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Osteoarthritis: Not Just a Wear-and-Tear Problem

Announcer:
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Here's your host, Dr. Matt Birnholz.

Dr. Birnholz:
Osteoarthritis is so much more than just a wear-and-tear problem. It's a progressive joint disease that affects millions worldwide. And as the incidence rates continue to climb within longer-living populations, the importance of personalizing and optimizing treatment selections across our healthcare system cannot be ignored.

This is ReachMD, and I'm Dr. Matt Birnholz. Joining me to discuss multidisciplinary experiences with current treatment algorithms in osteoarthritis are Drs. Michael Redler and Ryan Riggs. Dr. Redler is an orthopedic surgeon and sports medicine specialist and founding partner of the Orthopaedic and Sports Medicine Center in Trumbull, Connecticut. Dr. Riggs is an emergency medicine specialist and founder of the Active Joint Institute in Draper, Utah.

Doctors, it's great to have you both with us.

Dr. Redler:
Thank you, Matt. Glad to be here.

Dr. Riggs:

Me too. It's a pleasure.

Dr. Birnholz:
So, before we dive into the current treatment landscape for OA, I'd first like to get your respective vantage points on this disease given the unique clinical backgrounds that you both have. So, what's your general view of osteoarthritis, such as its impact, in the outlook for patients these days? Dr. Redler, why don't we start with you?

Dr. Redler:
Thanks, Matt. Clearly, osteoarthritis of the knee has become an increasingly alarming problem. There's been such a dramatic increase in total knee replacements in the United States that we have to take a big look in terms of how we treat the disease from its very starting point. I think we can't even completely explain the increase in total knee replacements just based on growth and population, or even on obesity, so that it's a multifactorial approach, and having many alternatives in terms of how to treat osteoarthritis now is where we need to head in the future.

Dr. Birnholz:
Excellent. Dr. Riggs, what are your initial thoughts on this disease?

Dr. Riggs:
Well, like you said before, Matt, it's not just a wear-and-tear disease like we used to think. The more we understand about this disease, we realize the chemical factors that are occurring within the joint space, and that will help determine how we can best take care of this increasing problem in the United States, because there are so many people who have this disease who need treatment, and it's going to overwhelm our current medical system.

Dr. Birnholz:
Right. And with that concept in mind, I want to move into the current treatment algorithms for OA at a high level just to see how we're addressing this overwhelming resurgence and climbing incidence rates of the disease. But I do want to clarify up front whether there actually are standard or agreed-upon algorithms for treating this disease. So, Dr. Riggs, what's your perspective on that?

Dr. Riggs:
Well, as soon as one society seems to create a standard, there are many other societies that seem to disagree with them, so I don't think we have an agreed-upon standard yet; but historically, the only thing that was available are things that were mainly focused on the pain associated with this disease, but nothing was really pointing towards the actual disease process, and that's what's exciting about what's coming. As far as the treatment algorithms, of course, there are oral pharmaceuticals, including

over-the-counter medications and nonsteroidal anti-inflammatories. Then you can get intra-articular injections. That would include hyaluronic acid and corticosteroids. And then, of course, there's surgery for resurfacing the joint.

Dr. Birnholz:
Great. And, Dr. Redler, do you also look at the therapeutic protocols for osteoarthritis in a similar light to how Dr. Riggs sees it?

Dr. Redler:
Well, Matt, I think that Dr. Riggs is right on in terms of what he said. The reality is, is that arthritis comes in a multitude of presentations between mild, moderate and severe, and we know that recommendations have been in place for a long period of time regarding mild arthritis. That would include exercise, physical therapy, weight loss, orthotics, and even nutraceuticals. Once you get to more moderate arthritis, then certainly analgesics, anti-inflammatory medications can be helpful. Intra-articular injections, whether they be corticosteroids or hyaluronic acid, are also indicated. And all these are done to either prolong the need for knee replacement or, perhaps, even to eliminate the need for knee replacement. I think there is some disagreement in terms of the best protocol, but there are many physicians with a great amount of experience that have had a lot of these modalities be very successful for them.

