. Joanne Day*: No. They're both types of regenerative injection therapy. Stem cells would be in that category as well, but they are different treatments. The prolotherapy is trying to stimulate the body to bring in all those cells to that joint to try and heal that joint. Whereas the PRP – what happens with PRP is, you do a blood draw. Then you centrifuge the blood, and then you concentrate the platelets and then inject that platelet-rich plasma to create that healing cascade. So the PRP is a bit more of an aggressive treatment compared to the prolotherapy.

[28:04] *Cassy Price*: Okay. Cool. Could that PRP also be used for the osteoarthritis treatment?

[28:12] *Dr. Joanne Day*: Yes, definitely.

[28:15] *Cassy Price*: Okay. Cool. I guess the million-dollar question that we've all been waiting for is, can arthritis be cured?

[28:22] *Dr. Joanne Day*: It can't be cured, but it can be managed. Unfortunately, you're never going to restore that joint to where it was before the arthritic process started. But many people with arthritis can do all the activities they want in a day, do their hobbies, do their work without too much pain. That is the goal. It's not to necessarily get rid of their arthritis, but to make sure that joint is as healthy as it can be and you can do all the things in your day that you want to do.

[29:03] *Cassy Price*: Awesome. This has been a very informative conversation. There was lots of information there that I did not know, so I appreciate you taking the time to enlighten me, and I appreciate the listeners that have joined us today, as well, for this conversation. Now, if anyone wanted to get ahold of you to either work with you or learn more, how could they do that?

[29:21] *Dr. Joanne Day*: My clinic is [Healing Hands Integrative Medicine](#) here in Lacombe, Alberta. You can Google us. We have a great website. Or you can call us at 403-782-4600.

[29:38] *Cassy Price*: Fantastic. Well, thank you so much for taking the time to join me today, Joanne. It's been fantastic.

[29:43] *Dr. Joanne Day*: You're welcome, Cassy. Thank you.

** * * Outro Music * * **

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