

Hi, I'm Dr. Randale Sechrest your host for eOrthopod.tv.

Today we're once again talking with Dr. Neal Blitz. Dr. Blitz is the chief of foot surgery at Bronx Lebanon Hospital in New York. The office for his private practice is located at 56 and Park Avenue in Manhattan.

Dr. Blitz completed training his Swedish Hospital in Seattle WA. From there he completed an Acta Orthopaedica Fellowship in Dresden, Germany. Dr. Blitz is a frequent contributor to the Huffington Post in the area of foot health, has authored numerous articles in the peer review literature.

Dr. Blitz Thank you for joining us today on eOrthopod.tv Remote.

Thank you so much it's a pleasure to be here

Dr. Blitz today we'll be talking about Plantar Plate Tears in the foot. Can you begin by describing a bit about this structure in the foot called the plantar plate.

The plantar plate is a ligament that is located on the ball of the foot located right beneath the second toe, now every toe has a plantar plate associated with it but most commonly people injure or tear the plantar plate of the second toe. Again it's located on the ball of the ball of the foot right beneath the second toe which would be right here if this were your foot. Now when the plantar plate itself ruptures it causes a condition called the hammertoe which is a buckled toe and that toe in and of itself can be painful both on the top of the toe and also on the ball of the foot. And that pain could cause swelling, inflammation, and also when the toe becomes buckled it can cause calluses and corns on the top and the bottom of the foot. Some people develop a plantar plate from a traumatic injury such as a misstep or spraining their toe. Other people, however, develop a plantar plate injuries because they have an associated bunion or a bunion on their foot. And the bunion puts pressure on the second toe region and that causes the ligament to rupture over time. Now that's more common than a traumatic injury.

What type of symptoms does a plantar plate cause?

So the symptoms of a plantar plate rupture vary. For the most part it can cause a lot of pain and swelling in the ball of the foot. Now when you have an advanced rupture of the plantar plate or more of a chronic problem you can get definitely a lot of inflammation but you also can get a deformity of the toe where the toe becomes buckled again and/or becomes buckled. And that in and of itself could cause problems because the toe could rub up against the shoe and can cause corns and calluses.

When you evaluate a patient that you suspect has a plantar plate tear, how do you begin this process?

When I evaluate patients with a suspected plantar plate tear the first thing that I do is look at them clinically. And what does that mean? I look at the foot I evaluate the toe to see if it's just in general in the right position. Sometimes a chronic plantar plate tear can result in the toe being pushed over or crossed over another toe. So that's the first thing, just how it looks in general. The second thing that we do clinically is we evaluate the stability of the toe and there's a special test where we pull on the toe and we sort of maneuver the toe and we see if the toe is unstable.

Do you normally order any specialized tests such as an MRI?

When it comes to diagnosing a plantar plate tear there is of course the clinical aspect of it and there is also the radiographic aspect. So typically we order X-Rays to just see the overall structure of the foot.

And to see if there's a bunion that's present, the alignment of the bones. So that's the first thing. The second thing that we do a lot of times is after the clinical exam is we'll think about an additional study. Now most commonly an MRI is ordered because that evaluates your soft tissue. but the problem with an MRI it's difficult to sometimes tell the plantar plate structure itself when it's torn because the MRI can't see that much detail but sometimes it can. It can tell you if there's a frank rupture but it's the smaller tears that are the more difficult. In that situation what I often recommend is something called an arthrogram. And what an arthrogram is, is it's a semi-invasive procedure where a needle is inserted into the joint with a radiographic dye and we fill up the joint with this radiographic fluid and we see what leaks out. So if any fluid leaks out of the joint which is a closed space that tells us that the plantar plate has ruptured. And this is done under a live X-Ray.

When you have finished your diagnostic workup and suspect that the patient does have a plantar plate tear, what are your initial recommendations for treatment?

Once I'm sure a patient has a plantar plate tear I first have to decide how severe I think the plantar plate tear is. Now when you have really severe plantar plate tears in a chronic situation that's treated very differently than an acute plantar plate tear. We'll start off with the treatment recommendation for acute tears. Acute tears, the toe itself is not deformed, there's no hammertoe, the ligament was ruptured on the bottom of the foot. There we go ahead and tape the toe and we put the patient in a cast or a walking boot or something to try and let the ligament heal. On the other hand, when you have patients with a chronic tear the toe itself can be deformed and be hammered and have what's called a hammertoe which I have discussed before. In that situation you're really not going to reverse the tear because it's already torn. And you're not going to be able to let it heal because it's already too stretched out.

