

Complications - Casts

- Avoid rib cage pressure / molding
- Mehta technique - derotation w/ traction ...avoid 3 point pressure
- Curves $> 53^\circ$ treated more effectively by traction, not transverse forces (White & Punjabi)



Complications

- Skin intolerance/decubiti
- Iatrogenic rib/ chest wall deformity
- Elimination sagittal plane
- Pulmonary restriction/reflux
- "Neck stretch" -
cranial n. palsies



Cast complications

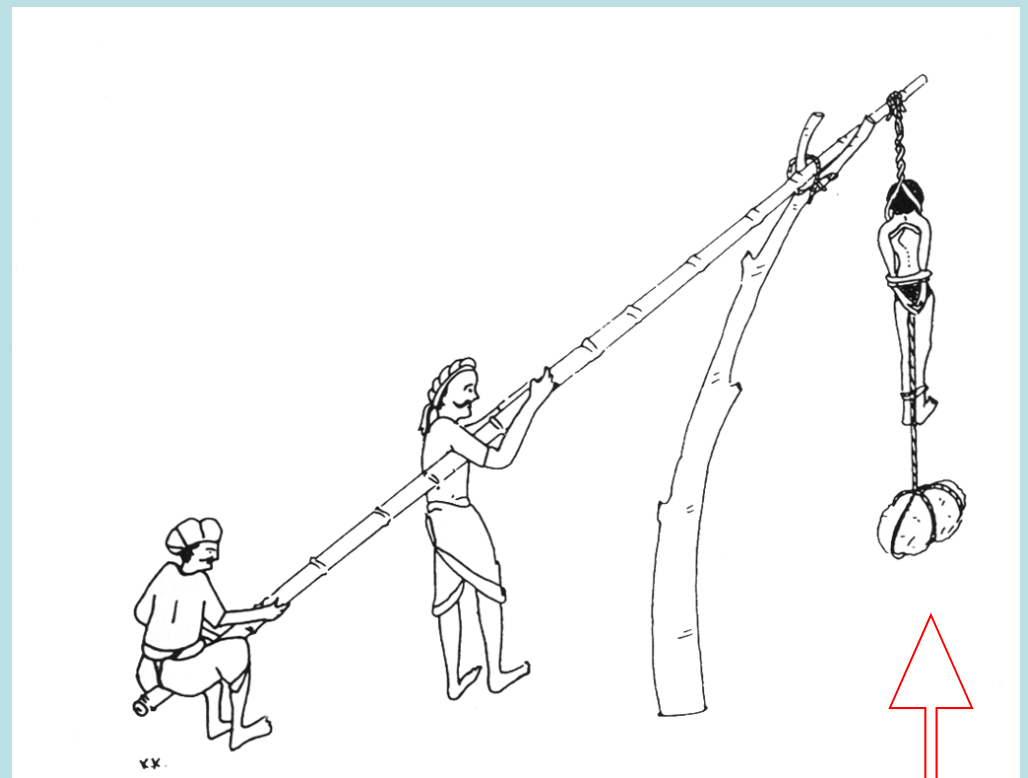
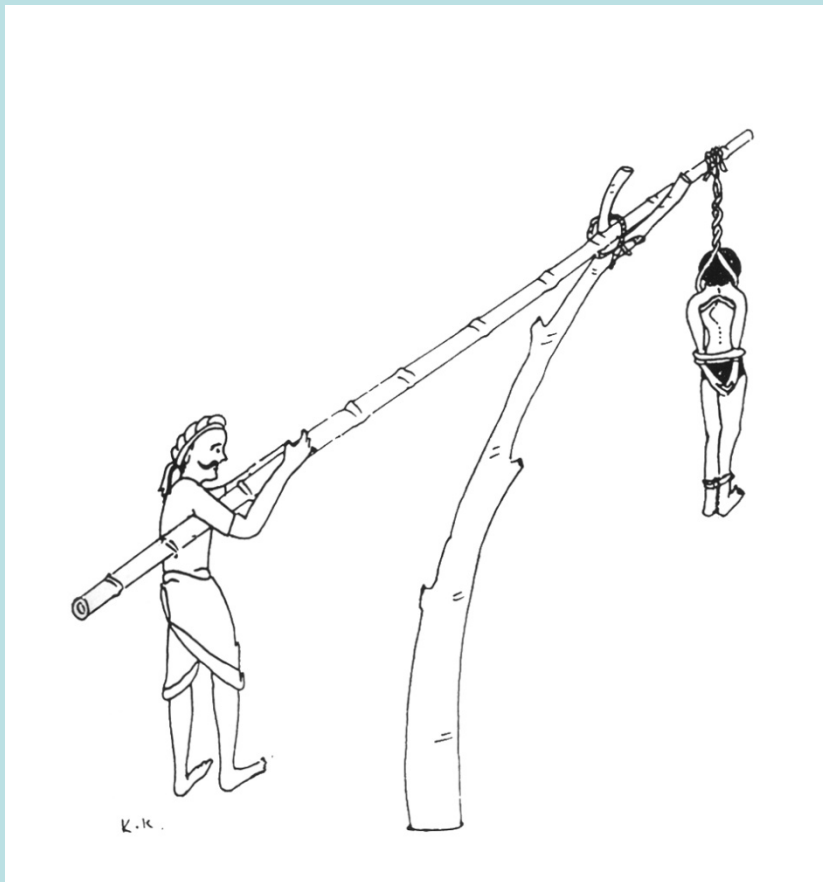


