Dr. Tom Shackleton - Good Recordkeeping Saves Dental Practices

Dr. O'Keefe: Today I'm delighted to welcome back Dr Tom Shackleton. And Tom is a GP dentist in Calgary, Alberta, who focuses much of his practice on dealing with pain and TMD-related to matters, and we're going to talk today about a very tricky type of a problem that could show up in any dental office any day of the week, and its neuropathic pain. Tom, can you just paint a picture for me of how I could expect to encounter neuropathic pain patients or patients in my practice?

Dr. Shackleton: It is a tricky problem and it's a very complicated problem. So, your typical patient will be female; 2 to 3 to 1 over male. Typically, we'll see it in the posterior maxilla. Often this person has a history of dental treatments, perhaps an implant placement, root canal extraction, any sort of a surgical procedures, something invasive. Something typically triggers this. It can be from trauma, it can be from infection or even an immune response to something, but the typical presentation we see is dental pain, root canal, extraction, surgery, implant placement. Those are the things we typically see. And this person will present into your office having this constant dull, low-grade pain. It's just always there. Sometimes it can get to 5 or 6 out of 10, it tends to hover in the 3 to 4, and it's just always there.

Dr. Shackleton: Just always kind of trickles along. And often they'll describe, you know, I have a little sensitivity with chewing, It's not overwhelming. They'll have tried multiple therapies. They've been on many antibiotics, they've been on steroids and non-steroids, they've taken opioids. They may say, well, opioids kind of cut my pain a little bit, but it's not dramatic, the pain is still always there. And then you'll take radiographs and you'll perform tests, and everything will look fine. You will see no evidence of infection. You won't see a lesion. The tissues looked normal. Probes will be normal. Everything responds appropriately to cold. And so, you'll come away scratching your head and your patient will insist, I have a tooth ache, I have a pain in my jaw, but everything will look normal. There's no demonstrable reason for their pain, but yet they're still having pain.

Dr. O'Keefe: I think you'd to just show us a few slides to walk through some aspects of diagnosis and treatment. Is that correct?

Dr. Shackleton: Yes, I have a little presentation that I think will help highlight some of these issues and maybe explain the approach to diagnosis and treatment. So, continuous or facial neuropathic pain, it's a challenging phenomenon that we as dentists deal with, knowingly or unknowingly. And so, it's gone by a lot of different names in the past and I think the most common name we've referred to is phantom tooth pain. I had a patient see me yesterday and he said, I feel like I have phantom limb pain, in my face, which I thought was an interesting comment. So, we talked a little bit about that. But again, we just see it's just this

constant dull ache, usually three to four out of 10 but can be much higher. Many of these patients, nothing works for them and, but they'll insist that it's a tooth ache.

Dr. Shackleton: They'll insist that they need a root canal or an extraction; if I just pull my tooth, it will feel better. And it can be very, very difficult to try to first of all diagnose these conditions, but second of all to convince your patient that you have an accurate diagnosis and that it's not in fact a tooth problem or gum problem, but that in fact it's a misfiring of your nerves telling your brain that you have pain in your jaw when you actually, or that there's disease in your jaw that's causing the pain when you know the nerve itself is the disease. And again, most of these people will come in with some sort of history of trauma, be that surgical or otherwise. And often this is what we see on radiographs; we'll see endodontic treatment, everything looks appropriate, we won't see evidence of pathology or lesion.

Dr. Shackleton: This panoramic image, reconstructed from a cone beam image, is typical of what we'll see; multiple root canals, multiple extractions, typically in one quadrant. Again, posterior maxilla is the most common area. Everything else, you know, there's some minor dental work here and there, but nothing dramatic. But everything seems to be happening only in one quadrant. That's pretty typical. And again, so this is a diagnosis of exclusion because there's no real gold standard diagnostic test for neuropathic pain. We have to rule out dental pathology, we have to rule out systemic pathology. So, once we've done that, so we do a proper endodontic testing, maybe get a consultation with some colleagues, and the most common test we'll do is just topical benzocaine. We dry the area; put some topical in there; time it for 3 minutes; have the person tell us has your pain reduced?

Dr. Shackleton: You can ask them to give you a number, 0 to 10. You can use a line and have them strike off along the way where their pain is. And then we do it for 3 minutes and then we do it again at 6 minutes. So, we re-isolate the area, reapply some more benzocaine and then do it again at 9 minutes. And after this point we want to find out has this reduced your pain? Has it partially reduced your pain? Has it had no effect on your pain? If it completely reduces their pain, then we can assume that the pain is peripherally sensitized. If there's been a partial reduction in their pain, perhaps there's peripheral sensitization and central sensitization. And if the person says this has had no effect on my pain, then we can assume it's primarily centrally sensitized pain. Treatment is often two pronged.

Dr. Shackleton: Again, looking at that peripherally sensitized pain we'll often use topical benzocaine in Orabase paste because it's thick and viscous. People will often use over-the-counter benzocaine formulations. The problem is, the vehicle that it's carried in is really watery and it will go down their throat, it will go everywhere.