Do you recommend any types of orthotics or special shoes as a part of the conservative treatment of plantar plate tears?

Patients with plantar plate tears that are chronic in nature can definitely benefit from a try-over orthotics and what you want to do is take pressure off the ball of the foot and really stabilize the arch. So that the foot is functioning in a better position. now if there is an associated hammertoe it's hard to say if the orthotics will be able to cure the hammertoe because they really won't. But they may be able to cure the pain associated with that hammertoe.

How long will you continue conservative treatment before considering surgical options?

We always try conservative treatment before we consider surgery. Now in an acute tear where the ligament itself is ruptured in a very short period of time and there are no problems with the toe being deformed there we'll go ahead and put somebody in a cast for about 6 weeks to 12 weeks depending on the severity of the injury these ligaments usually heal in about 8 weeks in general, especially if you're off of it. Now if you have a chronic tear we'll try the conservative treatment for about 3 to 6 months depending on the tear itself and the structure of the foot.

And when do you consider conservative treatment a failure?

I consider conservative treatment failed if we've tried again some period of immobilization orthotics or taping for about 6 weeks to 3 months and if the patient still has pain then I'll consider doing surgery.

Can you describe the situations where you would consider surgical options?

Plantar plate tears in general can be very difficult to heal and part of the reason for that the plantar plate is a thick ligament that doesn't itself have a lot of blood supply so they often go on to some sort of a surgical deviation if not in the short term in the long term. That's just the nature of the injury. Now I will consider surgery if the toe is highly unstable and there is an associated bunion with that toe then I'll often recommend fixing the bunion and fixing the plantar plate tear at the same time. Now, I'll often recommend surgery for acute tears if the toe's grossly unstable or just very unstable.

Can you describe your approach to the surgical treatment of plantar plate tears?

The surgical treatment for plantar plate tears can be done a variety of ways. It can either be done approached from the top of the foot or the bottom of the foot. Now remember, a plantar plate tear is located on the bottom of the foot. I typically recommend to my patients that the plantar plate be directly visualized so I recommend coming in from the bottom where an incision is made on the bottom of the foot and we repair the plantar plate directly. I'm able to visualize everything. That's typically what I recommend because each plantar plate tear is different. Some are really small and some can be very large and complex so it's good to visualize that directly. Sometimes the plantar plate can be repaired from the top. And this is, at least in my opinion, best done if you're having other work done on the top of the foot. Because the bone sometimes needs to be shortened to get to that plantar plate, but the good news is when you have that approach done and a lot of times and you've got a particular structural problem of the foot and those bones need to be shortened anyway so you can access that plantar plate.

What should I expect after surgery? For example, will I be going home the same day? Will I be on crutches or have other restrictions?

Plantar plate surgery generally out patient surgery which means you go home the same day. Typically when the plantar plate is fixed patients go home with crutches and a cast and the reason for that is the plantar plate is a very delicate structure on the bottom of the foot. So if you walk on the foot after the surgery the repair itself can rip again.

How long does it typically take to recover from this type of surgery?

It takes about 6-8 weeks for the ligament itself to heal. And then probably about 3 months for physical therapy and for the toe to become strong. So I would say it's usually around 3 months before you're running around again pretty comfortably.

We should probably talk a bit about complications. What are the most common complications you worry about as a surgeon performing these procedures?

From the surgical standpoint the complications that I am most concerned about is re-rupture of the plantar plate. That isn't necessarily a complication but it is a possibility in the future. So is which why we pay specific attention to keeping the patients off their foot after the surgery to allow the plantar plate to heal and give it as much time as possible.

Dr. Blitz, this has been an excellent discussion on plantar plate tears. As we close this discussion, is there anything that you feel patients should know that we have failed to discuss up to this point?

When it comes to plantar plate tears I recommend that most patients do the research. Now the main thing with plantar plate tears is that patients get focused on the plantar plate tear itself and they forget about the problems that caused the plantar plate tear in the first place. So if you have an associated

bunion in that same foot that likely had a lot to do with the plantar plate problem so I usually recommend that you fix that problem at the same time. Again every foot is different but that's my best advise I can give anybody that's thinking about plantar plate surgery.

Dr. Blitz I want to thank you for joining us here on eOrthopod.tv remote. I look forward to further discussions concerning reconstructive surgery of the foot in the future. Thank you very much.

Thank you so much.