Upper limb stiffness in the paediatric population

Ed Gent

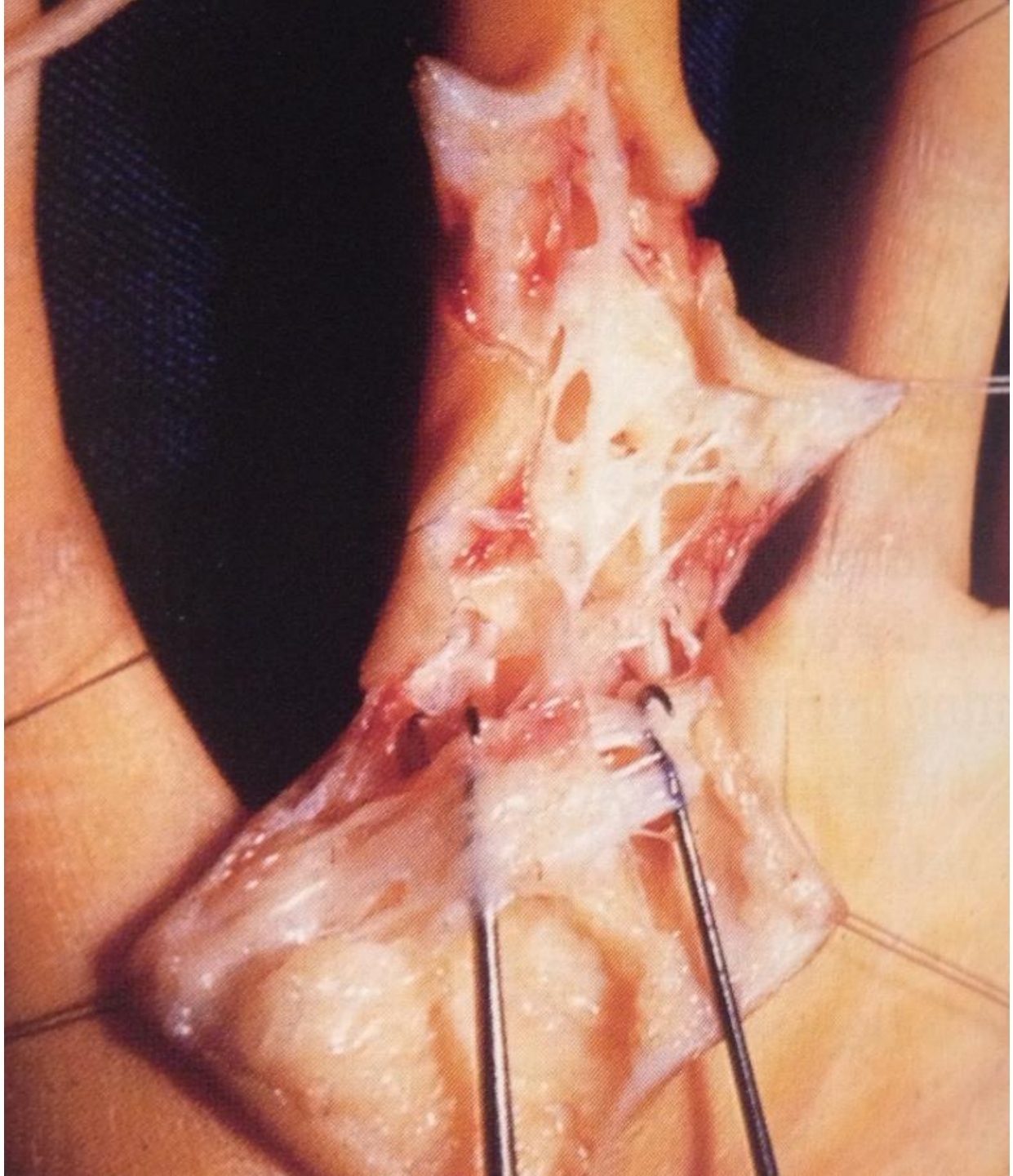
How to classify?

