

BASAL JOINT ARTHROPLASTY MODIFIED LRTI

Henry A. Backe, Jr., MD

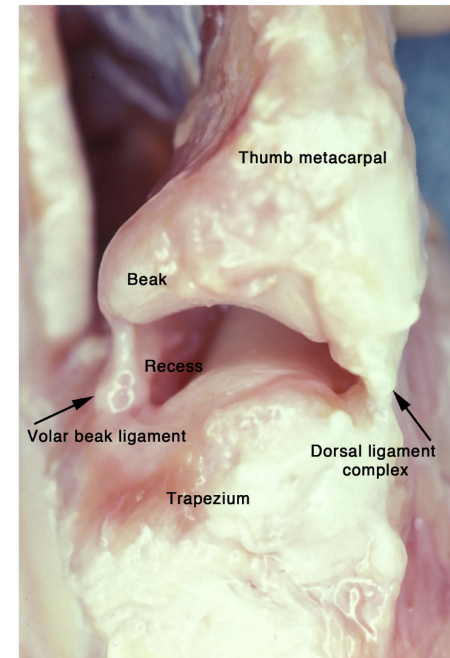
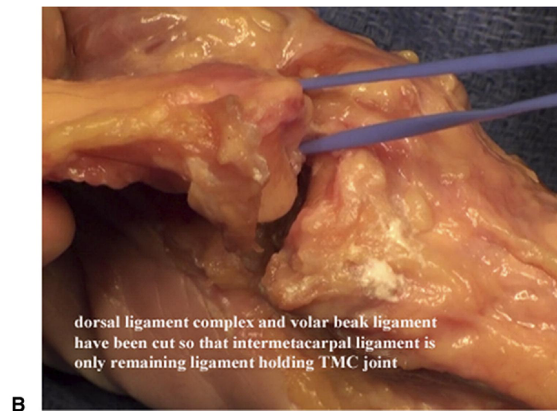
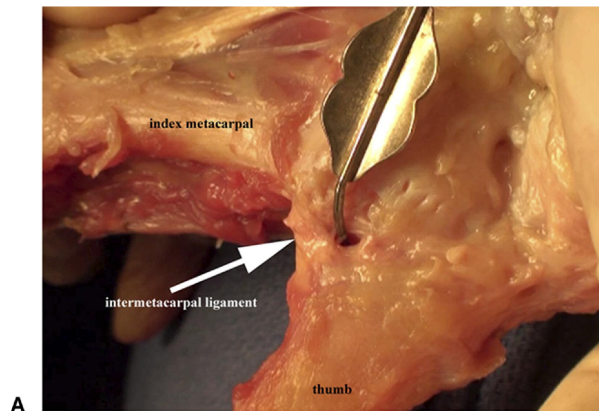
Orthopedic Specialty Group

Fairfield CT

Trapeziometacarpal Joint of the Thumb

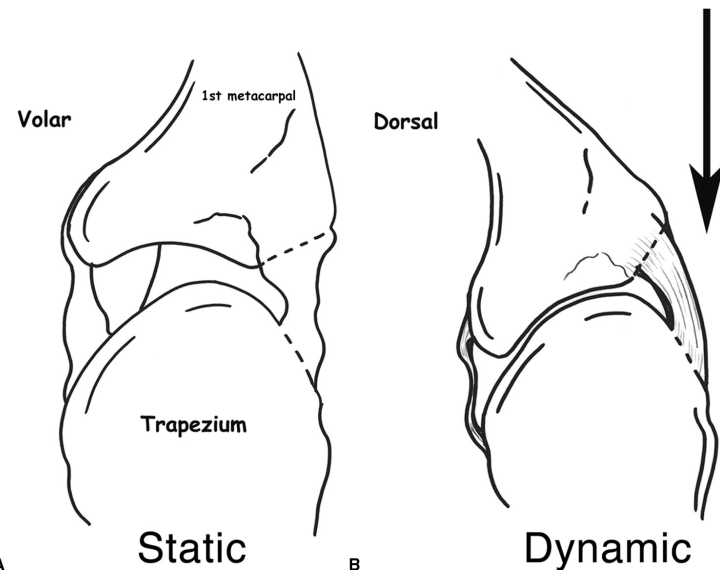
- Unique anatomy: biconcavoconvex universal joint
- Stabilizing ligaments:
historical: Palmar oblique “beak” ligament

