

[00:00:00.170]  
Music Playing

[00:00:03.650] - Marc Rothermich, M.D.

The shoulder is arguably the most complicated joint in the body. Knee replacement patients are much more straightforward to treat postoperatively. We look to regain flexion and extension, and that's pretty much it. For the shoulder, it's much more complicated. We have flexion, extension, abduction, adduction, internal and external rotation.

[00:00:22.950] - Marc Rothermich, M.D.

I joked before surgery that my part of this is easy. My part of this is about an hour. The challenge is on the physical therapist side and on the patient's side to push through the pain the first couple of weeks, to work on range of motion until we get to six weeks, and then really to push forward with strengthening beyond that. Our assessment right now on shoulder outcomes is based, unfortunately, primarily on a subjective assessment from the patient, their own perception of how they're doing, and the physical therapists. That can be a real challenge when you have 50 different physical therapists taking care of your patients.

[00:00:55.650] - Marc Rothermich, M.D.

Harmony is a robot that's been developed for the treatment of stroke patients in shoulder range of motion that can be applied now in an orthopedic setting to drive forward objectifying data for patient outcomes in terms of shoulder range of motion and strength. What's exciting about this technology is it's that first opportunity to say subjective assessments are not good enough. I won't accept moving forward, that a patient has four out of five strength or has a certain subjective range of motion assessment. What I envision moving forward is everything is objectified. I want to be able to look at a chart before I go and see a patient at six weeks and to see they're in the ninetieth percentile for motion.

[00:01:41.640] - Marc Rothermich, M.D.

They're in the 70th percentile for strength. They might be in the 20th percentile for pain control. And that gives me objective data on the motion and the strength side to be able to really tell how they're doing before I even meet the patient. And it's different for different subsets of patients. Well, it's one thing that's really exciting about harmony is the different possible applications from the weekend warriors, the grandma's recovering from rotator cuff surgery, and then the elite athlete population as well.

[00:02:09.200] - Marc Rothermich, M.D.

The era of subjective physical therapy assessments is ending. Objective data drives reimbursement, and so that's something that is relevant for physicians. It's certainly relevant for insurance companies and for patients who are paying for these services. The market for rehabbing shoulder injuries continues to grow and expand each year. The goal of Harmony is not to automate physical therapy.

[00:02:36.110] - Marc Rothermich, M.D.

You cannot replace a good physical therapist, but I think any good physical therapist would appreciate an additional tool to have objective data to assess how their patient is recovering. I think there's something special here. I think there's something with this product that will change the way we rehab our shoulder patients.