

limited knowledge about this care-seeking population. The purpose of this study is to describe children and adolescents consulting their GP due to musculoskeletal pain.

Materials and Methods This is a cross-sectional study embedded in the child and adolescent musculoskeletal pain cohort study, carried out in 17 Danish general practice clinics. Patients aged 8–19 years with musculoskeletal pain when consulting general practice completed a questionnaire on demographics, physical activity, pain impact, psychosocial factors, and expectations of their general practitioner.

Results One hundred participants were included (54% female, median age 13 [IQR: 12–16] years). The most frequent region of activity-limiting pain was the knee (56%), followed by the back (20%), ankle (19%), and neck (13%). The primary reason for (63%) consulting their GP was inability to use their body as usual due to pain. Median pain duration on consultation was 5 months [IQR: 3 weeks–1 year]. Over a third were nervous (34%), worried/anxious (33%), and took pain medication (33%). Pain negatively impacted sport activities at school (79%) and leisure time activities (88%). Pain made concentration (58%) and falling asleep (38%) difficult. Only 38% expected a pain free long-term future.

Conclusion This study demonstrates the bio-psycho-social impact of musculoskeletal pain in care-seeking children and adolescents in general practice. Demographics, pain characteristics, psychosocial characteristics, and physical characteristics should be considered when consulting children and adolescents with musculoskeletal pain.

31 UNDERLOADING, NOT OVERLOADING, OF THE PATELLOFEMORAL JOINT INCREASES THE RISK OF EARLY OSTEOARTHRITIS AFTER ACL RECONSTRUCTION

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10.1136/bmjsem-2022-sportskongres.7

Introduction Patellofemoral joint osteoarthritis is common following anterior cruciate ligament reconstruction (ACLR) and may be linked with altered joint loading. We aimed to determine if altered patellofemoral joint loading is associated with prevalent and worsening early patellofemoral osteoarthritis following ACLR.

Materials and Methods Forty-six participants (mean age 27±5 years) one-year following primary ACLR (hamstring-tendon autograft) underwent magnetic resonance imaging (MRI) and biomechanical assessment of their reconstructed knee. Trunk and lower-limb kinematics plus ground reaction forces were recorded during the landing phase of a standardised forward hop task. These data were input into an established musculoskeletal model to calculate patellofemoral contact force. Follow-up MRI was acquired on 32 participants at five-years post-ACLR. Generalised linear models (Poisson) assessed the relationship between patellofemoral loading and prevalent early patellofemoral osteoarthritis (i.e., presence of a patellofemoral cartilage lesion one-year post-ACLR) and worsening patellofemoral osteoarthritis (i.e., incident/progressive patellofemoral cartilage lesion at 5-years post-ACLR).

Results Those with a lower peak patellofemoral contact force were more likely to have early patellofemoral osteoarthritis at 1-year post-ACLR (n=14 (30%); prevalence ratio 1.37; 95% CI 1.02 to 1.85). A lower peak patellofemoral contact force increased the risk of worsening patellofemoral osteoarthritis at 5-years post-ACLR (n=9 (28%); risk ratio 1.55, 95%CI 1.13 to 2.11).

Conclusion Young adults following ACLR who underload their patellofemoral joint during a hopping task are at high risk of early patellofemoral osteoarthritis onset and progression within the first 5-years after ACLR. These findings challenge traditional thinking that joint overloading drives post-traumatic osteoarthritis, and provides new targets for osteoarthritis prevention.

32 SPONTANEOUS HEALING OF THE RUPTURED ANTERIOR CRUCIATE LIGAMENT: OBSERVATIONS FROM THE KANON TRIAL

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10.1136/bmjsem-2022-sportskongres.8

Introduction It is often assumed that an acutely ruptured ACL cannot heal. We evaluated ACL healing using MRI within 5 years of ACL rupture; described 2- and 5-year outcomes stratified by healing status and treatment; and investigated the relationship between ACL healing, sport/recreational function and quality of life (QOL) at 2- and 5-years following ACL injury.

Materials and Methods Secondary analysis of KANON Trial data following randomisation to rehabilitation and optional delayed ACL reconstruction (ACLR), or early-ACLR. Outcomes included Knee Injury and Osteoarthritis Outcome Score (KOOS) subscales, activity level, mechanical stability, and osteoarthritis. Mixed linear regression estimated the relationship between healing status, KOOS-Sports/Rec and KOOS-QOL, adjusted for age, sex, smoking and unmeasured person-specific time-invariant confounding.

Results Following management with rehabilitation-alone at 5-years (n=26), 56% had a healed-ACL at 2-years and 58% at 5-years. One in twenty-three (4%) had a healed ACL before undergoing delayed-ACLR. People with a healed-ACL reported high KOOS scores at 2-years and 63–93% met the patient acceptable symptomatic state criteria, compared to 31–61% in the non-healed or reconstructed groups. Two-year KOOS Sport/Rec and QOL scores were worse in the non-healed (mean difference (95% CI) -21.9(-38.8, -5.0); -26.9(-41.7, -12.1)), delayed-ACLR (-25.0 (-39.8, -10.1); -19.4(-32.3, -6.4)) and early-ACLR (-18.0(-31.5, -4.5); -13.9(-25.6, -2.1)) groups compared to the healed-ACL group, or findings excluded the possibility of better findings in the reconstructed groups.

Conclusion There was a high rate of ACL healing in patients managed with rehabilitation alone and these individuals reported better patient-reported outcomes compared to the non-healed and reconstructed groups.