

Results Overall, boys had significantly higher valgus KFM values than girls across both data collections ($P=0.001$). Also, a significant interaction between sex and age was observed, where girls and boys demonstrated respectively an increase and decrease in the valgus KFM values from pre-adolescence to adolescence age (13.8% increase vs. 10.6% decrease: $P=0.001$).

Conclusion The remarkable increase of KFM in adolescent athlete girls may, in part, play a role in their risk of ACL injury, although future studies need to assess the relationship between this increase and rate of ACL injuries.

20 PATIENTS' LIVED EXPERIENCES OF KNEE INJURY TREATMENT USING INTEGRATED PSYCHOLOGICAL TRAINING OR CARE-AS-USUAL: A PHENOMENOLOGICAL INTERVIEW STUDY

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Introduction Despite recent literature recommending increased focus on psychological aspects of rehabilitation, injured athletes often do not return to sport despite having reached physical readiness. The aim of this study was to explore the lived experiences of patients undergoing treatment for knee injury according to either the novel Motor Imagery to Facilitate Sensorimotor Re-learning (MOTIFS) training model, which integrates psychological training into physical rehabilitation, or care-as-usual.

Materials and Methods This phenomenological interview study identified major and subordinate themes encompassing the lived experiences of rehabilitation of 5 patients undergoing MOTIFS training and 7 receiving care-as-usual.

Results Results indicated that patients in the MOTIFS group perceived increased focus on individualized and activity-relevant meaning during rehabilitation training. This included concrete strategies to influence psychological outcomes, and identifying an explicit biopsychosocial interaction in which confidence, motivation, and enjoyment encouraged both physical and psychological readiness to return to sport.

Patients in the care-as-usual group perceived focus on physical aspects of training. The complexity of the biopsychosocial interaction was not articulated, though the lack of structured psychological training strategies was perceived to have a negative influence on feeling psychologically ready to return to sport.

Conclusion Those in the MOTIFS group described this novel training model as focusing on understanding and providing strategies for coping with psychological factors in rehabilitation and subsequent return to sport. The care-as-usual group perceived a need for more focus on improving psychological well-being. Future research should focus on methods of improving both physical and psychological readiness to return to sport.

25 STRENGTH, FUNCTION AND OVERALL HEALTH BEFORE AND AFTER SURGICAL OR CONSERVATIVE TREATMENT OF PROXIMAL HAMSTRING AVULSION

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Introduction Proximal Hamstring Avulsion (PHA) is a rare injury and happens with hyperextended knee and hyperflexed hip.

Materials and Methods The aim of the study was to investigate the effect of surgical and conservative treatment of PHA.

Patients with MRI-verified PHA were included and had either surgery or training. At baseline, at 6 and 12 months follow-up, all patients answered Perth Hamstring Assessment Tool (PHAT), Hip Sports Activity Scale (HSAS), overall-health Visual Analog scale and had their knee flexion strength measured at 30 degrees using handheld dynamometer.

Results 13 patients had surgery (mean age 51 ± 15 , 46% females, 15 days after injury) and 13 patients had training (mean age 50 ± 17 , 46% females, 64 days after injury). In the surgical group, the median PHAT score increased from 41 to 70 to 82 ($p<0.001$), their overall health: 50 to 80 to 80 ($p=0.025$) and their HSAS: 0 to 3 to 3 ($p<0.01$). In the training group, the PHAT score increased from 51 to 68 to 77 ($p<0.001$). Overall health improved from 69 to 75 to 80 ($p=0.025$), while HSAS went from 0 to 1 to 1 ($p<0.01$). Median knee strength improved in the surgical group from 0.22 to 0.67 to 1.07 Nm/kg (<0.001) and in the training group from 0.24 to 0.44 to 0.48 Nm/kg ($p<0.001$).

Conclusion At 12 months follow-up, both groups improved PHAT and overall health. However, the surgical group improved more in knee flexion strength and were able to participate in sports at a higher level than the training group.

26 COMBINED HORMONAL CONTRACEPTIVE USE IS NOT PROTECTIVE AGAINST MUSCULOSKELETAL CONDITIONS OR INJURIES: A SYSTEMATIC REVIEW WITH DATA FROM 5-MILLION WOMEN

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Introduction Half of young women start combined hormonal contraceptive (CHC) use for non-contraceptive reasons including 'controlling' their menstrual cycle to prevent injuries. These decisions should be evidence-based. This study assessed the association between CHC use and musculoskeletal tissue pathophysiology, injuries, or conditions.

Materials and Methods After protocol registration, five databases were searched to 04–2022. Intervention and cohort studies assessing the association between new or ongoing use of CHC and musculoskeletal tissue pathophysiology, injury, or condition outcome in post-pubertal women were included. Record screening, data extraction, and risk-of-bias assessment were duplicated (blinded). Meta-analyses were not possible. Semi-quantitative syntheses followed a modified GRADE approach.

