PATELLECTOMY
A Constructive Operation

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Biomechanics

- Lever-arm
- Centralizing
- Insensate
- Thick
Historical review

• Putz 1860
  Earliest mention of patellectomy
• Heineck 1909
  ‘last resort’
• Brooke 1937
  popularized patellectomy again
Indications

- Comminuted fractures
- Patello-femoral OA
- Anterior knee pain
- Recurrent dislocation
- Infection
- Tumour
Complications

- ↓ strength of knee extension
- ↑ tibio-femoral joint loading (OA)
- Lateral subluxation of tendon
- Extensor lag/Flexion loss
- Poor cosmesis
- Tendon rupture
- Anterior instability
Patellectomy for OA

• Berkheiser 1939 JAMA
  Reported improved strength & ROM
• Miller et al JBJS 55A
  Quads strength reduced in PF OA
  Improved after patellectomy ie no worse?
Patellectomy for OA

• Ackroyd 1978 JBJS
53% good results @ 6.5 yrs
50% had weakness of knee ext.
Effect of OA
Knee Function after Patellectomy

- Lennox and Bentley 1994 RNOH
  OA: 12/25 still c/o pain (~50%)
  AKP: 4/52 still c/o pain (~8%)
    #: 0/6 c/o pain
- 16 had function measured
Knee Function after Patellectomy

- Pailthorpe Milner 1991 J R Army Med Corps
- 184 patellectomies 1981-86
- 29% regained full fitness
- 25% remained in service
TKR after Patellectomy

- Bayne, Cameron 1984 CORR
  Better results with constrained implants
- Lennox, Hungerford 1986 CORR
  Recommend bracing or arthrodesis if function poor
Patellectomy

- Longitudinal repair
- Transverse repair
- Inverted V-plasty
- Z-plasty
- Cruciform repair
- Compere
- Miyakawa
- VMO advancement
Cruciform Repair
Miyakawa Patellectomy

- Baker & Hughston 1988 JBJS
- 20 cases in 17 pts
- Age 44.3 yrs, 13.8 yrs follow-up
- 19/20 subjective result good
- 18/20 objective result good
- No measure of power!
Miyakawa Patellectomy

- Allows examination of joint
- Tendon length maintained
- Extensor mechanism malalignment corrected
Compere JBJS 1979

- 29 cases/ 26 pts
- Age 17-78 (43.5) yrs 1-12 yr follow-up
- 90% good/exc results
- 5/24 1cm thigh atrophy
- 23/24 grade V power
Compere JBJS 1979

- Quadriceps tendon continuity maintained
- Vastus medialis advanced
- Calcification contained
- Cosmetic
VMO Advancement

- Gunal 1992 1997 JBJS
- Description of motor branch to VMO from saphenous nerve
- Prospective randomised trial
- Patella fracture > 5 fragments
- 16 and 12 patients with 3 yr f.u.
VMO Advancement

- VMO advancement helps knee ext power
- Pain 13/16 v 5/12 min
- Activity 13/16 v 2/12 limited
- Quads strength 1/16 v 12/12 full strength
VMO Advancement

- Quads strength maintained
- Less pain, higher level of activity
- Better subjective and objective results
- Improved cosmesis
Constructive Patellectomy

• “A good patellectomy is better than a bad patella”  Ficat & Hungerford

• Patient selection and technique
"The knees are the first thing to go."

THANKYOU