

L. ANDREW

KOMEN:

The patient injured her finger in May of 2015 with a knife. And you see the cut before. And now we're looking at the wound that's opened up. The clot's been removed. And this is the digital nerve, which was cut along with the flexor tendon.

The flexor tendon that was cut was the flexor digitorum profundus or the terminal tendon to the index finger that pulls the finger down into the palm. And this nerve is on the little finger side of the index finger that provides sensation to the tip of the finger. If you don't repair this nerve, it can be painful. And you'll have an area in the fingertip that is numb and can be injured.

If you look in the middle of the wound, you see a blue suture. And if you look at the tip of the finger, you see two blue sutures. The suture has been placed in the tendon back towards the wrist and then passed through the tendon out underneath the nail. And then with sutures placed through the nail, it's going to be pulled back together and then tied over a button with a piece of felt to hold it in place during the recovery and healing process.

The sutures that are being placed are micro suture. These are a 9.0 suture, which is very small. And these are about 1/4 the size of a human hair. And they're being tied with micro instruments. So you can see the two ends of the nerves being approximated. And then the nerve will recover.

So there are zones of injury in the finger. They start on the tip, where there's one tendon in the middle-- which is called zone two, where the most complicated injuries occur-- and then in the palm and at the wrist. Here's the post-operative dressing holding the wrist bent down towards the floor to protect the tendon.

And here we see the pull-out button, which is a piece of felt and a button just like you would have on a shirt with a small blue suture, which is called PROLENE. And we use this PROLENE because it's very smooth on the outside and will glide. So we can untie this and then just pull it out at six weeks once the tendon is healed.

Here, we see a split that's fabricated by the occupational therapist with the wrist in slight flexion and the finger flexed to protect the tendon during healing and when therapy and range of motion is not being performed. The therapy that we do is both an active and passive process where the patient is instructed to move their fingers. And the therapist may move the finger.

Here, we see the occupational therapist doing some scar massage, sort of loosening up the finger in preparation for the range of motion. And here we see the patient-- again, the pull-out button is still in place-- using a peg board to help with both sensory reeducation as well as fine motor skills and motion of the tendon itself.

But here is the finger after the button has been removed. It actually has healed very nicely. There is a small amount of atrophy, which we would expect just from the injury. And here we see the finger from a different perspective. And you can see that there's a slight loss of the creases over the distal joint just proximal to the nail bed or back towards the wrist from the nail bed.

And this is early in the healing, and there's still a little bit of a residual bend in the finger. When we look at the palm side of the finger, it also has a slight bend in it. And here we see early in the recovery process that she can flex your fingers but can't quite get a finger to the palm, which we would like to see the patient get their finger all the way down to the palm. When she straightens her finger, there's still a mild, residual tightness of the tendon, which will stretch out over time. It sometimes doesn't always go away but will continue to get better.

So, in summary, this patient to cut the end of her index finger on her non-dominant, left hand with a knife. The injury cut the flexor tendon, which pulls the finger down into the palm, as well as the nerve, which provides feeling on the tip of the finger. It was cleaned and closed in the emergency room. And about 10 days later a primary repair of the tendon and nerve were performed by Doctor Li using operating microscope and magnification.

Post operatively, she's done well. She now can get her finger to her palm, has good sensation. And the key to this recovery was, one, the emergent care performed in the emergency room at Davie and the secondary cleansing of the wound and primary repair of the tendon and nerve and, most importantly, the expert therapy and patient compliance in following the rehab protocol, which resulted in the finger function that you now see.