



## **What is Tendon Transfer Surgery?**

Tendon transfer surgery is a type of surgery performed on the elbow or hand to improve or restore movement that may be lost because of 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 people 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 function for activities of daily living, including self-catheterization, writing, feeding and other fine-motor grasping activities.

#### **Elbow Extension (Bicep Transfer to the Triceps)**

Elbow extension transfer allows the patient 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 function for activities of daily living.

#### **Lateral Pinch of the Thumb and 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 function for activities of daily living, including grasping for propulsion of a 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 three to four 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 three times a week for anywhere between six to 12 weeks, depending on what procedure was elected.

## **More Information**

For more information on services available in the Upper Extremity Clinic, contact case manager Velma Moore at [velma\\_moore@shepherd.org](mailto:velma_moore@shepherd.org) or 404-350-3102.