



PATIENT INFORMATION:

TRAPEZIOMETACARPAL JOINT REPLACEMENT VS. TRAPEZIECTOMY SURGERY

This document provides information about trapeziometacarpal (TMC) joint replacement and trapeziectomy, two surgical options for treating thumb base arthritis (TMC osteoarthritis). Below, we outline the procedures, rehabilitation, risks, and benefits of each to help you make an informed decision with your surgeon.

OVERVIEW

The trapeziometacarpal joint, located at the base of the thumb, is commonly affected by osteoarthritis, causing pain, stiffness, and reduced function. Surgery is considered when non-surgical treatments (e.g., splints, injections, therapy) fail to relieve symptoms. Two common procedures are:

- 1. Trapeziometacarpal Joint Replacement (Arthroplasty):** Replacing the damaged joint with a prosthetic implant.
- 2. Trapeziectomy:** Removing the trapezium bone, often with ligament reconstruction and tendon interposition (LRTI).

TRAPEZIOMETACARPAL JOINT REPLACEMENT

The damaged TMC joint surfaces are removed, and an artificial joint (prosthesis) is implanted. The prosthesis typically consists of a metal stem in the metacarpal and a socket component replacing the trapezium.

Anaesthesia: General or regional (nerve block which makes the arm numb).

-Duration: Approximately 1–1.5 hours.

-Hospital Stay: Usually same-day discharge

REHABILITATION

-Immobilization: A splint is worn for 2–4 weeks to protect the implant.

- Exercises: begin 2 weeks post-surgery, focusing on:

- Restoring thumb motion and strength.
- Preventing stiffness.
- Gradual return to daily activities.

- Recovery Timeline:
 - Light activities (e.g., writing): 2-6 weeks.
 - Full strength and heavy tasks: 6 weeks to 3 months.
- Follow-Up: Check at 4-6 weeks monitor implant stability and ensure function improving.

RISKS AND BENEFITS

- Implant-Related:
 - Loosening or wear of the prosthesis over time (may require revision surgery).
 - Dislocation of the implant.
 - Fracture during implantation may require conversion to trapeziectomy
- General Surgical Risks:
 - Infection (1–2% risk).
 - Nerve or blood vessel injury (rare).
 - Persistent pain or stiffness.
- Long-Term: Studies currently show that approximately 85-90% of implants are still functioning well after 12 years. There is a risk of needing further surgery at a later date.

Benefits

- Pain Relief: Significant reduction in thumb pain.
- Function: Improved thumb motion and grip strength compared to trapeziectomy in some studies.
- Stability: Maintains thumb length and alignment, potentially reducing deformity.
- Recovery: Potentially faster return to function than trapeziectomy due to preserved joint structure.

TRAPEZIECTOMY (WITH OR WITHOUT LIGAMENT RECONSTRUCTION AND TENDON INTERPOSITION - LRTI)

PROCEDURE

- Description: The trapezium bone is removed, creating a space at the thumb base so that the worn joint surfaces do not rub against each other. In LRTI, a tendon (often from the wrist) is used to stabilize the joint and fill the space.
- Anaesthesia: General or regional.
- Duration: 1–1.5 hours.
- Hospital Stay: Typically discharge same day



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REHABILITATION

- Immobilization: A splint is worn for 4–6 weeks.
- Therapy: Hand therapy starts 4–8 weeks post-surgery, focusing on:
 - Restoring thumb mobility and strength.
 - Preventing scar tissue formation.
- Recovery Timeline:
 - Light activities: 8–12 weeks.
 - Full strength: 6–12 months (longer than joint replacement).
- Follow-Up: Monitoring for thumb stability and function.

RISKS AND BENEFITS

- Procedure-Specific:
 - Thumb weakness due to loss of trapezium (may affect pinch strength).
 - Instability or collapse of the thumb base (metacarpal subsidence).
 - Persistent pain if scar tissue forms.
- General Surgical Risks:
 - Infection (1–2% risk).
 - Nerve or tendon injury.
 - Complex regional pain syndrome (rare).
- Long-Term: No implant, so no risk of implant failure, but thumb shortening may occur.

Benefits

- Pain Relief: Effective long-term pain reduction in most patients.
- Durability: No prosthesis, so no need for revision due to implant wear.
- Proven Track Record: Widely performed with reliable outcomes over decades.
- Suitability: Ideal for older or less active patients, as it avoids implant-related complications.

COMPARISON

	Joint Replacement	Trapeziectomy
Procedure	Replaces joint with prosthesis	Removes trapezium; may use tendon for stability
Pain Relief	Excellent in most cases	Excellent in most cases
Thumb Strength	Often better pinch/grip strength initially	May have reduced pinch strength long-term
Thumb Stability	Maintains thumb length and alignment	Risk of thumb shortening or instability
Recovery Time	Faster return to function (2-4 months)	Slower, full strength may take 6-12 months
Longevity	Implant may wear out unknown very long term outcome	No implant, so no wear; lifelong durability
Risks	Implant loosening, dislocation, revision surgery	Weakness, instability, thumb collapse
Ideal Candidate	Younger, active patients needing strength. Little or no arthritis in joint below.	Older or less active patients

Additional Information

- Non-Surgical Alternatives: Before surgery, consider splints, physical therapy, or corticosteroid injections. These may delay or avoid the need for surgery.
- Post-Surgery Care: Follow your surgeon's and therapist's instructions to optimize recovery and minimize complications.
- Questions for Your Surgeon:
 - Which procedure is would you recommend for my specific condition?
 - What is the expected recovery timeline for my lifestyle?
 - How many of these procedures have you performed?