actual: Dorsoradial ligament and
Intermetacarpal ligament



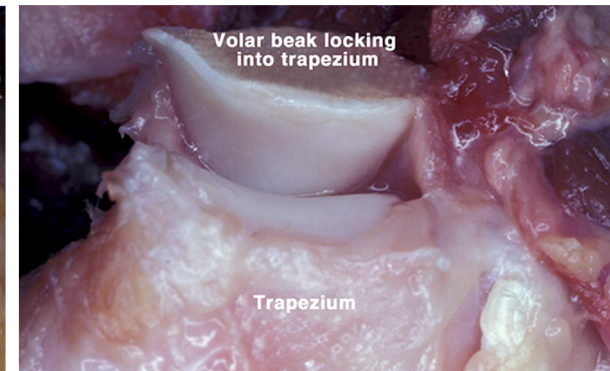
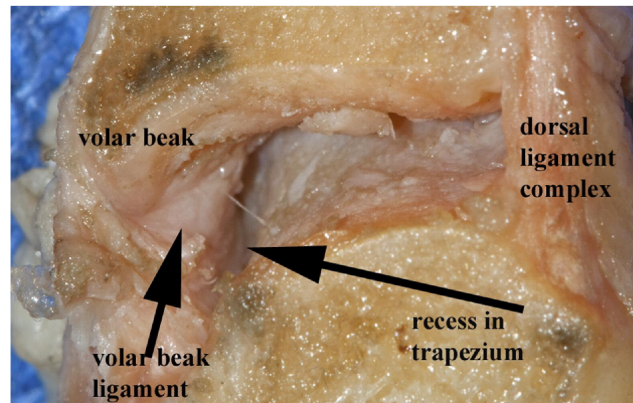
Volar Beak Ligament

- The volar beak ligament is completely lax during the screw home torque phase of opposition in power pinch and power grasp and therefore plays no part in the prevention of dorsal subluxation during power pinch or power grip.



Degenerative Arthritis

- Compression loads between the volar beak and trapezial recess
- Repeated stress and subluxation
- Postmenopausal women
- Rheumatoid arthritis
- Trauma



Surgical Objectives

- Pain relief
- Metacarpal stability
- Thumb motion
- Pinch strength

Historical Operative Treatment

- Arthrodesis

- Trapezial excision:

 - Gervis 1948

 - Murley : significant grip strength loss
Iyer: carpal instability

- Metacarpal base stability

 - Interpositional Arthroplasty: Carroll

 - APL advancement: Posner and Green

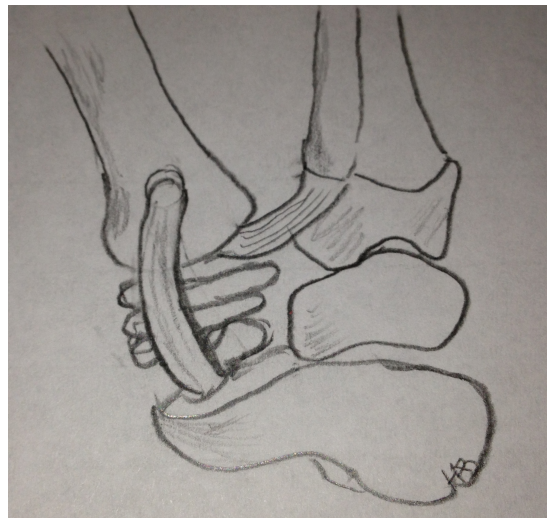
 - LRTI: Burton and Pelligrini

LRTI: Most Popular Arthroplasty

- Suspends the 1st metacarpal:
 - maintains length of thumb column
 - maintains trapezial space
- Ligament reconstruction using the FCR or APL mimics the function of the intermetacarpal ligament rather than the volar beak ligament.

Progression of my surgical technique

- Trapezial excision with APL advancement/ pinning
- LRTI with $\frac{1}{2}$ FCR / pinning
- LRTI with entire FCR
- LRTI with FCR reconstruction of Intermetacarpal ligament and Dorsoradial ligament



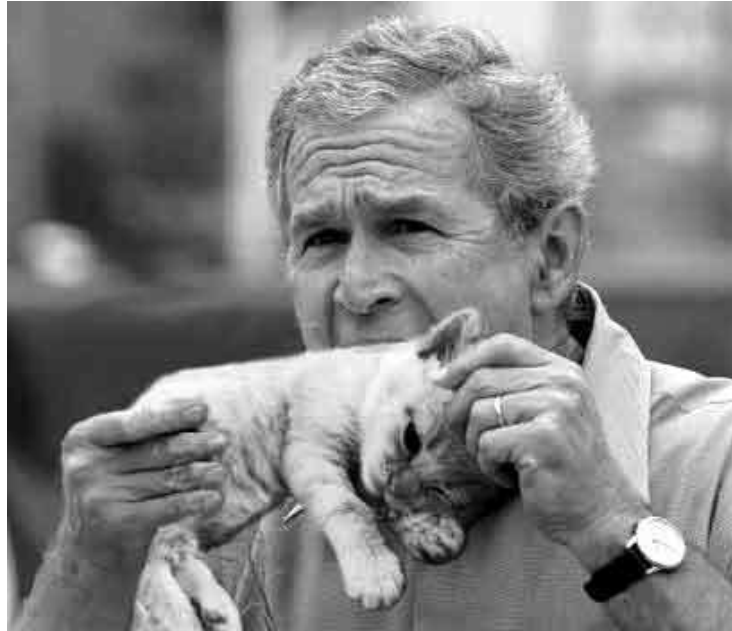
Current technique

- 243 cases over last 13 years
- males : females: 46: 197
- 7 Revisions
- More stable metacarpal base with improved pinch

Modified LRTI



“There are many ways to skin a cat”



Thank you