- Congenital vs. acquired (surgical sieve)
- Pain free vs. painful
- Complete or partial
- Intra articular vs. extra articular

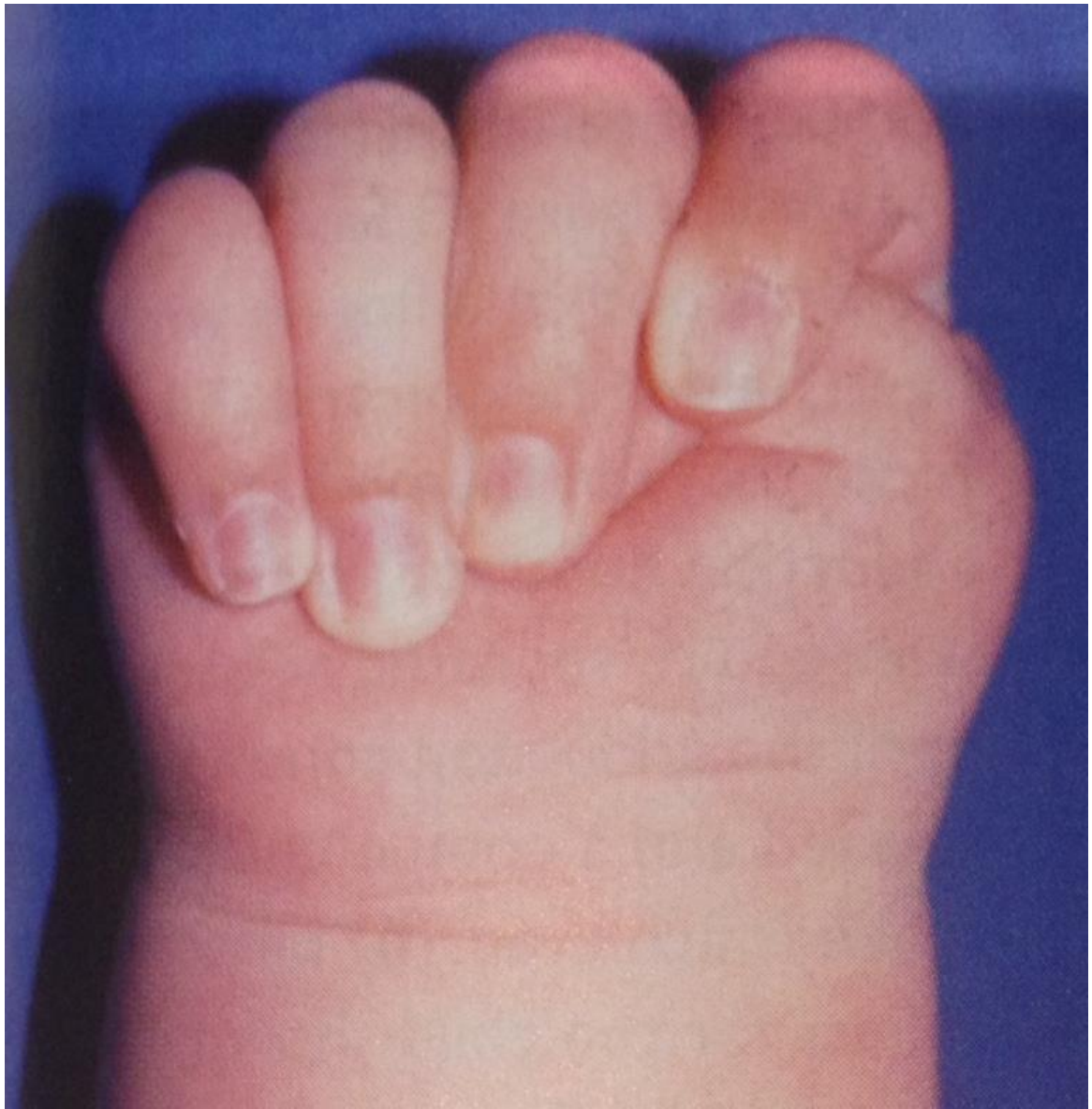
CONGENITAL

- Partial
  - Curley fingers' or multiple camptodactyly
  - Thumb in palm deformity 'thumb-clasped hand'
  - Trigger thumb
  - Absent tendons
  - Arthrogryposis
- Complete
  - Radio ulnar synostosis