Results Across 50 included studies, we assessed the effect of CHC use on 30 unique outcomes (75% bone-related). Serious risk-of-bias was judged present in 82% of studies, with 52% adequately adjusting for confounding. Meta-analyses were not possible due to heterogeneity in outcome methods, estimate statistics, and comparison conditions. Based on semi-quantitative synthesis, there is low certainty evidence that CHC use is associated with higher future fracture risk (RR 1.02–1.20), and total knee arthroplasty (RR 1.00–1.36). There is very low certainty evidence of unclear relationships between CHC use and a wide range of bone health outcomes. Evidence about the effect of CHC use on musculoskeletal tissues beyond bone, and the influence of use in adolescence versus adulthood is limited.

Conclusion Given a paucity of high-certainty evidence that CHC use is protective against musculoskeletal pathophysiology, injury, or conditions, it is premature and inappropriate to prescribe CHC for these purposes.

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KNEE-RELATED QUALITY-OF-LIFE, SYMPTOMS, PAIN, AND FUNCTION IN SPORTS/RECREATIONAL ACTIVITIES IN ADULTS WITH A HISTORY OF ADOLESCENT OSGOOD-SCHLATTER: A CROSS-SECTIONAL STUDY

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Background Osgood-Schlatter is a common growth-related condition in adolescence and can cause persistent symptoms and decrease quality of life. However, little is known about its long-term consequences for knee-related health in adulthood.

Aim To investigate self-reported knee health of adults diagnosed with Osgood-Schlatter during adolescence compared to data from healthy age-matched populations.

Methods We invited all (n=1218) patients aged 18–55y, diagnosed in secondary care with Osgood-Schlatter during 1977–2020, who were invited to complete a web-based survey. Knee-related health was self-reported on the Knee Injury and Osteoarthritis Outcome Score (KOOS) on subscales: Quality-of-Life (QoL), Symptoms, Pain, and Sport/Rec. Responses were grouped according to pre-specified age groups (18–25, 26–35, 36–45, 46–55 years) and compared using a two-tailed students t-test, to age-matched KOOS values derived from a healthy cohort (Williamson AJSM 2015, n=1000).

Results 400 participants completed the survey (mean age 33.8 ±13y, 65% men). All mean subscale scores were lower for

the surveyed group compared to the healthy cohort (p<0.001). Mean differences between the two groups were (female/male): QoL subscale: 36/19 points (18–25y), 25/27 points (26–35y), 26/33 points (36–45y), 25/23 points (46–55y); Symptom subscale: 15/8 points (18–25y), 8/9 points (26–35y), 18/11 points (36–45y), 10/11 points (46–55y); Pain subscale: 19/9 points (18–25y), 11/12 points (26–35y), 13/15 points (36–45y), 16/10 points (46–55y); Sport/Rec subscale: 36/19 points (18–25y), 30/28 points (26–35y), 38/31 points (36–45y), 33/26 points (46–55y).

Conclusion People diagnosed with Osgood-Schlatter in adolescence have significantly decreased self-reported knee health in adulthood when compared to healthy populations. Future studies should address potential long-term consequences of this condition

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DECLINING TRENDS IN ARTHROSCOPIC MENISCUS SURGERY AND OTHER ARTHROSCOPIC KNEE PROCEDURES IN DENMARK: A NATIONWIDE REGISTER-BASED STUDY

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Introduction A doubling of arthroscopic meniscal procedures was observed in Denmark from 2000 to 2011, but arthroscopic meniscal procedures for degenerative meniscal tears are no longer recommended. We performed an updated investigation of Danish meniscal procedure trends in the private and public healthcare sectors in Denmark from 2006 to 2018, including trends for other arthroscopic knee procedures.

Materials and Methods Data on the five most commonly registered arthroscopic knee procedures were extracted from the Danish National Patient Register from January 1st 2006 to December 31st 2018, and linked with the Danish Population Statistic Register from Statistics Denmark to obtain data on age and sex.

Results A total of 414,253 arthroscopic knee procedures were registered during 315,290 surgeries on 244,113 individual patients in the study period. For arthroscopic meniscal procedures, the highest incidence rate was observed in 2010 (319 per 10⁵ persons/year, CI95% 314 to 323) and the lowest in 2018 (173 per 10⁵ persons/year, CI95% 169 to 176), corresponding to relative decrease of 46% from 2010 to 2018. Remaining arthroscopic procedures also showed declining trends, with lowest incidence for all procedures in 2018.

Conclusions A large decrease in the incidence for arthroscopic meniscal procedures was observed from 2010 to 2018, possibly in response to mounting evidence of limited benefit of this procedure for degenerative knee disease. All other investigated arthroscopic knee procedures also declined in the same period.