# ULTRASOUND-GUIDED INJECTIONS FOR PAIN MANAGEMENT

## RADIO MD, FEATURING DR. KYLE SMOOT

According to The American Academy of Orthopaedic Surgeons, osteoarthritis is one of the leading causes of disability in the United States. It can develop slowly and the pain can worsen over time. Although there is no cure for osteoarthritis, there are many treatment options available to help people manage pain and stay active.

Ultrasound-guided injections are used to treat pain stemming from conditions like chronic tendinopathy, muscle tears and carpal tunnel. They're used in a variety of joints – including the hip and knee – and can also be used diagnostically to identify and differentiate a patient's pain.

In this segment, Dr Kyle M. Smoot shares how debilitating injuries or chronic bone and joint problems may keep you from working and enjoying normal activities. UK Orthopaedic Surgery & Sports Medicine physicians seek to improve the quality of life for patients who suffer from these disorders and to restore injured people back to a healthy lifestyle.

Listen in as he discusses the advantages of ultrasound-guided injections.

## Transcription

**Melanie Cole (Host):** According to the American Academy of Orthopedic Surgeons, osteoarthritis is one of the leading causes of disability in the United States. It develops slowly and the pain it causes worsens over time. Although there's no cure for osteoarthritis, there are many treatment options available to help people manage pain and stay active. When oral medications do not relieve pain but you're not to the point of pursuing surgery, ultrasound guided injections may help. My guest today is Dr. Kyle Smoot. He's a primary care sports medicine physician at UK Healthcare. Welcome to the show. What are some of the most common injuries and things that you see that cause people pain? Why do they come to see you?

**Dr. Kyle Smoot (Guest):** Thanks for having me. Folks tend to see me for a variety of reasons, including acute injuries that they've suffered while trying to be active with their sport of choice – whether that be running or playing club sports or any organized sport – and other folks come to see me because it will gradually come on doing a variety of activities, including just their activities of daily living and activities involved with their work. That gradual onset of pain is also what we see in the cases of folks with osteoarthritis.

**Melanie:** What do you tell people generally is the first line of defense? If they're trying NSAIDS or ice or any of those kinds of

things, do you like them to try those things first?

**Dr. Smoot:** Absolutely. I think the first line, if you follow the national and international guidelines, include acetaminophen, or Tylenol first, and NSAIDS as well as physical therapy certainly has a role building strength in the right muscle groups depending on where you have and where you suffer with osteoarthritis is certainly the first line of treatment.

**Melanie:** When would it come to injections? Tell us about the different kinds that are available out there. What do they do for us?

**Dr. Smoot:** There are several injections indicated for osteoarthritis. I think, to speak to the first part of your question, is when does someone become a good candidate to consider the injections? I think the best candidate for injections are folks that have tried at least two oral medicines and continue to have pain that limits either their desired activities or activities that they have to do or required to do in order to work. Physical therapy should be involved at some point, either before, during or after and ongoing, as someone is considering an injection. Secondly, there's several injections available. One is called viscosupplementation, that's the general term, but it's several medications that are synthetic and made in a lab; a medicine just like we would prescribe by mouth, but it is in an injectable form that we can inject directly into different joints that have some evidence support improved pain and function in folks with osteoarthritis. Another injection we commonly offer is a corticosteroid, which also has been used for a much longer period of time and a lot of data supporting corticosteroids as a treatment option for folks with osteoarthritis in various areas of the body.

**Melanie:** Before we get into the viscosupplementation, let's talk about cortisone first, because as you said, it's been studied, been around a while, people have heard of it. How long does it work, how long does it take to work and how often can somebody can a cortisone injection?

**Dr. Smoot:** Good question. I'm often asked that question by patients, and unfortunately, I don't have a good answer because people have various responses to corticosteroid injections. Some of our better studies tell us that it really only can give you benefits for a couple of weeks, but several patients consistently tell us that they get a corticosteroid injection and they don't need another injection for several months, sometimes years. It also depends on how far along they are in the progression of their osteoarthritis and how long they'll get benefit. One thing that I'm finding in my own practice is that many of our injections, we do just there in the office without ultrasound guidance, but in folks that are starting to see a shortened duration of benefit and offering ultrasound guidance as the second line injection, they're seeing benefits that last a longer duration, a longer period of time.

