

## Age dependent prevalence of the supraacetabular fossa in children, adolescents and young adults

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### OBJECTIVES

The supraacetabular fossa (SAF) is an anatomical variant of the acetabular roof which may mimic a cartilage defect. Two different subtypes have been described: type 1 fluid-filled and type 2 cartilage-filled. The adult prevalence of SAF was reported between 10.5 and 12.6%. We aimed to determine SAF prevalence in a pediatric and young adult population and examine the potential remodeling of the subtypes over time.

### METHODS

A retrospective search of the institutional database for hip MRI of participants aged 4-25 years was carried out between 2010 and 2020. A total of 401 eligible MRIs of 323 participants were analyzed by two readers. The documented features were: existence of SAF, definition of subtype and measurements of the SAF in three dimensions. Logistic regression models were calculated to estimate the influence of age on the presence of SAF.

### RESULTS

Out of 323, 115 (35,6%) participants demonstrated a supraacetabular fossa. 63 (19.5%) participants presented subtype 1 and 51 (15.8%) type 2; one participant had both. The predicted probability for SAF increases until the age of 14, beyond 14 years, the combined predicted probability for both subtypes decreased again. In contrast to SAF type 1, SAF type 2 was more prevalent with older age. The size of the SAF decreased with aging.

### CONCLUSION

The supraacetabular fossa is most frequent in adolescents. With higher age, the prevalence and the size of the SAF decreased. This data supports the theory that the SAF is a developmental variant.

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