RAPID RESEARCH

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Inside This Week:

Strength & Movement Associated with Groin Pain

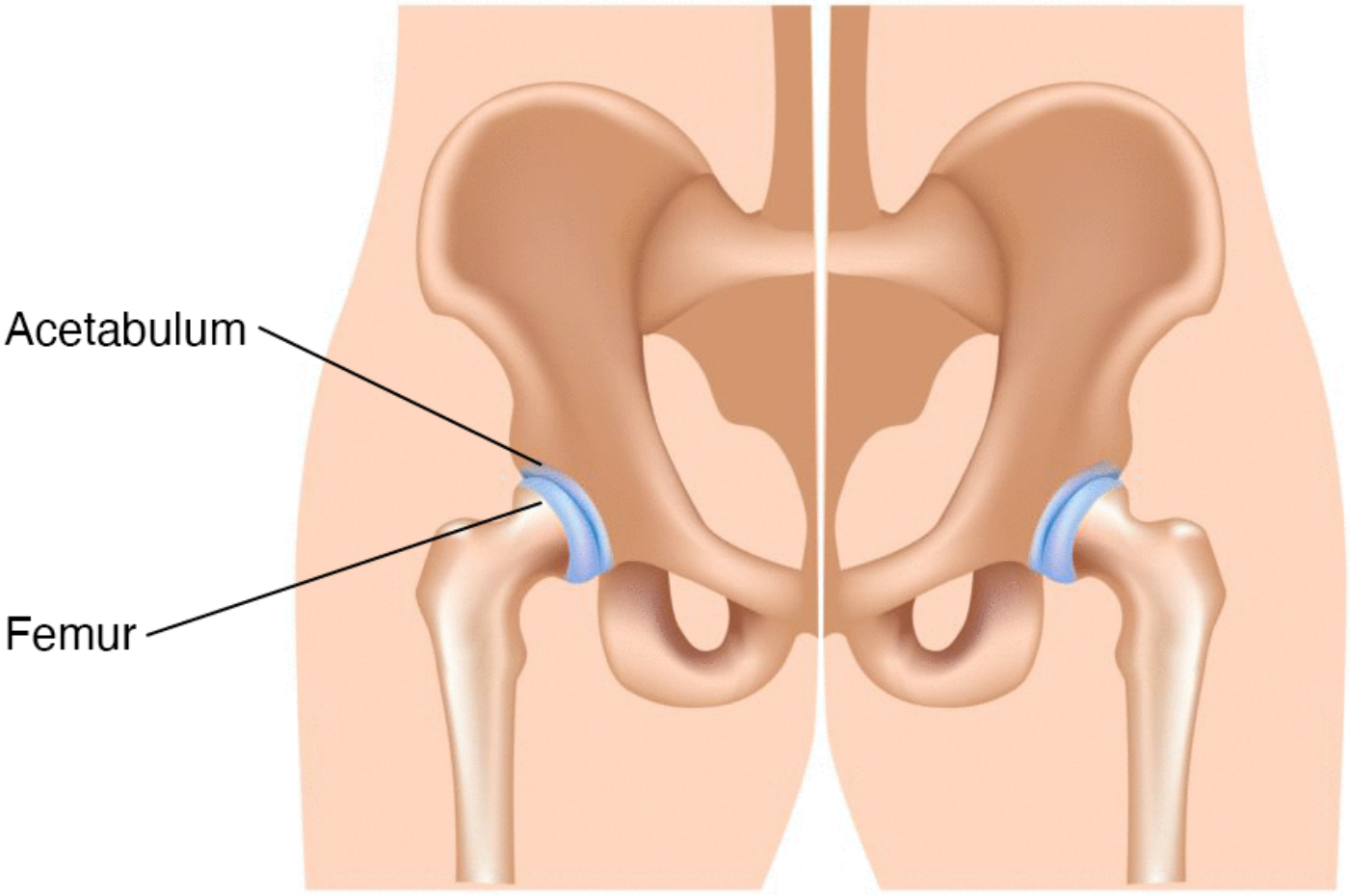
- Movement Patterns Associated With Sports-Related Groin Pain
- FAI & Limited Lateral Hip Rotation
- Copenhagen Adduction Exercise For Muscle Architecture and Adductor Flexibility

MOVEMENT PATTERNS ASSOCIATED WITH SPORTS-RELATED GROIN PAIN

JUNE 2023

Click for Full Text (Kloskowska et al. 2016)

This systematic review determined the movement and muscle function findings to better understand deficits and guide rehabilitation.



KEY FINDINGS

17 studies included:

Abduction Flexibility:
Abduction flexibility does not change before the onset of SRGP, suggesting it is not a risk factor for SRGP development.

Association with Increased Abduction Flexibility:
Moderate evidence of a connection between increased abduction flexibility during the bent knee fall-out test and SRGP, while no change in abduction flexibility at 0 degrees of hip flexion appears to be associated with SRGP.

Adductor Muscle Peak Torque Angle:
Limited evidence suggests that changes in adductor muscle peak torque angle at an angular velocity of 3.66 rad*s-1 (*210/s) do not contribute to the development of SRGP.