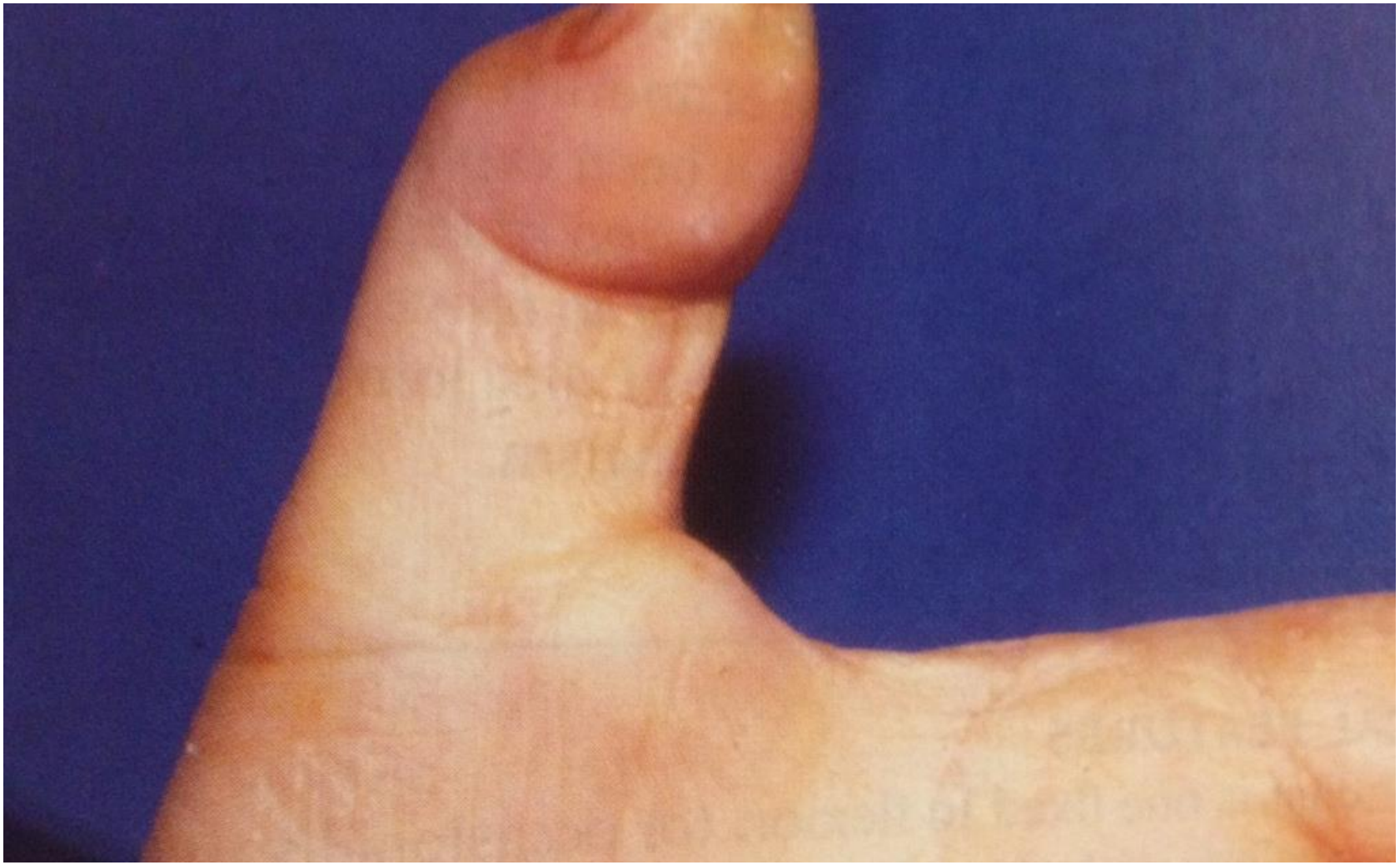
Curley fingers ‘camptodactyly’



