

## The Knee Notch Width Index is not Correlated to the Three-Dimensional Volume of the Notch



Carola F. van Eck  
Cesar A.Q. Martins  
Stephan G.F. Lorenz  
Patrick Smolinski  
Freddie H. Fu



Department of Orthopaedic Surgery, University of Pittsburgh, Pittsburgh, PA, USA

Disclosure: Research/Education grant from Smith & Nephew

## Background

- A small notch is often considered an increased risk for ACL rupture, an indication for notchplasty, or a reason to convert double-bundle to single-bundle ACL reconstruction.
- The notch width index (NWI) is the most frequently used method to determine notch size.



## Primary Aim

- i. To determine if there is a correlation between the NWI as measured on the three most frequently used radiographic views (the Holmblad 45°, Holmblad 70° and Rosenberg view) and the three-dimensional notch volume.



## Secondary Aims

- ii. To determine the intra- and inter-observer reliability of the Holmblad 45°, Holmblad 70° and Rosenberg view.
- iii. To determine the correlation between the NWI measured on the Holmblad 45°, Holmblad 70° and Rosenberg view.



### Conclusion – Secondary Aims

- ii. The three radiographic views, the Holmblad 45°, Holmblad 70° and Rosenberg view showed a moderate correlation with each other.
- iii. All three radiographic views, the Holmblad 45°, Holmblad 70° and Rosenberg view, proved reliable



### Significance of Findings

- The current study showed no correlation between the NWI and the overall volume of the notch.
- It is currently unknown if NWI or notch volume better predicts risk of ACL rupture.
- Therefore the authors would recommend caution with the use of 2-dimensional measurements for risk assessment and surgical planning.