Summary - Casting

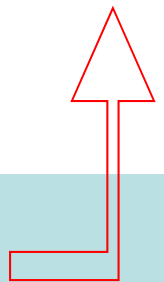
- Not for everybody (parents, surgeons)
- Best for non-congenital, ambulatory, < 4 years
- No respiratory issues
- Can be definitive treatment!



Complications - Traction



More complications ?



Complications

Pin tracts/

Pin change prn <5%

C spine disrupt 1

(Klippel-Feil)

Paraparesis (tumor) 1

Excess pain 1

? Neuro sx (cong kyph)



Drawbacks of halo traction (per Buchowski et al)

1. Halo "must be worn a prolonged time" - long hospital stay, "not welcomed by families"
2. Complications: cranial n. palsy, cervical spondylosis, paralysis
3. Contraindicated: cervical kyphosis or instability

Are these claims justified?

1. Prolonged treatment and hospitalization

- **So what** - safe correction of challenging risky deformities
- Outpatient rx **possible** and encouraged
- In early onset patients, families actually accept with **enthusiasm** because children can be mobilized



2. Complications - important, ? grossly over-emphasized

- Cranial n. palsy - probably 2° to technique with fixed weights (= old fashioned bed traction)



Springs



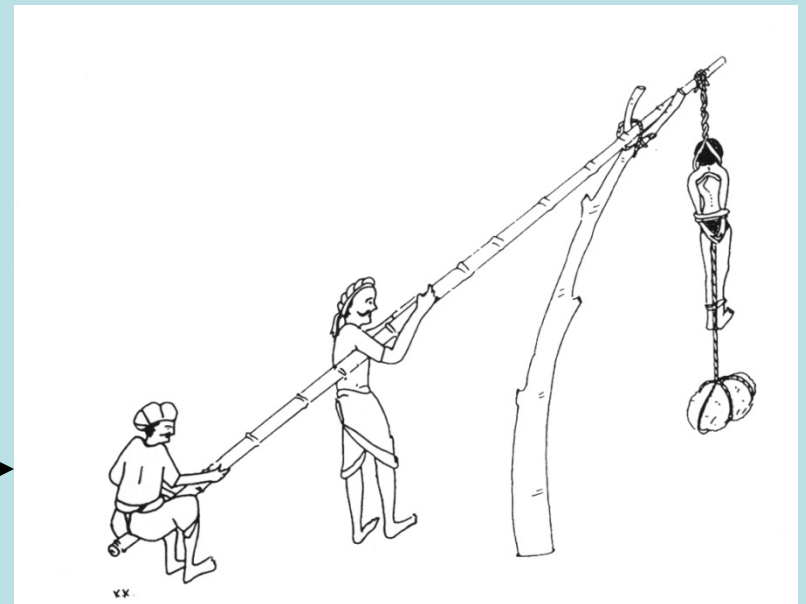
Fixed weight traction does not allow patient to auto-relieve axial stresses



- Probable basis for 31% incidence neuro complications in Skaggs' SRS '07 paper #81
[All resolved by decrease or remove weight]

Buchowski ref's inapplicable to halo gravity method

- Cranial n. palsy - ref's all halo-pelvic or "skeletal traction" (?femoral)
- Cervical spondylosis - halo-pelvic, skeletal txn or halo-Ilizarov
- Paralysis - acute instrumented distraction (1975 MacEwen) or prehistoric drawings →



Contraindications - few

Loeys-Dietz

- ?? Cervical instability or dysplasia
- Inadequate skull
- Abnormal cord/canal
(Emans, Johnston, Smith SRS '07)



Delaying Tactics

- Invaluable to delay onset of serial surgical interventions and adventures
- Burns no bridges
- Traction for severe curves in tiny children
- Casting/bracing for moderate curves
- Save the fusionless systems for later application
- **NO DEBATE NECESSARY**

Rebuttal



Never actually
admit in public
that you can't put
on a cast or use
traction safely