It's also best to place it in a stent. It's basically a modified Essix appliance that just holds the medication in place. Comfort is key. We have to make sure that this is comfortable. You can mix in other medications; gabapentin, doxepin, ketamine, or capsaicin. Ketamine requires a triplicate prescription. So, and these are all being used off-label, but they're excellent medications to help manage this condition. Also, because many of these people will have some centrally sensitized component, many of them we'll prescribe gabapentin, pregabalin, amitriptyline, nortriptyline, duloxetine. Things like carbamazepine and oxcarbazepine, which are typically used for trigeminal neuralgia can work for this condition, but the side effects tend to be a bit too much for most patients to handle. So, we tend to stick with things that are a little more user friendly, like gabapentin or pregabalin.

New Speaker: Again, like my good friend Dr Jack Broussard says we share the risk and make sure the wealth, meaning include your community. Because sometimes as we get into the weeds with these cases, we can get lost and just not really sure. And because the patient will always come in and tell you, I know it's a tooth pain, I know it's a tooth pain, are you sure I don't need a root canal? Are you sure we shouldn't be extracting this tooth? And so, to stay that course, you will begin to question yourself from time to time. So again, having somebody else to give an opinion, does the root kind of look okay? Should we may be removed the tooth? Is there a periodontal problem? And I think if we do that, we'll always be rowing in the same direction and providing the best care for the people who come into our office. Some additional sources: these are both excellent papers and really, I think this picture typifies our approach to these patients. We have to be a calming influence because they're going to come in and be typically very agitated. So, you just keep them calm.

Dr. O'Keefe: Tom, just a couple of things that have peaked my attention in your presentation and in the first introduction. The first thing is, you know, describe to me across the typical circle of care, who are the practitioners that are part of that community that you talk about?

Dr. Shackleton: Well, I mean, there are several people who you can draw on as a resource for this, any oral medicine specialist or practitioner. I'm part of that circle. Oral surgeons frequently get involved in these cases. The patient's physician, if they're comfortable managing pain. Not all physicians are comfortable managing pain – some are, some are not. Often, if a case is complicated and not responding a neurologist is who you want to rely on. And I think that's really a pretty good community, if you can have that community, but I will say, if you're curious about was there an implant placement, was their root canal involving an endodontist or a periodontist, again, back to the oral surgeon, that's really the community I think you want to focus with.

Dr. O'Keefe: That brings up another point that struck me. It hit me that you hinted at that there might be some sort of a triggering factor, something like trauma or infection that in some way alters their perception of pain. Could you just respond to that as an issue?

Dr. Shackleton: Sure. The proposed mechanism for these folks is it's a deafferentation problem, and what that means is their afferent nerves or their pain fibres have been damaged. They've been cut through surgery, they've been ripped apart through endo or an extraction or a periodontal procedure, or they've been damaged through infection, whether it's virus or bacteria, it can be direct trauma to the jaw, airbag blows up in their face. So, we always are looking for what was the precipitating event. Again, typically it's dental, not always. So, when we figure this out, that there was this event and usually there's about a two- to three-week lag after this. The nerve that's been damaged after root canal, after an extraction, will typically heal fine. You know, the person has a root canal, they're okay, they may have pain for a couple of days, they go home. They have an extraction, they may have pain for a few days and the nerve heals and they go home.

Dr. Shackleton: But because of sort of a complex chemical soup that goes on, the nerve can heal in aberrant fashion and actually sprout these little twigs that start talking to each other and they'll start sending pain signals to the brain. It's a self initiating system and starts pain signals to the brain, not because of an external disease, not because of infection, not because of anything else, but because the nerve just starts spontaneously firing and telling the brain, and the brain, you know, our cortex is used to perceiving the information it receives. The end. Which is like phantom leg syndrome or phantom limb. If you have your leg cut off, your brain, you know, on many levels it doesn't understand that the leg's not there, all it knows is the neural input is telling it that there's pain and the same thing is happening in our jaw. Even if the tooth is still there and the treatment was entirely appropriate, it will just feel like there's this ongoing pain. So, deafferentation.

Dr. O'Keefe: So, let's just wrap it up, Tom. Recap for me what you think are the key points for me as a GP to retain about neuropathic pain and dealing with neuropathic pain patients.

Dr. Shackleton: Sure. I think really the greatest take home messages is if we see somebody who comes in reporting pain that just doesn't quite make sense, you know, from a diagnostic standpoint, things aren't quite adding up. They're complaining of sensitivity, yet they've either had treatment that looks appropriate, you know, they've had another opinion and somebody says this root canal looks fine, all the canals were treated appropriately, or the infection has resolved, or there even was an infection six months ago and that seems to have resolved but there's that persistent pain.

Dr. Shackleton: If things just aren't quite adding up, don't rush to extraction. Don't rush to taking things out. Maybe take 10 minutes in your chair, put some topical benzocaine on their gum and do a test and see if that resolves their pain. Because if it is neuropathic, it often will resolve their pain. If it's another pain symptom or another pain syndrome, it may not. So, I would just proceed with caution and don't rush to just extracting a tooth. Or if things just don't add up, maybe get the opinions of some colleagues in your area.

Dr. O'Keefe: So, look and look again before you leap.

Dr. Shackleton: Really that's, that's the take home message.

Dr. O'Keefe: Dr. Tom Shackleton it's always a great pleasure to welcome you here on Oasis.

Dr. Shackleton: Thank you. Always my pleasure as well.