



Shepherd Center

What is Tendon Transfer Surgery?

Tendon transfer surgery is a type of surgery completed on the elbow or hand in order to improve or restore movement that may be lost due to paralysis or injury. A tendon attaches muscle to bones. In these procedures, a functioning tendon is detached from its original attachment and re-sewn into a different tendon. After the tendon transfer, when the muscle fires it will produce a different movement, depending on where it has been inserted.

Tendon Transfer Program

Tendon transfer surgery may be appropriate for individuals with tetraplegia or other injuries that have resulted in paralysis of the arm or hand. There are a variety of procedures that may be appropriate depending on type of injury, strength and sensation of intact muscles, and goals of the individual. Microsurgical techniques are used to improve arm function by completing one or more of the following procedures:

Lateral Pinch of the Thumb

The active lateral pinch provides the ability to secure small objects between the thumb and index finger. The active lateral pinch will enhance activities of daily living function including self catheterization, writing, feeding, and other fine motor grasping activities.

Elbow Extension (Bicep transfer to the Triceps)

The purpose of elbow extension transfer is to allow the individual to straighten the elbow. Active elbow extension will allow the individual to reach overhead and out in front, improve pressure relief techniques, improve wheelchair propulsion on level and uneven surfaces, enhance transfer skills, and improve activities of daily living function.

Lateral Pinch of the Thumb & Hand Grip

The active gross finger flexion (grip) will create an effective hook style hand grasp. The combination of both pinching and grasping will enhance activities of daily living function including grasping for propulsion of manual wheelchair, opening doorknobs, and grasping various sized objects. The active lateral pinch will enhance functions including writing, feeding, and self-catheterization. The combination of both pinch and grip will enhance many fine motor-grasping activities.

Rehabilitation after Tendon Transfers:

The individual's arm is immobilized for the first 3-4 weeks after the tendon transfer surgery. After the cast is removed, occupational or physical therapy will begin with a focus on, muscle re-education (active movement of the transferred tendon), strengthening, and utilization of the new movement with activities of daily living. Therapy typically consists of treatment 3 times a week for anywhere between 6-12 weeks, depending on what procedure was elected.