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Plastic and Reconstructive Surgery

Tendon Transfer Surgery
for Spinal Cord Injury

WASHINGTON UNIVERSITY PHYSICIANS

Tendon transfer surgery is one of two types of surgery that can improve movement in the shoulders, arms, elbows, wrists and hands after cervical spinal cord injury (the other is nerve transfer surgery).

Effects of Spinal Cord Injury

- When cells in the spinal cord are injured, they cannot be regrown or repaired.
- In people with spinal cord injury, the nerves leaving the spinal cord above the level of injury continue to work. The person still has sensation and control over the muscles in that area.
- Nerves that leave the spinal cord below the level of injury are no longer connected to the brain, so there is no longer a signal from the brain to the nerve to the muscle to make it work.

Tendon Transfer Procedure

- A surgeon takes an extra working tendon from a muscle that can move and attaches it to one or more tendons that can't move. After the tendon heals, the working muscle can improve a movement that was lost.
- This surgery can help improve movements such as straightening the elbow and wrist, and opening and closing the hands. This may help people with spinal cord injuries complete daily activities more easily.

Those Who Can Benefit

- This procedure can help some people with cervical level spinal cord injury.
- The size of the injured area must be short.
- This surgery will not help people with C1-C4 level injuries who have no arm function.

Before Surgery

- Your doctor will check your joints to ensure they are not stiff.
- Physical, occupational and/or hand therapy must be arranged for after surgery.
- You must have a support system in place to help with daily activities after surgery.

Surgery and Recovery

- Surgery is done under general anesthesia. You will stay in the hospital overnight.
- A splint or cast is used to protect the tendon transfer while it heals. This must be worn for about two months.
- It is important to wear the cast or splint and not overdo it. Movement too early can lead to a tear of the tendon.
- Physical, occupational and/or hand therapy is needed to retrain and strengthen muscles, beginning about four weeks after surgery.
- You will have restrictions and will need help with self-care for months after surgery.
- Weight bearing activities and sports can be started about three months after surgery, depending on healing.
- Although tendon transfers can improve arm and hand movement, it will not return to the same level as before the injury.

Other Procedures

- Not everyone is a candidate for tendon transfer surgery.
- You may be a candidate for other procedures such as nerve transfers, joint fusion or anti-claw procedures.
- Your physician can help determine what option might be right for you.