**Melanie:** What's the difference?

**Dr. Smoot:** I think what we know from the literature is that we're more than accurate with the injection, even our highly trained specialists that do these injections we find sometimes don't get directly in the target joint or tissue when we do injections in the office. Without ultrasound guidance, we often refer to these as palpation guided injection where we palpate the patient and palpate the patient's anatomy and then direct the needle based on that palpation. With ultrasound guidance, we're able to accurately visualize the target structure – for example, if we're doing a hip joint or knee joint injection, we can visualize that joint and confirm with 100% when we can see that needle tip in the joint, we know that we're in the right spot. I think that's the difference in why we're seeing folks benefit from ultrasound guided injections for a long duration of time.

**Melanie:** Does insurance recognize the ultrasound guided injection? Is there a difference there?

**Dr. Smoot:** There is. There's a separate code to insurance carriers that recognize the ultrasound guided injection. They're typically bundled so there's one code for most of the injections that we offer.

**Melanie:** Speak about hyaluronic acid because people don't really know what this is, the viscosupplementation. What is the difference between that and cortisone?

**Dr. Smoot:** The cortisone has an anti-inflammatory effect and mechanism and there is certainly an anti-inflammatory mechanism with the hyaluronic acid medication, or viscosupplementation. I use those terms interchangeably, but in addition, at a molecular level, they form a molecular barrier within the joint to help protect the joints and I usually describe it to patients as a liquid cushioning inside the joint in addition to the smaller anti-inflammatory effect that we feel the medicines have.

**Melanie:** If somebody is getting one of these injections for the first time, do you see in your experience that it works best that first time and then gradually overtime doesn't work quite as well, or is that a myth?

**Dr. Smoot:** With a corticosteroid, I think that I've seen enough patients that over the course of time that the effect of the corticosteroid injections certainly does wane over time. I think the same could be said for the viscosupplementation, but we don't know if that has anything to do with the medicine just not working as well as it does with patients that just have progression of their osteoarthritis as they continue to try to be active in whatever they might be doing.

**Melanie:** Do they ask you if using injections is just really delaying inevitable surgery?

**Dr. Smoot:** I usually have frank conversations with patients that the injections we have available now are considered a bridge to surgery, but it also gives patients options in planning surgery, staving off surgery for months to years, and it gives patients that flexibility to plan a procedure to have – for example, a knee replacement or a joint replacement surgery. When it fits their life a little better, their current circumstances might have them

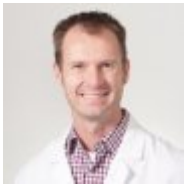
**Melanie:** What do you like them to do after an ultrasound guidance injection? Do they get to use that joint? Do you want them to not use it for a couple of days to let it sink in? Is that another myth?

**Dr. Smoot:** That's a good question. I typically recommend that people take it easy for five days. It doesn't mean that they can't work or can't leave the house for five days, but I typically don't have them do anything strenuous for five days. That would be my recommendation to allow the injection to settle in. Some patients a little sore particularly in the first 24 to 72 hours after an injection, whether it be corticosteroid or hyaluronic acid injections. To help reduce the infection risk, which is quite low but we want to reduce that risk as low as we can, I typically tell patients to not submerse the joint or the area that we injected for at least five days to help reduce that risk. After that five-day period, patients can gradually get back into anything that they were capable of doing before the injection or trying things that they'd like to do that perhaps they previously weren't able to do because of their pain.

**Melanie:** Wrap it up for us with your best advice about osteoarthritis, pain in people's joints that would cause them to come see you and when you might consider using ultrasound guided injections to help them.

**Dr. Smoot:** I think ultrasound guidance is something that I'm happy to offer to patients that have an interest. Some patients come in and they want all of their injections done from the get go from the time that I meet them, and I certainly understand that because we know that we're more accurate with ultrasound guidance, and that makes sense to me. As folks come in, we usually offer them palpation guided injections in the traditional sense, and if they start to report to a shorter duration of benefits, then we typically offer them an ultrasound guidance procedure prior to offering them consultation with one of our surgeons to see if we can sustain that prolonged benefit with better accuracy of the placement of the needle. I'll also say for those patients interesting in viscosupplementation, or hyaluronic acid, is if we don't place those substances directly into the joint that there is associated flare and pain that patients can experience. I do think that there's a role for ultrasound guided injections for viscosupplementation because of that concern.

**Melanie:** Thank you so much for being with us today. This is UK Healthcast with the University of Kentucky Healthcare. For more information, you can go to ukhealthcare.uky.edu. That's ukhealthcare.uky.edu. I'm Melanie Cole. Thanks so much for listening.



*M. Kyle Smoot, MD, PhD*

*Dr. Smoot is board certified by the American Board of Family Medicine in Family Medicine and Sports Medicine. He is interested in all aspects of sports medicine and has specific interests in musculoskeletal ultrasound and ultrasound-guided procedures.*

Learn more about Dr. Smoot »

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