

## THUMB DEFORMITIES

Introduction	<p>Deformities of the thumb are common but do not often need surgery. Function and deformity depend on joint disease, tendon disease and small muscle function. However the state of the rest of the hand and the overall disease in the patient have, as in all rheumatoid arthritis patients, a significant bearing on surgical decision making.</p> <p>The aim of surgery is to provide a pain-free and stable post for strong prehensile tasks within the constraints of the disease.</p>	
Incidence	<p>Very common in the rheumatoid patient (66%)                  MCPJ instability (50%)                  Reduced opposition (33%)                  CMCJ instability (33%)                  IPJ instability (10%)</p>	
Pathology	<p>Synovitis</p> <p>Arthritis</p> <p>Intrinsic tightness</p> <p>Tendon rupture</p> <p>Nodule formation</p>	<p>Capsular stretching</p> <p>Ligament laxity</p> <p>Stiffness</p> <p>Bony collapse</p> <p>EPL</p> <p>FPL</p> <p>EPB</p>
Classification (Nalebuff)	<p>I Boutonniere, CMCJ unaffected, passively correctable</p> <p>II Boutonniere, CMCJ affected, adduction deformity</p> <p>III Swan neck + adduction deformity</p> <p>IV Gamekeeper</p> <p>V Swan neck alone</p> <p>VI Skeletal collapse with bone loss</p>	
Deformities	<p>Sagittal (plane of MPCJ)</p> <p>Lateral</p> <p>Longitudinal (Mutilans)</p>	
Variations	<p>Zigzag</p> <p>Same direction (suggests tendon rupture)</p>	



# THUMB DEFORMITIES

Indications Relief and restoration of, in descending order of priority:  
 Pain  
 Stability  
 Posture  
 Movement  
 Appearance

Surgical options  
 Synovectomy  
 Nodule excision  
 Soft tissue correction  
 Tendon transfer  
 Arthrodesis  
 Arthroplasty  
 Skeletal reconstruction

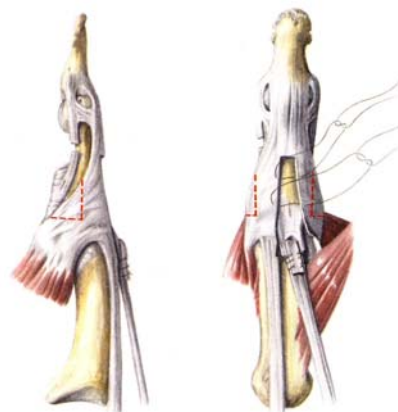
## Sagittal plane Boutonniere

Commonest deformity (60%)  
 MCPJ flexed and the IP joint is extended

Cause  
 MCPJ disease or FPL rupture  
 Intrinsic tightness  
 Oblique retinacular tension

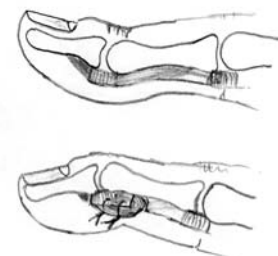
Type  
 Correctable  
 Partially correctable  
 Uncorrectable

Surgical options  
 MCPJ synovectomy  
 Soft tissue correction  
 MCPJ arthrodesis  
 Silastic replacement of MPJ with or without IPJ fusion



Soft tissue correct'  
 Release deforming forces  
 Reposition joints  
 EPL transfer  
 IPJ repositioning by release, tenodesis or fusion

Aftercare  
 0-2wk Surgical dressing/splint intact  
 Active IPJ flexion exercises\*  
 2wk Sutures out  
 Thermoplastic MCPJ splint  
 3-4wk K-wire out  
 6-12wk Wean off splinting



\* Unless IPJ fused or tenodesed

## THUMB DEFORMITIES

**Swan neck**                      Second commonest deformity (5%)  
MCPJ is flexed and the IP joint is extended

Cause                              CMCJ disease or EPL rupture

Types                              Correctable  
Partially correctable  
Uncorrectable

Surgical options                Excision or replacement arthroplasty of CMCJ  
MCPJ or sesamoid fusion

### **Lateral plane**

Causes                            Joint destruction or ligament attenuation or rupture.  
Often a combination.  
Usually lax and rarely compensatory.

Surgical options                Ligament reconstruction  
MCPJ fusion  
Adduction contracture release

### **Longitudinal plane (Mutilans)**

Causes                            Gross destruction of the skeleton

Surgical options                Arthrodesis and bone grafting

### **Tendon problems**

Incidence                        FPL commonest tendon rupture in RA  
EPB as seen above  
EPL

Pathology                        FPL rupture level at insertion, MPJ, or carpal tunnel (commonest –  
Mannerfelt lesion)  
EPL rupture usually at dorsum hand or wrist

Options                            FDS transfer to FPL  
Interposition graft  
EI or ECRL to EPL  
EPB to EPL

### **Overview**

The best option for the management of sideways deformities, mutilans and tendon ruptures is arthrodesis. This is particularly true in mutilans where early fusion may retain function and length.

The thumb **MUST** not be treated in isolation. Function can be significantly improved by getting rid of pain and instability. Best option is targeted fusion. Be aware of ulnar and median nerve dysfunction and its impact on thumb stability and function.

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### References

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