

What is trapeziometacarpal (thumb base) osteoarthritis?

- Wear and tear damage to cartilage between the thumb base and the trapezium
- Affects mainly women around 50 years old (80%)
- Manifests as pain at the thumb base during twisting and pinching motion
- Initial treatment modalities include activity modification, splinting and steroid injections



Non-Operative Treatments

- 1. Wait and see**
 - Thumb pain can settle, even if very troublesome at first
- 2. Hand Therapy**
 - Personalised advice on joint management, including splinting and stabilising exercises
- 3. Steroid Injection**
 - Can help for a while but not a cure
 - 1:500 risk of infection
 - 1:20 risk of skin staining / temporary extreme joint pain
- 4. Hyaluronidase Injection**
 - Alternative to steroid that may help for a while

Operative Treatments

***Risks:** Infection, scar pain, hand stiffness, Disappointment, outcome could be worse

Trapeziectomy

- Removal of the trapezium bone, abolishing the source of pain
- The thumb base is stabilised by the remaining capsule or a nearby tendon with strong sutures

Advantages

- Uses your own tissues
 - No mechanical device
 - No implant wear out
- Has been done for over 70 years

Disadvantages

- Anatomy is **NOT** restored toward normality
 - Posture is altered
 - Pinch is weaker and less precise
- Takes several months to recovery
- Does **NOT** restore collapsed thumb posture
- Needs specific rehabilitation
- May clunk and rub at the base (5%)
 - Very troublesome and very difficult to fix

Joint Replacement

- Replace affected joint with prosthesis
- The implant is designed to reproduce normal joint motion
- Incorporates with native bone to become stable

Advantages

- Maintains thumb length
- Maintains proper anatomy
- More likely to restore collapsed thumb posture
- Much quicker recovery than trapeziectomy
 - Return to work
 - Pinch strength
 - Thumb posture
- If outcome not satisfactory, can convert to trapeziectomy

Disadvantages

- More likely to require a second operation than trapeziectomy sooner or later
- Occasionally the bone breaks during surgery
 - Then needs converting to trapeziectomy in theatre
- Dislocation may occur (1%)
- Loosening may occur
 - Redo or convert to trapeziectomy
- Components can wear
 - Probably bound to happen one day
 - Options include redo or convert to trapeziectomy