Clasped thumb hand

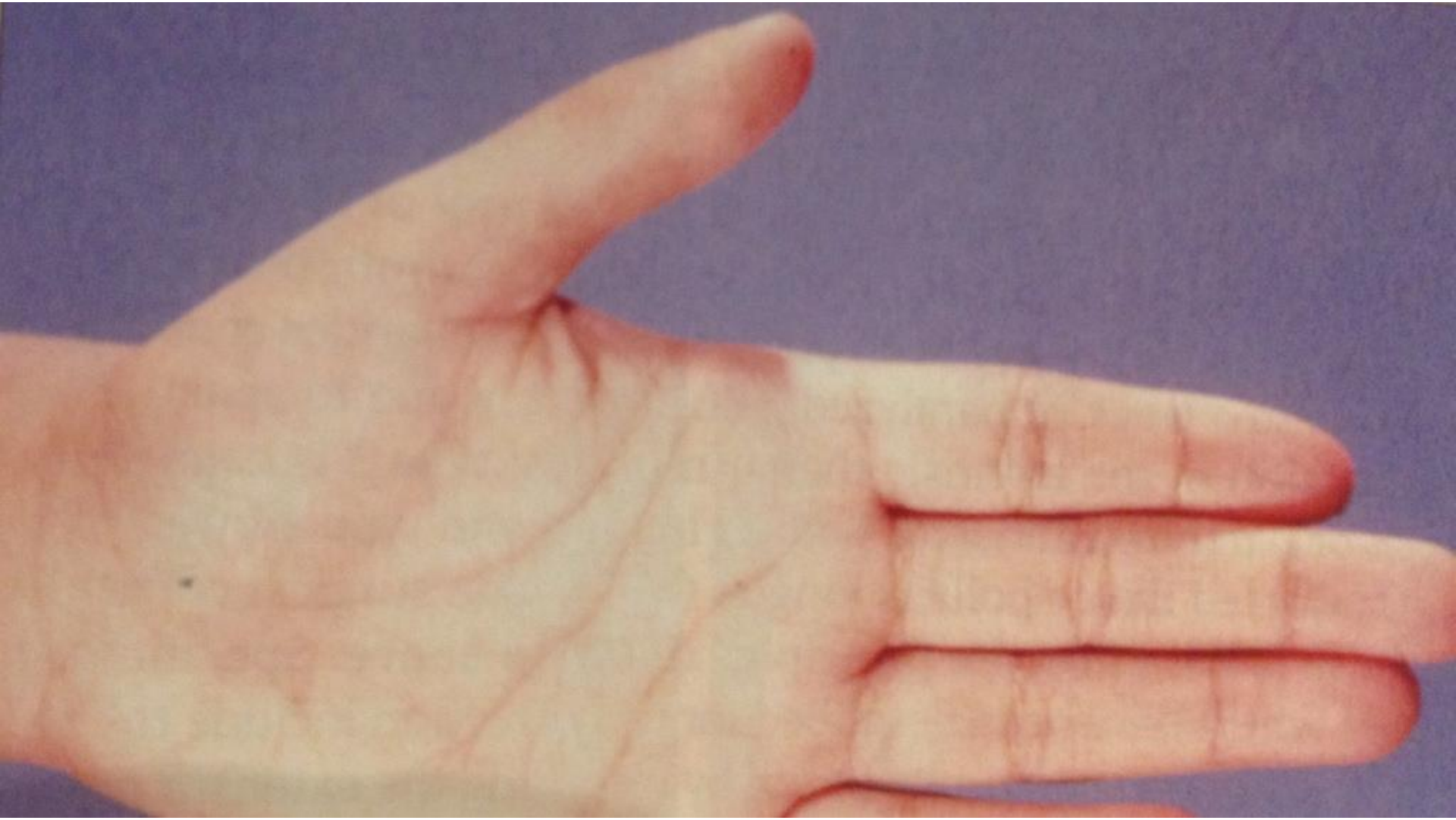


Trigger thumb



Absent tendons / arthrogryposis


RIGHT
Image no: 1
SOUTHAMPTON GENERAL HOSPITAL
EI: 2000
19/08/2008, 09:19:06
LATERAL
1
RT
N TO SEPARATE THUMB
Image no: 1
SOUTHAMPTON GENERAL HOSPITAL
EI: 1740
17/02/2009, 14:53:38
AP
1



Radio ulnar synostosis

Acquired

- Trauma including fracture, vascular injury, iatrogenic stiffness and RSD
- Infection- septic arthritis / chondrolysis
- Inflammatory; Juvenile Rh A
- Recurrent haemorrhage- intra articular haemangioma


a
b

Volkmann’s contracture

- Compartment syndrome
- Muscle necrosis / contracture
- Nerve injury
- Prevention is the key / surgery is complex addressing muscle weakness with tendon transfer, muscle slide for short tendons and joint contracture with releases.

Treatment principles

- Time frame for recovery / intervention
- Role of physiotherapy
- Heterotopic calcification
- Role of surgery; early treatment is usually easier and more likely to succeed than late reconstruction
- Salvage surgery ? fusion

Malunion

- Loss of rotation can be successfully restored years after injury with reshaping of the forearm.
- Late Monteggia injury is very difficult to correct beyond 3 months post injury.

