"A Focused Approach to Technology in Healthcare with Dr. Babak Baravarian of University Foot & Ankle Institute"

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KEY POINTS

- The practice utilizes weight bearing CT (WBCT) imaging as a differentiating marketing tool by offering patients a state-of-the-art 3D view of their feet.
- All fusions are assessed post-operatively at 6 weeks via WBCT, as it is more accurate than plain radiographs for determining if union has occurred.
- For flatfoot cases, the practice will take two CT scans, one with the foot in normal position and one with it realigned in perfect position, to properly plan the correction.

PODCAST GUEST

Dr. Babak Baravarian, DPM FACFAS

Dr. Baravarian is a director at University Foot and Ankle Institute in Beverly Hills, California and an assistant professor at the UCLA School of Medicine.

"Over the course of the past 15 years or so, we've grown geographically into multiple locations. We have 10 locations with nine doctors. We have our own physical therapy, our own surgery center, our own MRI systems and our own Weight Bearing CT Scanner. Our goal is to be able to provide completely incorporated care for the patient so when he or she comes in, we take care of them from start to finish. There's no need for them to go to an outside facility where we don't have control of the quality of care.

We've tried to make sure that along the way we've incorporated all the necessary technology, staffing, and ancillary services so that again the patient care is at the highest level possible. At no point have we ever looked at the financial aspect of what's right or wrong. I mean, we have plenty of people looking at the numbers, but I don't ever look to see what pays what. I don't ever try to treat patients according to whether it would be financially better.

Our purchasing of a pedCAT was similar in the sense that we didn't buy the pedCAT sitting down and saying, 'Okay, how many CT scans are we going to do and what's our return on investment?' We knew that the pedCAT was going to be a significant benefit to patients. And we also knew that we're going to do enough scans where it's not a complete loss for us. But that was it.

If any doctors think that they can continue to practice medicine without considering themselves a business that requires marketing, you're fooling yourself. From a marketing standpoint, a weight bearing CT scanner that does 3D renderings of the foot sets you apart. A patient who comes into your office and can see 3D images of their foot being rotated in multiple planes, they understand what's wrong with their foot. They're seeing imagery that's never been seen by them before. It just takes your practice to another level.

There are certain parts of practice where our regimen has completely changed where we would do things with what I consider halfway blind. Now we're much more aware of exactly what's happening because of the 3D CT. Within any community, you're going to have the naysayer who says, 'Well, you know, I can honestly on a regular X-ray be able to tell you what is there anyway.' You're either a better doctor than I am or you're fooling yourself into thinking you're a better doctor than I am. But for us, the important thing is that you want to have as much information as possible when you're taking care of the patient."

FLATFOOT RECONSTRUCTIONS

"One pathology where I think 3D CT is a must is flatfoot reconstructions. Being able to see the structure of the foot in three dimensions and use that imagery along with the pedCAT's digitally reconstructed radiographs and long leg X-rays really allows you to be able to see where the deformity is. Is there a valgus of the heel? Is there a valgus of the ankle? Is there a valgus of the tibia? Is there elevation of the first ray? Is there a sag at the navicular cuneiform joint?"

"Sometimes we will do two CT scans, and we don't care if we don't get paid for the second one. But we'll do a CT with the foot in its normal plane and then we'll realign the foot into the perfect position and then repeat the CT to see what the planes of correction are. We assess, does the plane of correction seem to be more sagittal, coronal? And that helps with making the right surgical decisions."

HALLUX RIGIDUS

The one that has been a game-changer for me - hallux rigidus. For years, we would look at the joint and say, "Well, this is a Grade 2. There's some spurring, but the joint itself looks pretty good." I would go in and say, "Okay, I'm going to go do a cheilectomy and I'm going to do an osteotomy to shorten the metatarsal."

And what would happen is when you would go into surgery, you'd say, "Oh, I didn't know there was this large defect in the middle of the joint." Or, "Oh, I didn't know there was this general arthritic condition in the joint." Now we will get a pre-operative CT to understand what is happening in the midfoot. Is there a laxity at the metatarsal cuneiform joint that's allowing the metatarsal to elevate? Is there a chondral defect in the metatarsal head that we need to deal with? Are the arthritic changes in the sesamoid more than what you're seeing on a radiograph? That 3D imaging gives us a little more confidence with our game plan, which then speeds up the surgery.

FUSION ASSESSMENT

If I do a fusion on a patient, whether it's a first metatarsophalangeal fusion, first metatarsal-cuneiform fusion, a subtalar fusion, ankle fusion, any joint - I don't care if the insurance doesn't pay - we will get a CT scan prior to allowing them to become significantly weight bearing. If I do a first MPJ fusion or a lapidus, I allow my patients to pretty much immediately weight bear 10 percent. By about three weeks, there may 50 - 60 percent weight bearing.

But at that five or six-week point where the X-Ray looks pretty good, and I feel like they are ready to go to the next step of full weight bearing, I get a CT scan. It allows me to have the confidence to say, "Okay, you know what? These joints at least partially fused and it's ready for progression to the next step." Or, "You know what? This joint is not quite ready yet. Okay, what's missing? Are you taking vitamin D? Are you being appropriate with the amount of weight bearing?
Is there something missing that we need to be careful about so that they don't end up with a non-union?" And it's changed the way our results have come up, which has been very helpful.

As we started to use the CT and do more of it, we started to realize that with X-Ray, you're looking at a 3D object in two dimensions. So you don't know whether that line of fusion you're seeing is across the entire joint or is only 10 percent of the joint. We've definitely been able to speed up our recovery time and I think we've avoided non-unions in certain patients because we realized that they're not appropriately fused at a time where their radiographs showed them being appropriately fused. Our rate of non-union has become maybe one percent. And I think part of that has been the pedCAT.

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