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Disclosures

I have the following potential conflicts of interest:

Consulting payments/royalties and research support directly related to products discussed:

- none

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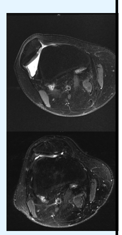
Hospital for Special Surgery
Weill Cornell Medical School

Weill Cornell Medicine



Trochleoplasty – When and How?

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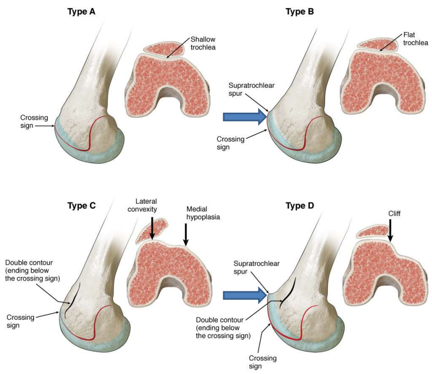
Trochlear Dysplasia is key risk factor for instability

- First time pediatric dislocation – 38% recur
- If dysplasia – 69% recur
  - Dahm, AJSM 2013

Which risk factors matter most?

- 74% Dysplasia in dislocation group
- 4% in control group
- High TT-TG never seen as only risk factor
- Alta most common risk factor also seen in control group.
  - Askenberger, Arendt, AJSM 2016

Dejour Classification



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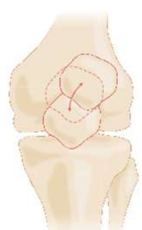
Key exam finding is presence of J sign on active knee extension



Patella leaves the bony restraint of the groove in full extension due to:

- Patella alta;
- Dysplasia with spur; or,
- Both

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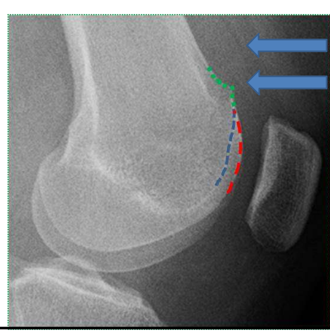
Lateral XR is helpful for screening

Lateral x-ray is key to identify dysplasia



Spur – convex and anterior to cortex

Crossing sign – flat at this point

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Sunrise/Merchant views less helpful

Same knee at 45 and 0 degrees

Axial imaging necessary for thorough characterization - CT or MRI

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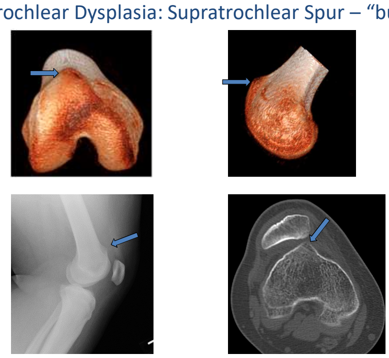
Trochlear Dysplasia: Supratrochlear Spur – "bump"



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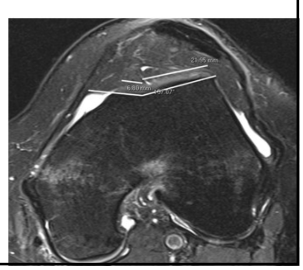
MRI Criteria for Trochlear Dysplasia

Askenberger, Arendt AJSM 2016; Post, Fithian, AOSSM/PFF consensus statement OJSM 2018

Spur height > 5mm

Sulcus angle > 145



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When? My Decision Making

- MPFL reconstruction (virtually always)
- TTO if TT-TG>20 (>15 if lateral defect), or CD ratio > 1.4
- Trochleoplasty for:
  - Type B or D with convex trochlea
  - Spur height greater than 7mm
  - J sign on exam
  - Especially for revision procedures
    - Hiemstra AJSM 2016. worse outcomes for spur > 5mm or types B, D (233 cases)

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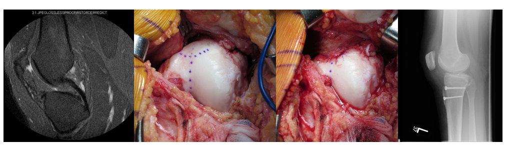
Entry trochleoplasty technique



- Remove bump at trochlear entrance
- Transform Dejour B or D, to A or C, then control instability with MPFL and/or TTO

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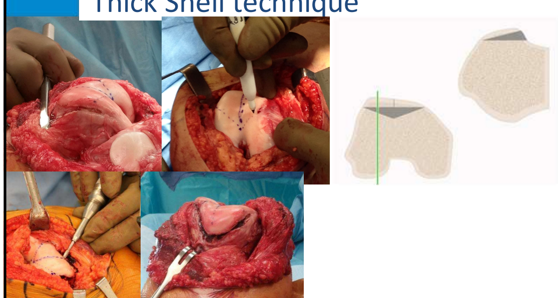
Thick Shell technique



- Decrease prominence anterior to femoral shaft, 5 mm shell
- Can move new groove lateral to improve TT-TG

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Thin Shell technique

- High speed burr or offset guide (5mm)
- Thin flap of approx. 3mm subchondral bone
- Fixation with resorbable sutures and knotless anchors

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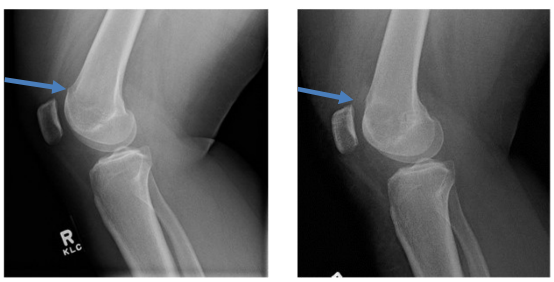

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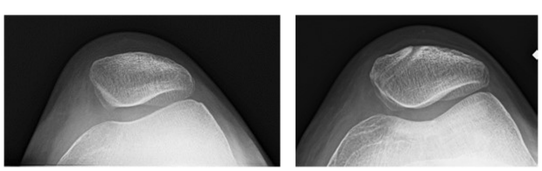

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Summary

- Trochleoplasty has a role in Tx of PFI
- Mainly for failed prior repair
- True Dejour D patients are rare
- Goal is to decrease bump, reducing J-sign to level that it can be controlled with MPFL and/or TTO