PROCEDURE

Tendon repair

Tendon repair is surgery to reconnect or reconstruct a torn tendon.

PURPOSE
Restore tendon continuity, movement, strength, and joint stability

PROCEDURE TYPE
Therapeutic surgery, open or minimally invasive

WHERE IT IS DONE
Operating theatre, often as day surgery

ANAESTHESIA
Local, regional, or general anaesthesia

HOW LONG IT TAKES
30 minutes-3 hours, longer for complex injuries

PREPARATION
Fasting and medication changes directed by the surgical team

RECOVERY
Same day or overnight; no driving until safely cleared

MAIN RISKS
Infection, stiffness, nerve injury, or repair failure

RESULTS
Repair confirmed during surgery; function assessed over months

Overview

A tendon is a strong band of tissue that connects muscle to bone. When a muscle contracts, the tendon transfers that force to move or steady a joint.

Tendon repair is surgery to reconnect a tendon that has been cut or torn. It may also be used to reconstruct a tendon that is badly damaged or has pulled away from bone.

Some repairs join the tendon ends with strong stitches. Others use anchors to attach the tendon to bone. If the tendon cannot be repaired directly, the surgeon may use a tendon graft or transfer. A graft uses tendon tissue to bridge a gap. A transfer redirects another working tendon to replace lost function.

The exact operation and recovery plan depend on the injured tendon, the type and age of the injury, and whether nearby nerves, blood vessels, bones, or skin are also damaged.

Why the procedure is performed

Tendon repair aims to restore movement, strength, or joint stability. It may be offered after:

The expected benefit differs by location. Repairing a hand tendon may restore finger movement. Repairing an Achilles tendon may improve push-off while walking. Shoulder or knee tendon repair may help restore strength and joint control.

Timing can matter, especially after a clean tendon cut. However, swelling, damaged skin, contamination, or other injuries may need attention before repair.

- A deep cut that divides a tendon
- A sudden tendon rupture during sport, work, or everyday activity
- A tendon pulling away from its attachment to bone
- Long-term tendon damage that has not improved with non-surgical treatment
- A previous repair that has stretched or torn again

Who should and should not have it

Tendon repair may be considered when a complete tear, major partial tear, or loss of tendon function is unlikely to recover adequately without surgery. Your usual activities, treatment goals, general health, and ability to complete rehabilitation are part of the decision.

Surgery is not needed for every tendon injury. Some partial tears and some complete ruptures can be treated with a brace, cast, or structured rehabilitation program. For selected Achilles tendon ruptures, for example, non-surgical functional rehabilitation may provide a suitable result.

Repair may be delayed if there is an active infection, severe swelling, unhealthy skin over the surgical site, or an uncontrolled medical problem that makes anaesthesia unsafe. A heavily contaminated wound may need cleaning and staged treatment.

Surgery may not be the right option when the risks outweigh the likely functional benefit. Poor blood flow, serious health problems, or an inability to protect the repair during rehabilitation can affect that balance. Chronic injuries with shortened or poor-quality tendon tissue may require reconstruction rather than a direct repair.

How to prepare

The treating facility's own instructions take priority over the general information here.

Tell the surgical team about all medicines, supplements, allergies, and previous reactions to anaesthesia. Include medicines that affect bleeding, such as anticoagulants or antiplatelet drugs. Do not stop these on your own; the team will explain whether and when they should be changed.

You may need to stop eating and drinking before regional or general anaesthesia. Follow the exact fasting times provided by the facility.

Arrange for an adult to take you home if you will receive sedation or general anaesthesia. You may also need help with meals, bathing, childcare, or stairs while the limb is protected.

Before surgery, ask about:

Smoking and nicotine can interfere with wound and tendon healing. If you use nicotine, ask what support is available before and after surgery.

- Which tendon and side will be repaired
- Whether a graft, transfer, or implant might be needed
- How long you will wear a splint, cast, boot, or brace
- When physiotherapy or hand therapy will begin
- How the operation may affect work and driving

What happens during the procedure

Before the operation, the team confirms your identity, the planned procedure, and the correct body part. The surgical site is usually marked.

You may receive local anaesthesia to numb a small area, regional anaesthesia to numb an arm or leg, or general anaesthesia so that you are unconscious. Sedation may be added to help you relax.

The surgeon reaches the tendon through an incision or, for certain tendons, through several smaller openings using a camera. Damaged or unhealthy tissue may be removed. This is called debridement.

The tendon ends are joined with strong stitches, or the tendon is secured to bone with anchors or tunnels. If there is a large gap or poor-quality tissue, a graft or tendon transfer may be used. Associated nerve, blood vessel, or wound injuries may be treated during the same operation.

The incision is closed and covered. A splint, cast, boot, or brace is usually applied to protect the repair from excess tension.

Recovery and what to expect afterward

Pain and swelling are expected at first. Pain medicine, elevation, and keeping the repaired area protected can help. A regional nerve block may provide numbness for several hours; protect the limb from heat, pressure, and injury until feeling returns.