Dr. Birnholz:
So let's stay then with this theme of early intervention and consider the phases and sequence of treatment protocols. It sounds like at the early phase where lifestyle factors and modifications therein can play a really big role, there is a fair amount of agreement, whether it's exercise, weight loss recommendations, but things start to become a little bit more variable and there's more controversy from your perspectives when we get a little bit further down the line of moderate to severe. So, how then do you counsel your patients respectively toward these more interventional treatment steps? Dr. Redler, let's start with you.

Dr. Redler:
Well, look, I think that we know that if you take a person who has a higher BMI—in other words, a higher body weight—they're putting more stress on the knee, so clearly, exercise is always going to be important. And it's not just a matter of weight loss, but it's also maintaining good muscle strength around the knee joint, and it's also maintaining good mobility. And we know that better mobility and better strength will lead to less discomfort. That's always going to be important for every patient, and we encourage it for almost all stages of arthritis. The challenge becomes when these patients have pain with almost all activity of daily living, that they'll look at you and say, "Hey, I want to exercise. My

knee hurts too much. We need to be able to do something else." And that's when we start to need to look at medications, whether they are oral, whether they are injection, and help them out, but do so while still counseling their lifestyle, counseling their weight gain and loss and counseling their ability to work on strengthening and range of motion.

Dr. Birnholz:
Great. Dr. Riggs?

Dr. Riggs:
I think Dr. Redler is exactly right. And on top of that, there is something chemically that goes on with movement. Exercise can actually increase the endogenous or native production of hyaluronic acid within a joint, and so you can get protection and lubrication in the joint simply by exercising. Plus, as Dr. Redler pointed out, when you are in pain, you are more sedentary, and we're finding out more and more from our cardiovascular colleagues that sitting is the new smoking. We have an increased mortality rate simply because we are more sedentary because of this disease.

Dr. Birnholz:
For those just joining us, this is ReachMD, and I'm Dr. Matt Birnholz. Today I'm speaking with Drs. Michael Redler and Ryan Riggs about the current treatment landscape for osteoarthritis.

So I want to continue with the pharmacologic interventions, which cover the gamut from topical to oral to intra-articular injection-based options. Dr. Redler, from your vantage point, is there a typical sequence of progression that you recommend to patients, or are combination therapies more common at this stage?

Dr. Redler:
So, if I first see a patient, Matt, that comes in with arthritis and we've taken x-rays and gone through examination, it's going to be important for me to know what stage their arthritis is, and a good set of x-rays including weight-bearing x-rays and special views that show whether or not there is significant joint space narrowing will help direct us. Very frequently we will talk about an exercise program that may be with physical therapy or not. We will talk about sometimes some over-the-counter anti-inflammatory medications, or even some just analgesics are over the counter as well. For those that are more severe or if they come in and actually have a joint effusion, swelling in the knee, then sometimes we may proceed early on to draining the knee and even sometimes doing a corticosteroid injection. Our thought is, look, this is not going to cure the knee, but if we can make the knee more comfortable, it will let all of the exercise and therapy they may do be more effective, and if we can do that, we can actually increase muscle strength—because we know that if you have a knee that is significantly swollen, the quadriceps muscles won't fire as well, and therefore, exercise program and therapy may be less

effective.

Dr. Birnholz:
Interesting. And, Dr. Riggs, Dr. Redler just talked a little bit about the utility of corticosteroid injections, when they are often applied. No pun intended, but this is often the knee-jerk reaction by a lot of people in our audience when they think of injection treatments for anything inflammatory going on in the joint. But in your case, Dr. Riggs, your practice has incorporated HA injections for OA patients more prominently, and I'm interested in the benefits and limitations of that treatment approach from your standpoint. What can you tell us?

Dr. Riggs:
Well, what I like about hyaluronic acid injections is because chemically it's taking care of the disease process. Part of the reason osteoarthritis is so degenerative is because of the chemical changes within the joint fluid. The cartilage in response can become dehydrated and crackly, and I feel like it's like Death Valley where there's all these dirt clods as the surface of the joint, and if we can plump up the cartilage and lubricate it and cushion it, add more water to the cartilage, it might actually help alter the course of this disease. Hyaluronic acid has that potential. It has been shown to lubricate, cushion and protect the joint, as well as take care of pain, although it's not as fast as corticosteroids, which is fairly quick in taking care of pain. As long as the patient is—no pun intended—patient, they can get more longer-lasting relief from HA injections.