VS



Trapeziectomy



Joint Replacement

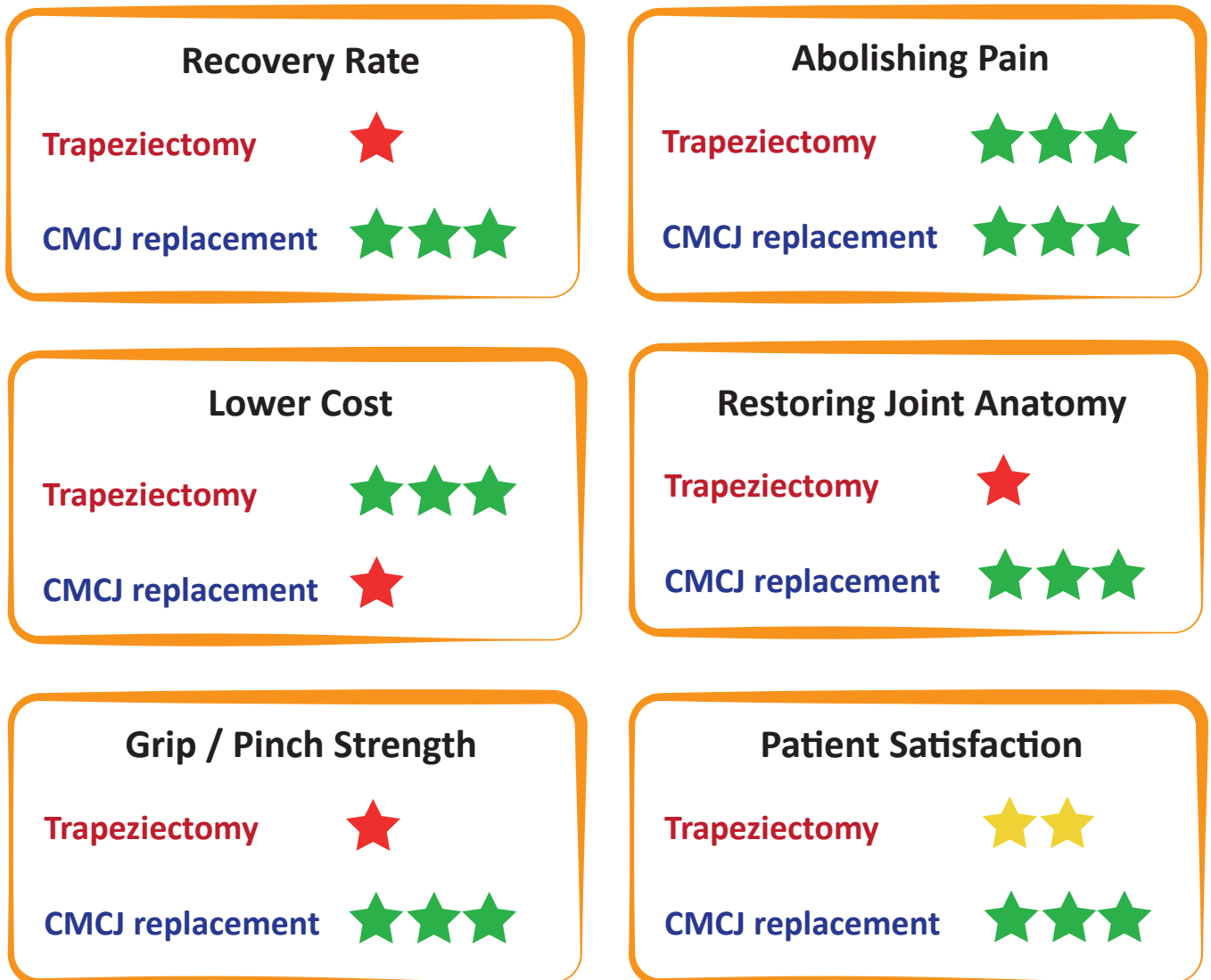
Thumb Base Osteoarthritis: Facts Behind the Different Treatment Options

Trapeziectomy:

- Removal of trapezium bone and thumb base stabilisation

Thumb Carpometacarpal Joint (CMCJ) Replacement:

- Preservation of trapezium bone and introduction of an artificial prosthesis



Traffic Light Scheme



References (with hyperlinks):

1. Duerinckx J, Verstreken F. Total joint replacement for osteoarthritis of the carpometacarpal joint of the thumb: why and how?. *EFORT Open Rev.* 2022;7(6):349-355. Published 2022 May 31. doi:10.1530/EOR-22-0027
2. Saab M, Chick G. Trapeziectomy for trapeziometacarpal osteoarthritis. *Bone Jt Open.* 2021;2(3):141-149. doi:10.1302/2633-1462.23.BJO-2020-0188.R1
3. Lussiez B, Falaise C, Ledoux P. Dual mobility trapeziometacarpal prosthesis: a prospective study of 107 cases with a follow-up of more than 3 years. *J Hand Surg Eur Vol.* 2021;46(9):961-967. doi:10.1177/17531934211024500
4. Herren DB, Marks M, Neumeister S, Schindele S. Low complication rate and high implant survival at 2 years after Touch® trapeziometacarpal joint arthroplasty [published online ahead of print, 2023 Jun 13]. *J Hand Surg Eur Vol.* 2023;17531934231179581. doi:10.1177/17531934231179581
5. Guzzini M, Arioli L, Annibaldi A, Pecchia S, Latini F, Ferretti A. Interposition Arthroplasty versus Dual Cup Mobility Prosthesis in Treatment of Trapeziometacarpal Joint Osteoarthritis: A Prospective Randomized Study [published online ahead of print, 2023 Jul 23]. *Hand (N Y).* 2023;15589447231185584. doi:10.1177/15589447231185584