You can usually drink and eat when you are awake and not feeling sick. Start with light food if anaesthesia has caused nausea.

Activity restrictions are essential because a repaired tendon is initially weaker than normal. Keep the dressing and immobilising device dry unless told otherwise. Do not test the repair or perform extra stretches. Therapy often begins with carefully controlled movement, but the timing differs by tendon and repair method.

Do not drive home after sedation or general anaesthesia. You should also avoid driving while taking medicines that impair alertness, while wearing a device that limits control, or until you can operate the vehicle and make an emergency stop safely. Follow your surgeon's and insurer's requirements.

Return to work depends on the tendon and your duties. Desk work may be possible sooner if the limb can be protected. Manual work, climbing, lifting, or repetitive use may require weeks or months away. Full strength commonly takes several months, even when the wound looks healed.

Risks and possible complications

Possible complications include:

Further therapy, scar treatment, or another operation may be needed if movement remains limited or the repair fails. Your personal risk depends on the tendon involved, injury severity, health conditions, smoking or nicotine use, and ability to follow the protection and therapy plan.

- Wound infection or delayed healing
- Bleeding, bruising, or fluid collection
- Stiffness, swelling, or scar tissue that restricts movement
- Injury to a nearby nerve or blood vessel
- The tendon sticking to surrounding tissue
- Stretching, separation, or repeat rupture of the repair

- Ongoing weakness, pain, or reduced movement
- Blood clots after lower-limb surgery or reduced mobility
- Anaesthesia-related complications

Results and follow up

The surgeon can usually confirm during the operation whether the tendon was repaired directly or required reconstruction. There is generally no laboratory result to wait for unless tissue was removed for testing.

Follow-up visits check the wound, swelling, circulation, feeling, and protection device. Stitches may need removal unless dissolving stitches were used. A splint, cast, boot, or brace may be adjusted as healing progresses.

Therapy is a central part of recovery. Your therapist will guide movement while limiting stress on the repair. Strengthening usually begins later than gentle movement.

The final result cannot be judged immediately. Tendons heal slowly, and movement and strength may continue improving for months. Some people retain stiffness, weakness, altered sensation, or a visible scar despite a successful repair.

Alternatives

The realistic alternatives depend on which tendon is injured and whether the tear is partial or complete.

Immobilisation with a splint, cast, boot, or brace avoids surgical wound and anaesthesia risks. It may require a similar period of protection and rehabilitation. For some injuries, it may carry a greater chance of tendon lengthening, weakness, or repeat rupture; for others, results can be comparable to surgery.

Structured physiotherapy can restore movement and strength in selected partial tears and some complete ruptures. It is less invasive, but it cannot directly reconnect a tendon that needs surgical attachment.

Activity modification, pain relief, and supportive devices may be reasonable when surgery offers limited benefit or carries high risk. These measures can improve comfort but may leave ongoing weakness or loss of movement.

When direct repair is impossible, tendon grafting or tendon transfer may be offered instead. These procedures can restore useful function but are more complex and may change how

another muscle or joint works.

Choosing no active treatment avoids treatment burdens, but a major untreated tear may lead to persistent weakness, altered movement, or difficulty using the affected limb.

When to call your healthcare team

Routine follow-up is used to review the wound, remove or check stitches, adjust the splint or brace, and progress therapy. Contact the surgical team sooner if you have increasing redness, warmth, swelling, drainage, fever, worsening pain, or a dressing or cast that becomes wet or damaged.

Seek urgent advice if:

Call emergency services for trouble breathing, chest pain, fainting, or sudden coughing of blood. These may indicate a serious anaesthesia problem or blood clot and should not wait for a routine appointment.

- Fingers or toes become pale, blue, cold, increasingly numb, or difficult to move
- A cast, boot, or splint feels dangerously tight
- You feel a sudden pop followed by loss of movement or support
- Bleeding continues despite firm pressure
- Pain becomes severe or is not controlled by the agreed plan

Common questions

Will I be asleep?

Not always. Some repairs use local or regional anaesthesia, so the area is numb while you remain awake or lightly sedated. More extensive repairs may require general anaesthesia.

Can I drive home?

No if you received sedation or general anaesthesia. Arrange transport. You may need to avoid driving longer if a splint, cast, boot, pain medicine, or weakness prevents safe vehicle control.

How painful is tendon repair?

Pain is common during the first few days and should gradually improve. The team may use tablets, local anaesthetic, or a nerve block. Worsening pain can be a reason to contact them.

When will I know if it worked?

The surgeon knows whether the tendon was reconnected during surgery. The functional result becomes clearer over weeks to months as healing and therapy progress.

Will I have a scar?

Open repair leaves a scar. Its size depends on the tendon and operation. Smaller-incision techniques may reduce scar length but are not suitable for every injury.

How long does the tendon take to heal?

Basic healing takes weeks, but strength and movement often take several months to recover. Follow the specific rehabilitation timetable rather than judging healing by pain or appearance alone.

Sources

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