Dr. Birnholz:
Great. And, Dr. Redler, I'd be remiss if I didn't turn to you as an orthopedic surgeon to talk about the more intensive surgical options that inevitably are going to come up for some of your patients. Can you talk to us about whether these options are more or less helpful depending on the joint involved, the degree of severity, and when you start to approach that with your patients?

Dr. Redler:
Well, I think that I will also say, Matt, that Dr. Riggs is spot on. Corticosteroid injection as an early treatment is only a stopgap, and we have made great use—and sometimes for a very long period of time—of hyaluronic acid injections for these patients, and I think there is some suggestion that there is chondroprotection. However, if you get to the point where you now have that most severe arthritis, then you start looking at potential need for surgical intervention. And in patients, except for the youngest, that may mean either unicompartmental, meaning a partial knee replacement, or a total knee replacement. Both of those with the right indications can be excellent operations for pain relief and for quality of life. They clearly last longer than they used to, but if it's a younger patient, it may not last their lifetime, so that has to be taken into consideration. A very young patient, there are sometimes some

osteotomies that can be done to reline the joint itself. That should be considered as sort of a stopgap or to buy some time before they ultimately need to be converted to knee replacement. I can tell you that in my very active patients, if they have arthritis that is isolated just to the knee or to the inner portion of the knee, then outpatient unicompartmental knee replacement can be an effective outpatient procedure. It can be very helpful. That's only when the patient has exhausted the other options we've talked about. And when a patient comes in and says, "We've done all this; I'm unhappy; this is affecting my activities of daily living; do something about this, darn it; I can't stand it anymore;" that's the patient that's going to do the best, and that's when we consider surgical options.

Dr. Birnholz:
Thank you, Dr. Redler. That's been a really nice overview from you both to get a full picture of the spectrum of current treatments in the landscape for osteoarthritis. But before we wrap up our discussion, I really want to look a little further ahead into osteoarthritis care to get your impressions of what's on the horizon, what kinds of treatment or treatment approaches you are looking into or envisioning adding to your practice. So, Dr. Riggs, let me start with you.

Dr. Riggs:
Well, with the onset of regenerative medicine, it's pretty exciting how we now can use the body's healing potential in treating all manner of diseases, and there are some promising looks at osteoarthritis treatment in the setting of platelet-rich plasma injections and essentially using the growth factors that are swimming around in a patient's blood. Those growth factors can accentuate healing and actually slow down the progression of this disease. It's pretty exciting.

Dr. Birnholz:
Yeah, that does sound pretty exciting. Dr. Redler, anything to add to that before we close?

Dr. Redler:
Well, I think that Dr. Riggs is exactly right. I think the next generation of treatment is going to be more on the cellular level. We've suggested today that hyaluronic acid does have a chondroprotective effect, but ultimately, substances like platelet-rich plasma and the growth factors there, bone morphogenetic protein and even stem cells may have even further effect by inhibiting cytokines, which are the enzymes in the knee that really help to break the knee down. If we can arrest those processes on a cellular level, then we can hopefully have a population of patients that will have healthier knees for a much longer period of time without having to go to that endpoint strategy of surgery and knee replacement.

Dr. Birnholz:
Well, with that hopeful note looking forward, I do want to thank my guests for joining me today to

discuss the current treatment landscape for osteoarthritis. Dr. Riggs, Dr. Redler, it was fantastic having you both on the program. Thanks so much.

Dr. Redler:
Matt, it was a pleasure, thanks. And thanks talking with you too as well, Dr. Riggs.

Dr. Riggs:
Thank you, Dr. Redler. And, Matt, I really appreciate this opportunity.

Dr. Birnholz:
For ReachMD, I'm Dr. Matt Birnholz. Thanks so much for listening.

Announcer:
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