



Shoulder Release and External Rotation Tendon Transfer Surgery

An external rotation tendon transfer surgery can improve the function of your child's shoulder joint and help increase your child's ability to lift their arm to their head and mouth.



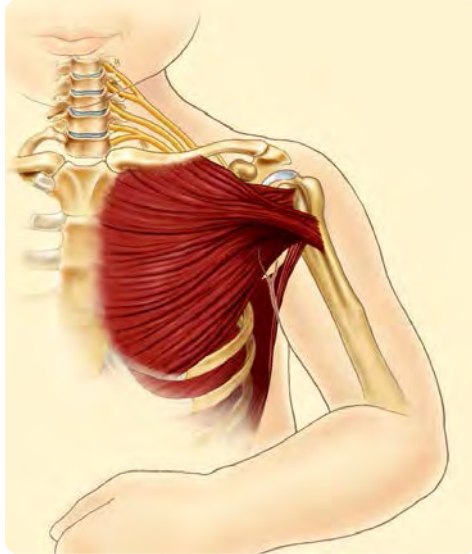
Why has surgery been offered for my child?

External rotation tendon transfer surgery can improve your child's ability to reach overhead, comb hair, and bring their hand to their mouth. Also, there may be problems with your child's shoulder joint that can be improved by surgery.

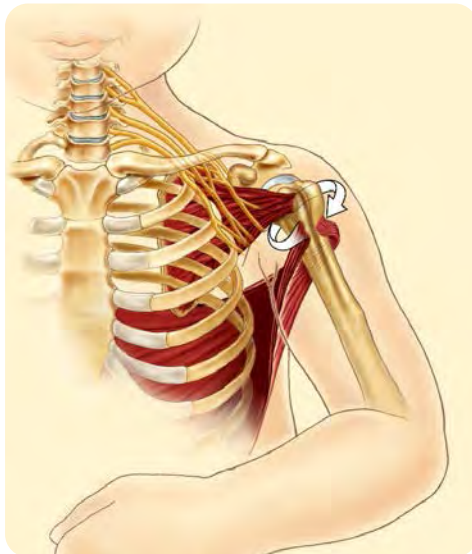
What happens in the surgery?

If your child has a tight shoulder, the first part of the surgery will loosen the shoulder joint so it can move more. The second part repositions a muscle that brings the arm one way and uses it to bring the arm the other way. The muscle acts through a tendon and that is why this is called a tendon transfer. Both parts of the surgery are often done together, but your surgeon might do them in 2 separate surgeries depending on what is best for your child.

External Rotation Tendon Transfer Surgery



1. Muscles that twist the arm in (internal rotation)



2. Release of one of the internal rotation muscles and transfer to the other side of the shoulder)



3. The transferred muscle now working to twist the arm out (external rotation)

If a muscle is used for the tendon transfer, how will that affect my child's arm?

Your child's arm may be weaker from the tendon transfer. However, there are usually nearby muscles that can do the same job as the muscle that was moved. Generally, the new movement that the tendon transfer allows is much better than the small loss in movement that the muscle used to do.

Are there any side effects of surgery?

It may be more difficult for your child to reach to their belly-button area after the tendon transfer. Generally, this is a good trade-off for increasing your child's ability to reach outwards (external rotation). All surgeries have risks. Your surgical team will discuss these with you.

Will my child be in a cast after surgery?

After surgery your child will be in a cast or a splint that holds their arm out to the side or above their head. This allows the tendon transfer to heal.

What kind of therapy will be needed after surgery?

Your child will need regular physical or occupational therapy appointments to help get the most out of surgery. Therapy appointments start when the cast is removed. Most children need therapy at least once a week. Therapy helps slowly stretch and strengthen your child's arm, and helps them use the transferred tendons in a new way.

What should I expect after my child's surgery?

For the first 4 to 6 weeks, your child will wear a cast or splint at all times, day and night. After 4 to 6 weeks, your child will slowly transition from a cast or a splint to normal activity by 12 weeks.

Your child will need special care, including taking care of their cast, bathing, dressing and physical or occupational therapy until they can return to their normal activities. If your child uses a car seat, they may have difficulty fitting in it with their cast or splint. They may need to use a different car seat with a wide back, which can be provided through the hospital.

How do I take care of my child's cast or splint?

