

# Injury Profiles in Anterior Cruciate Ligament and Posterior Cruciate Ligament Injuries

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### **Disclosures**

- Volker Musahl reports educational grants, consulting fees, and speaking fees from Smith & Nephew plc, educational grants from Arthrex and DePuy/Synthes, is a board member of the International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine (ISAKOS), and deputy editor-in-chief of Knee Surgery, Sports Traumatology, Arthroscopy (KSSTA).
- Kristian Samuelsson is a member of the Board of Directors in Getinge AB.

# Backgound

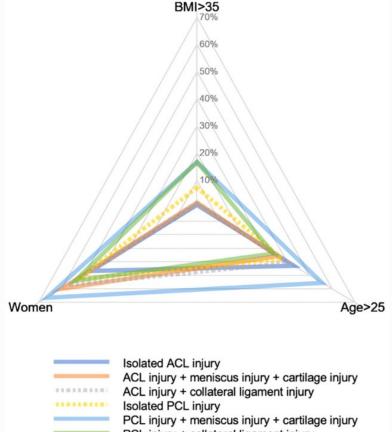
- Despite the rising incidence of cruciate ligament injuries and their negative impact on both sports' participation and knee function, the specific injury profiles for anterior (ACL) and posterior cruciate ligament (PCL) injuries are yet to be described.
- <u>Purpose</u>: to compare patient characteristics, activities at time of injury and injury profiles in patients with ACL and PCL injuries.

### **Methods**

- Data from the Swedish National Knee Ligament Registry between years 2005 and 2019
- Collected data included patient characteristics (age, sex, body mass index (BMI)), activity at time of injury, and concomitant injuries.
- Two study groups: 1) Index ACL reconstruction; 2) Index PCL reconstruction

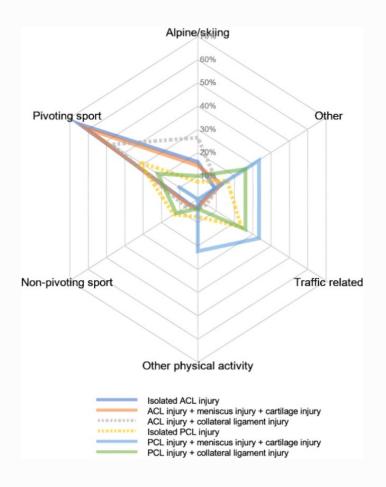
### Results

 A larger proportion of patients with combined injuries to the PCL, meniscus and cartilage were female, aged >25 years and with a BMI >35 kg/m<sup>2</sup> compared to patients with ACL, meniscus and cartilage injuries.



## Results

 An isolated ACL injury was more common in males, while all the other injury profiles of ACL were more common in females.



### Conclusion

- Different patient characteristics and activities at time of injury resulted in distinct injury profiles for the ACL and PCL groups.
- The findings provide valuable information of the way specific injury patterns of cruciate ligament injuries occurs and may help clinicians with the diagnostic process of ACL and PCL injuries.

### References

- 1. Arendt EA, Agel J, Dick R (1999) Anterior cruciate ligament injury patterns among collegiate men and women. J Athl Train 34:86-92
- Gwinn DE, Wilckens JH, McDevitt ER, Ross G, Kao TC (2000) The relative incidence of anterior cruciate ligament injury in men and women at the United States Naval Academy. Am J Sports Med 28:98-102
- 3. Lind M, Nielsen TG, Behrndtz K (2018) Both isolated and multi-ligament posterior cruciate ligament reconstruction results in improved subjective outcome: results from the Danish Knee Ligament Reconstruction Registry. Knee Surg Sports Traumatol Arthrosc 26:1190-1196
- Owesen C, Sandven-Thrane S, Lind M, Forssblad M, Granan LP, Årøen A (2017) Epidemiology of surgically treated posterior cruciate ligament injuries in Scandinavia. Knee Surg Sports Traumatol Arthrosc 25:2384-2391
- 5. Winkler PW, Zsidai B, Wagala NN, Hughes JD, Horvath A, Senorski EH, et al. (2021) Evolving evidence in the treatment of primary and recurrent posterior cruciate ligament injuries, part 1: anatomy, biomechanics and diagnostics. Knee Surg Sports Traumatol Arthrosc 29:672-681