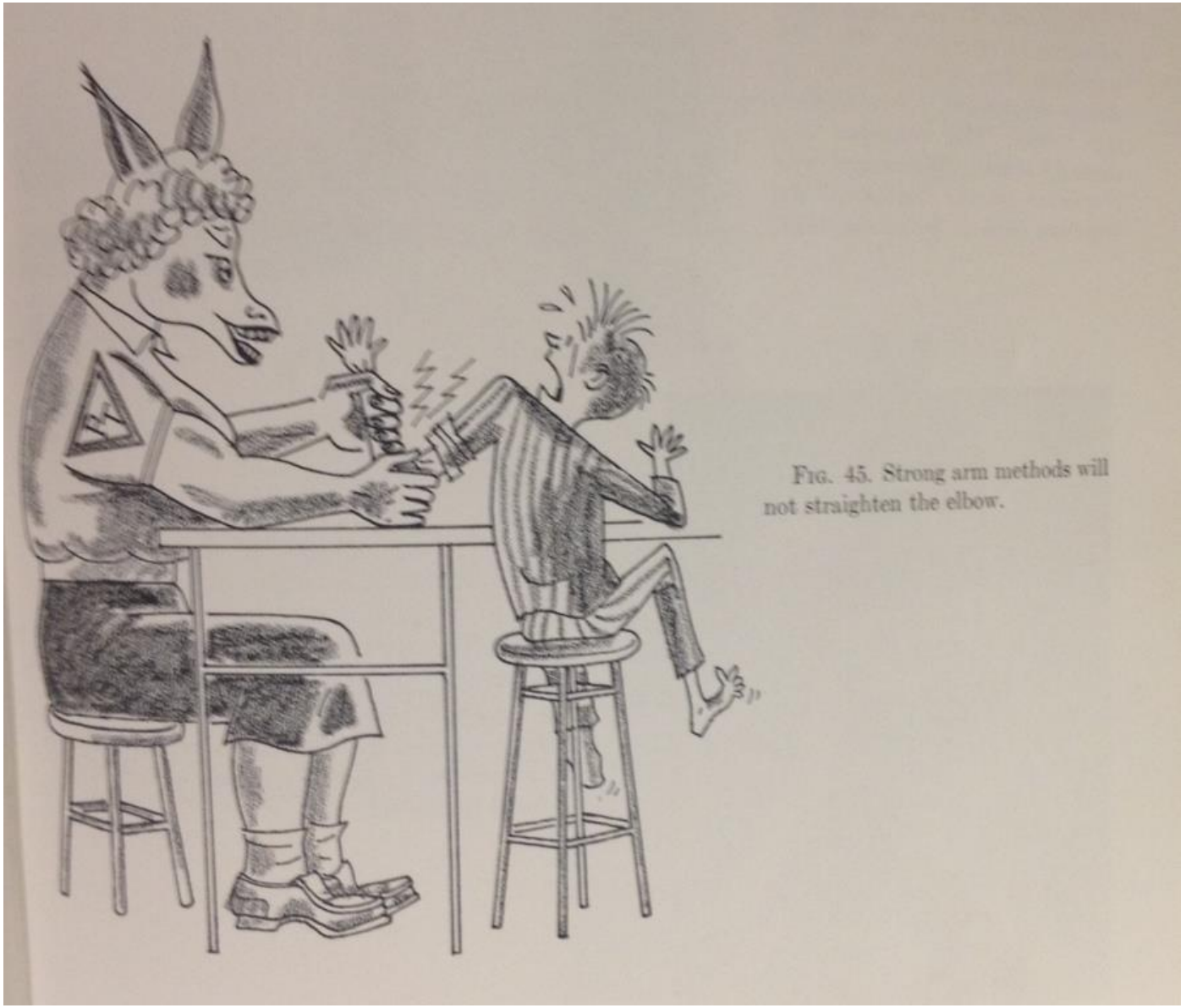


FIG. 45. Strong arm methods will not straighten the elbow.

Heterotopic calcification

Cerebral palsy

- Limited intervention
- Role of Botox
- Tendon lengthening / transfers
- Wrist fusion

Summary

- Upper limb joint stiffness in children occurs in a huge range of conditions.
- Therapy is very important in congenital problems but sometimes is contraindicated post trauma
- Surgery for stiffness can be complex and outcomes are often of improvement of function rather than restoration to normality


Thank you