**CARPO-METACARPAL [CMC] ARTHRITIS**

CMC joint is a saddle-shaped joint; commonly involved in primary osteoarthritis of the hand.

Volar or beak ligament is an important stabilising ligament from trapezium to the base of the first metatarsal bone

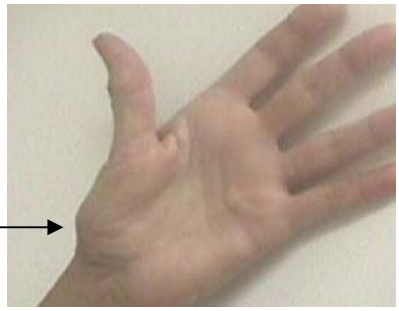
**Clinical**

Female : male = 10:1

Pain: aggravated by forceful pinch grip, such as turning door key; dropping things

Decreased grip strength

**Signs**



Heberden's node is common [osteophytes at DIP joint]

Attitude: carpometacarpal joint is adducted and flexed.

Shoulder sign: radial prominence at base of thumb from dorsal subluxation [Step sign]

Range of movement of the thumb; MP joint and IP joint

Provocative tests:

Crank test: axial loading and passive flexion and extension of 1st metacarpal

Grind test: axial loading and rotation of 1st metacarpal on trapezium

**Differential diagnoses**

Decurvain's tenosynovitis

Scaphoid non-union

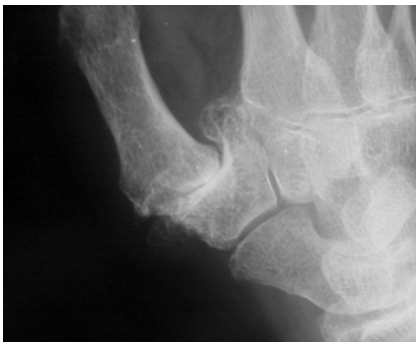
Cervical spondylosis

Ganglion communicating with CMC joint

**X ray**

AP, oblique and lateral views

Robert's pronated view [fully pronate forearm and internally rotate shoulder]



Shows arthritis of MCP

Subluxation of the metacarpal

**Eaton & Glickel Classification**

| | | |
|---|---|---|
| Stage | I | Widening of joint space |
| | II | Sclerosis; joint space narrowing, osteophytes |
| | III | Marked sclerosis, extensive joint space narrowing |
| | IV | Scaphotrapezial osteoarthritis in addition to above findings. |

**Surgery**

**Non-operative**

NSAID, Splint, Rest. Local steroid are quite effective. When refractory to 6 months of non-operative treatment, surgery may be required.

**Operative**

1. **Osteotomy**

Abduction-extension osteotomy of the base of the first metacarpal to off-load the palmar surface of CMC the joint.

May be useful for high demand young adults with early disease.

2. **CMC Arthrodesis**

For young high demand patients'

20% failure rate

3. **Excision Arthroplasty**

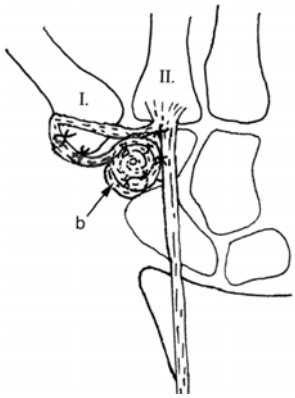
Trapeziectomy alone

Good operation.

4. **Excision arthroplasty and ligament reconstruction and soft tissue interposition**

Trapzeictomy + Split FCR used as spacer

to reconstruct bleak ligament



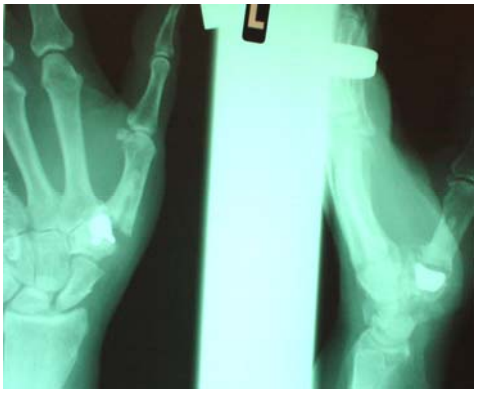

Trapeziectomy alone,achieved much the same result as trapeziectomy plus reconstruction.

5. **Total joint arthroplasty**

Constrained ball and socket design

Wear rates of 34% at 5years.

Less constrained designs in development.



6. **Interpositional arthroplasty**

Silicone Swanson prosthesis , silicon synovitis

Not done these days

**7. Distraction arthroplasty**

Recently more popular

Curvilinear incision

Go towards ulnar border of the metacarpal

Identify the branches of Radial nerve

Abductor pollicis longus tendon is identified and retracted ulnarwards

Open the capsule subperiosteally

Excise trapezium in one piece or in piecemeal

Do not damage FCR seen in the floor

Maintain the volar oblique ligaments so that the base of the thumb - metacarpal retains its attachments to the index finger metacarpal

Distract the thumb to the level of II metacarpal and a transverse K wire

Insert Gelfoam into the space left by the trapeziectomy.

Hold the thumb and index metacarpals in a rotated, abducted position **w**hile wiring

Removal of wire in 6 weeks