Results In total, 63/121 patients reported mechanical symptoms at baseline (surgery, n=33 and exercise, n=30), while 9/26 in the surgery group and 20/29 in the exercise group reported mechanical symptoms at 12-month (missing data on 8 patients). During follow-up 8 patients crossed over from the exercise group to use the opportunity for later surgery.

At 12-month the risk difference was 34.4% (95% CI 9.5–59.2) and the relative risk was 1.99 (95%CI, 1.11–3.57) in favour of the surgery group. Similarly, a larger proportion of patients in the exercise group reported mechanical symptoms at 3 and 6 months.

Conclusion Our results suggest that meniscal surgery may be superior in alleviating mechanical symptoms compared with exercise therapy and patient education with the option of later surgery in young patients with meniscal tears and self-reported mechanical symptoms.

**Abstracts**

**141** TERMINOLOGY AND DIAGNOSTIC CRITERIA USED IN CLINICAL STUDIES INVESTIGATING SUBACROMIAL IMPINGEMENT SYNDROME: A SCOPING REVIEW

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**Introduction** Lack of consensus regarding terminology and diagnostic criteria used to describe and identify patients with subacromial impingement syndrome (SIS) could be an important driver of misconceptions and misinterpretations of scientific results in this population. We aim to map the literature regarding terminology and diagnostic criteria used in clinical studies investigating SIS.

**Materials and Methods** PubMed, Embase, CINAHL and SPORTDiscus were searched from inception to June 2020 using known terms for SIS. Peer-reviewed clinical studies investigating SIS were eligible for inclusion. Studies containing secondary analyses of a previously published study, reviews, pilot studies and studies with less than ten participants were excluded. Two reviewers independently screened titles and abstracts, three reviewers independently applied inclusion and exclusion criteria to full-text versions of the articles and one reviewer extracted data. Disagreement between the reviewers was resolved through dialogue.

**Results** 11,056 records were identified. 911 were retrieved for full-text screening. 535 were included. 20 different terms for SIS were identified. The diagnostic criteria were generally based on a cluster of pain provocative shoulder tests. 134 different diagnostic criteria were identified. 30% of the studies used a combination of clinical tests and imaging. 9% of the studies specified that they included patients with full-thickness supraspinatus tears and 46% specified that they did not.

**Conclusion** There is a worrying lack of consensus regarding terminology and diagnostic criteria for SIS. This calls for careful consideration when interpreting the results of studies investigating SIS and when comparing studies.

**144** GOOD RESULTS OF SURGICALLY TREATED PEDIATRIC KNEE LIGAMENT INJURIES IN DENMARK 2011–20 AT ONE-YEAR FOLLOW-UP

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**Introduction** Prospective data on treatment outcome from unsellected cohorts of children with anterior cruciate ligament (ACL) injury are sparse. Since 2011 the surgical treatment of children with ACL injury in Denmark has been concentrated at two centers. The aim was to present one-year results after pediatric ACL-reconstruction in Denmark for the period 2011–20.

**Materials and Methods** Consecutive children (< 16 years old) who had an ACL-reconstruction were prospectively followed with patient reported outcome measure Pedi-IKDC, pivot shift and instrumented laxity before surgery and one year later. One-year follow-ups were performed by independent observers.

**Results** A total of 518 children had an ACL-reconstruction. Median age: 14.6 years (range 8–16) and 45% were girls. A quadrupled semitendinosus or a doubled semitendinosus-gracilis autologous tendon was used as graft in all but one child. Pedi-IKDC score was 57.0 preoperatively and 85.7 at 1-year (maximum score 92). Side-to-side difference of instrumented anterior laxity was 4.25 mm preoperatively and 1.3 mm at follow-up. Pivot-shift was preoperatively/1-at year: no pivot: 3/22%, grade 1: 20/56%, grade 2: 74/21%, and grade 3: 3/1%. Two (0.3%) had an operatively treated deep infection, 3 (0.5%) were treated for reduced range of motion, 2 (0.3%) for a cyclops, and 4 (0.7%) had a rupture of the graft.

**Conclusion** ACL reconstruction resulted in a large increase in Pedi-IKDC score, a large decrease of instrumented laxity, and a reduction of pivot shift. Complication rate was low and 1-year re-rupture rate was 0.7%.

**148** MUSCLE STRENGTH TESTS IN INDIVIDUALS FOLLOWING AN ANTERIOR CRUCIATE LIGAMENT OR MENISCUS INJURY: A SYSTEMATIC REVIEW OF MEASUREMENT PROPERTIES (OPTIKNEE)

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**Introduction** There is a lack of consensus on the most relevant and clinically applicable tests to evaluate knee muscle strength
following a knee injury. This systematic review aimed to critically appraise and summarize the measurement properties of knee muscle strength tests in young individuals with anterior cruciate ligament (ACL) or meniscus injury.

**Materials and Methods** Studies evaluating at least one measurement property of a knee extensor or flexor strength test in individuals with an ACL or meniscus injury with a mean injury age of ≤30 years were included. The CONSORT-based Standards for the selection of health Measurement Instruments (COSMIN) Risk of Bias checklist was used to assess methodological quality. A modified Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) assessed evidence quality.

**Results** Thirty-four studies evaluating 30 muscle strength tests following an ACL or meniscal injury were included. Strength tests were assessed for reliability (n=8), measurement error (n=7), construct validity (n=2.5) and criterion validity (n=7). Concentric extensor and flexor strength tests showed sufficient ratings for two measurement properties, namely for intra-rater reliability (very low quality of evidence) and construct validity (moderate quality of evidence). Isotonic extensor and flexor strength tests displayed sufficient criterion validity (high quality of evidence).

**Conclusion** This review highlights an important lack of evidence on measurement properties of strength tests following ACL tear and meniscus injury. Concentric strength tests are currently the most promising tests following an ACL injury. High-quality studies on measurement properties are needed to recommend muscle strength tests in research and clinical practice.