MAIN TAKEAWAYS

Screening considerations:
Screening programs should focus on hip adductors and knee flexor strength deficits as potential risk factors for SRGP, providing valuable guidance for prevention and rehabilitation efforts.

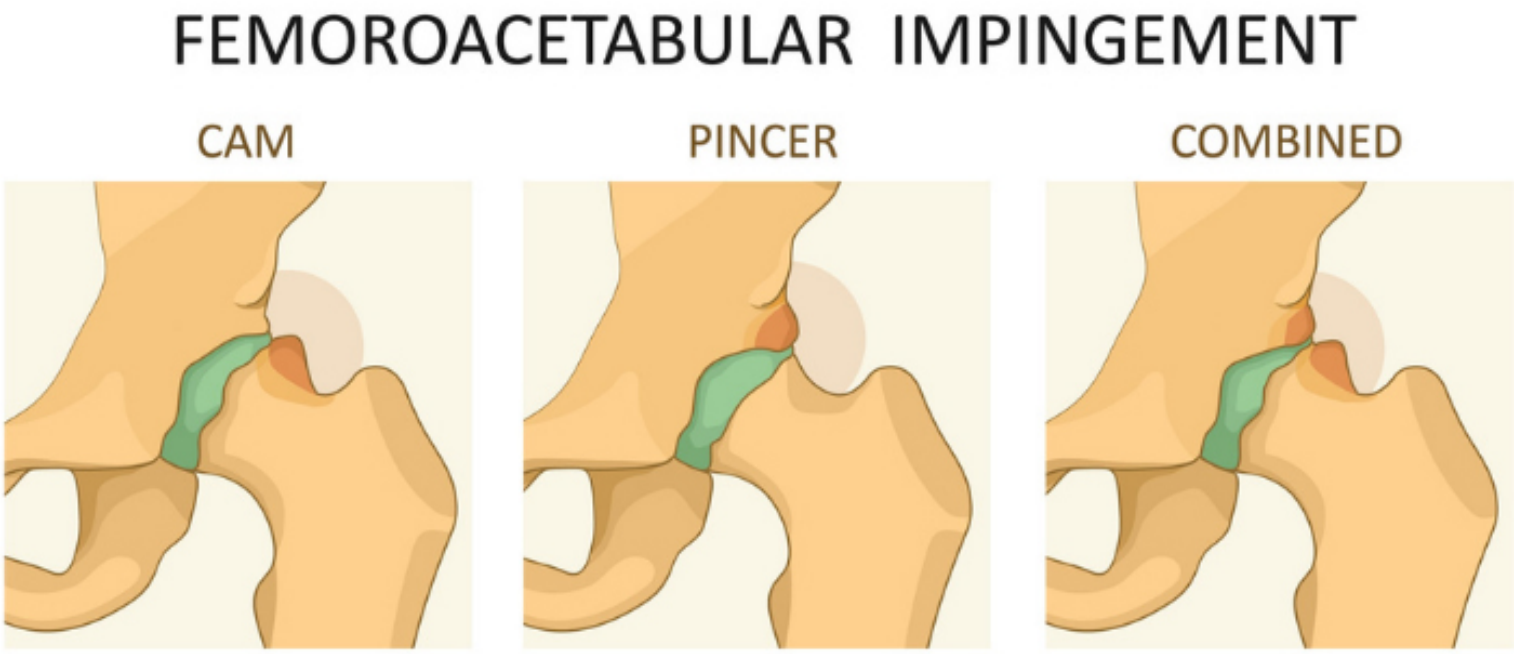
Rehabilitation considerations:
Rehab should address adductor muscle weakness, increased abduction flexibility, deficits in hip total external rotation, imbalances between adductor and abductor muscles, increased hip flexor strength, and transversus abdominis muscle thickness.

FAI & LIMITED LATERAL HIP ROTATION

JUNE 2023

Click for Full Text (Šarčević et al. 2022)

This study identified a new etiological risk factor for femoroacetabular impingement in the hip.



KEY FINDINGS

Participants & Group Characteristics:

The study involved 88 child athletes (63 males, 25 females) aged 8-17 years, with a case group of 34 children diagnosed with FAI syndrome and a control group of 54 children. The training hours per week were similar between the case and control groups.

Hip rotation range of motion (ROM):

External hip rotation ROM was significantly lower in the affected side compared to the non-affected side in individuals with FAI, as determined by statistical tests (t-test and Wilcoxon matched-pair test).

Association with FAI:

Logistic regression analysis indicated that limited external rotation ROM was a good predictor of FAI presence, with an accuracy of 85.23%.

MAIN TAKEAWAYS

Association between FAI Diagnosis & Limited Lateral Rotation ROM:

The case-control study found a strong association between the diagnosis of FAI and limited lateral rotation range of motion (ROM) in young athletes.

Screening Recommendation:

Due to the strong association, it is advised to include the screening of hip lateral ROM as a part of regular screening for young athletes. This can help identify athletes with limited external rotation and potential FAI.