Keep your child's cast or splint clean and dry. Your child can only take sponge baths using a washcloth to bathe so their cast does not get wet. No bathing or swimming until the cast or splint is removed. If your child's cast gets dirty, you can clean it with a solution made of equal parts white vinegar and water. Use a damp cloth (not dripping wet). Allow the cast to dry after cleaning. You can use a hair dryer set on cool (do not use heat) to help it dry faster.

Check your child's cast or splint often for any roughness or sharp edges. Protect your child's skin around the edges of the cast or splint with foam pads or moleskin. It is OK to decorate the cast, but it is important to leave a lot of space between drawings. This allows the cast to breathe, which is good for skin underneath it.

How do I lift or move my child with a cast?

Help your child change positions every few hours during the day. Before you go home, your nurse will show you how to turn and position your child if they can't do it on their own. **Never lift your child by the cast.** Scoop toddlers up, supporting their back and bottom.

How will I transport my child in the car?

If your child uses a car seat, having a cast or a splint can make it difficult for your child to fit properly, especially if it has narrow or deep sides. Riding safely in the car is very important. When your child has a cast or a splint is no exception. We will help you make a plan before surgery.

A car seat that has low-profile sides or a wide back works well for most children. This allows your child's casted arm to stick out over the side. If you need help getting a car seat like this, your nurse may refer you to our car seat program in the Family Resource Center. Plan ahead for your car seat needs before your surgery day. This allows you time to become familiar with a new seat, adjust it to fit your child and to properly install it into your vehicle.



How do I dress my child with a cast or splint?

Clothes can be worn over your child's cast or splint. Try Velcro and snaps to adjust clothing.

What can I do to help my child with itching?

Itching is usually caused by moisture on the skin or a healing wound. It can help to use a hair dryer on a cool setting (do not use heat) to dry off the cast as much as possible. Do not use any objects for scratching under the cast or splint, like coat hangers or knitting needles. Instead, use a game or activity to distract your child until the itching stops. Talk with your doctor about using Benadryl to help with itching. Check with your healthcare provider before giving any type of medicine to your child.

After 4 to 6 weeks:

If your child was casted after the surgery, we will let you know when to return to Seattle Children's to have the cast removed. At that time, an occupational therapist will make a splint to support your child's arm away from their body.

How do I prepare my child for removing the cast?

- Children tend to feel secure with a cast. Losing this security, along with the noisy sound of the cast saw and the look of the cast room, can be scary. Help prepare your child by talking with them about what it is going to be like. You can pretend to remove the cast with a vacuum that has a hose attachment. Call the cast saw a vacuum, not a saw, to make it less scary.

How long will my child need to wear a splint?

- Your child will wear a splint until 12 weeks after surgery.
- At first, your child will wear the splint all day and night. After the cast is taken off, your child will spend one additional hour each day out of the splint. For example, the first day your child will remove the splint for 1 hour during the day. The second day, the splint will be removed for 2 hours. About 2 weeks after the cast is off, your child will wear the splint at night only.
- When the splint is off, your child may use their arm for gentle activities. Your child should not put weight on their arm, hang from their arm, lift heavy objects or participate in contact activities.
- Your child may start or re-start physical or occupational therapy after the cast is removed. Therapy will include gentle exercises. Perform gentle arm movements at home when the splint is off, as guided by your therapist. Do not perform aggressive stretches or strengthening exercises until instructed by your therapist.

After 12 weeks:

- After 12 weeks, your child will no longer need to wear the splint at night.
- Your child should continue in therapy for further stretching and strengthening.

To Learn More

- Brachial Plexus Clinic
206-987-2759
- Ask your child's
healthcare provider
- www.seattlechildrens.org

- You will return to clinic with your child 12 weeks after the surgery. At that visit, your child will be evaluated to see if they can return to full activity.

Free Interpreter Services

- In the hospital, ask your child's nurse.
- From outside the hospital, call the toll-free Family Interpreting Line 1-866-583-1527. Tell the interpreter the name or extension you need.

Seattle Children's offers interpreter services for Deaf, hard of hearing or non-English speaking patients, family members and legal representatives free of charge. Seattle Children's will make this information available in alternate formats upon request. Call the Family Resource Center at 206-987-2201.

This handout has been reviewed by clinical staff at Seattle Children's. However, your child's needs are unique. Before you act or rely upon this information, please talk with your child's healthcare provider.

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