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Which patellofemoral imaging features are associated with patellofemoral pain?

Systematic review and meta-analysis

Benjamin T Drew; Anthony C Redmond; Toby O Smith; Florence Penny; Philip G Conaghan
Background

- PFJ structure widely believed to be related to PFP
- Historically viewed using x-ray
- Advances in imaging over last 20 years
- No consensus on imaging features to use
- **To determine which imaging features are most likely to be associated to PFP**
Methods

- Included studies:
  - PFP vs. Control
  - < 45 years old
  - US, MRI, CT & X-ray

- Quality assessment using Modified Downs & Black checklist

- Best-evidence synthesis and meta-analysis

- Sensitivity analysis for full weight bearing
Results

- 40 studies (all moderate to high quality)

- Two features:
  - MRI bisect offset at 0° with load
  - CT congruence angle at 15° with & without load

- Sensitivity analysis:
  - ↑MRI bisect offset
  - ↑MRI patella tilt
Conclusions

Future studies need to clearly report:

- Study population
- Imaging-reporting issues

Imaging under full weight bearing improved the ability to differentiate between PFP and control groups

MRI bisect offset and CT congruence angle are imaging features most likely to be seen in PFP and not in controls