Precautions before increasing external rotation:

In cases of limited external rotation, it is recommended to perform a radiograph of the hip joints before starting exercises to increase the ROM.

This step ensures that other underlying conditions like diminished anteversion of the femoral neck or bone pathology within the hip joint are ruled out.

COPENHAGEN ADDUCTION EXERCISE FOR MUSCLE ARCHITECTURE & ADDUCTOR FLEXIBILITY

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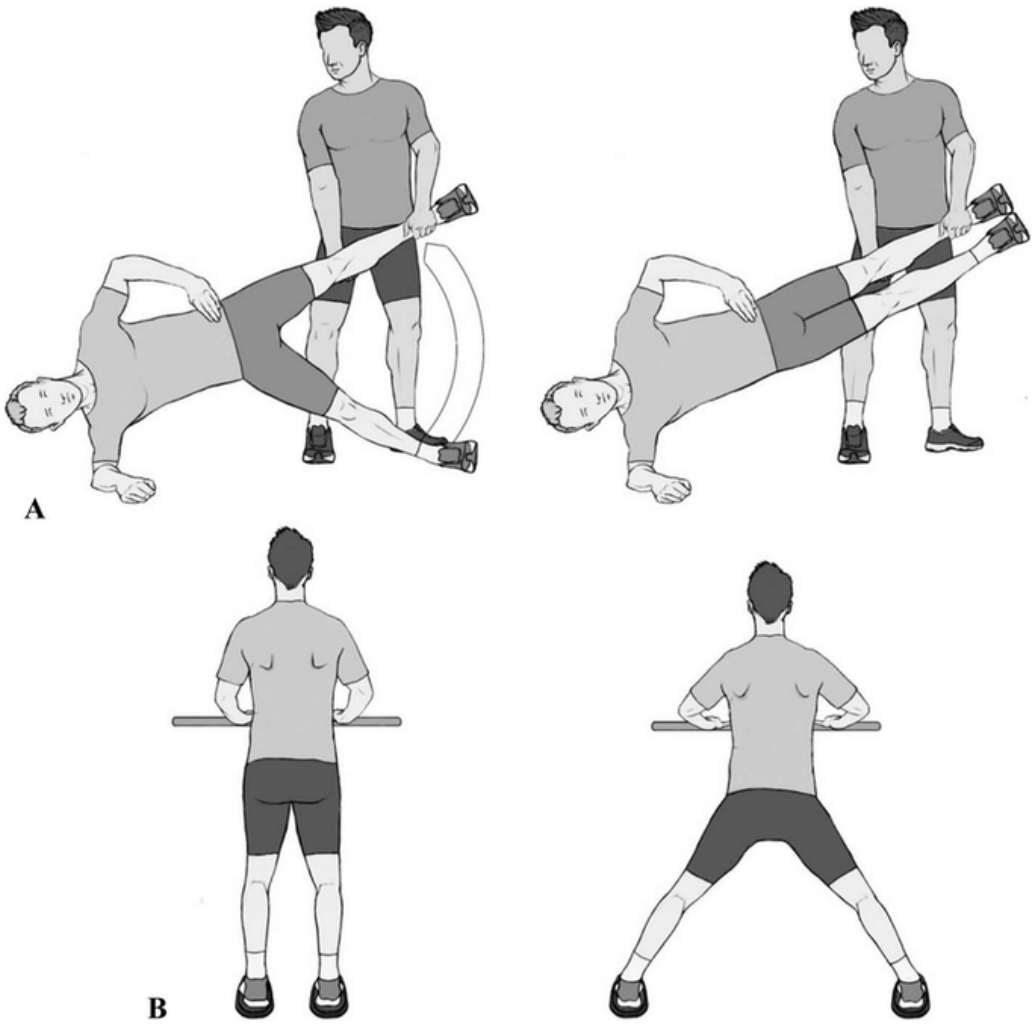
Click for Full Text (Alonso-Fernández et al. 2022)

This research analyzed the impact on the muscular architecture and flexibility of the adductor musculature after 8 weeks of CAE-based training and after 4 weeks of subsequent detraining.



KEY FINDINGS

Sample of 45 subjects included

Muscle Architecture Changes:
The eccentric training protocol with Concentric Adductor Exercise (CAE) had a significant effect on muscle thickness (MT).
The exercise group (EG) showed a significant increase in MT between specific time points (M1 and M2) and a subsequent decrease between M2 and M3.
The control group (CG) did not exhibit significant changes in MT.

Flexibility of Adductor Muscles:
The CAE protocol had an impact on hamstring muscle flexibility, as evidenced by significant changes in hip abduction degrees.

The EG demonstrated increased hip abduction after the training protocol and a reduction after detraining.

MAIN TAKEAWAYS

Importance of Adductor Strength & Prevention Strategies:
Enhancing adductor muscle strength is crucial for preventing groin pain and injuries, and CAE has shown effectiveness in increasing adductor strength and preventing groin problems.

Effects on Architecture & Flexibility:
CAE alone can increase Adductor Longus muscle thickness and improve hip abduction range of motion, indicating a positive impact on adductor muscle architecture and flexibility, which are essential for injury prevention.

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