

# Sella turcica

The **sella** turcica (Turkish Chair) is a saddle-shape depression in the **sphenoid bone** of the human **skull** and of the skulls of other Hominidae including chimpanzees, orangutans, and gorillas.

Rennert et al. performed a surgically relevant morphometric analysis of the sella and parasellar regions during pediatric maturation.

Measurements of sellar length (SL), sellar depth (SDp), sellar diameter (SDm), interclinoid distance (ID), intercavernous distance (ICD), and the presence of sphenoid sinus pneumatization (SSP), and sphenoid sinus type (SST) were made on thin-cut CT scans from 60 patients (evenly grouped by ages 0-3, 4-7, 8-11, 12-15, 16-18, and >18 years) for analysis. Data were analyzed by sex and age groups using t-tests and linear regression.

Sella and parasellar parameters did not differ by sex. SL steadily increased from  $8.5 \pm 1.2$  mm to  $11.5 \pm 1.6$  mm throughout development. SDp and SDm increased from  $6.0 \pm 0.9$  mm to  $9.3 \pm 1.4$  mm and  $9.0 \pm 1.6$  mm to  $14.4 \pm 1.8$  mm during maturation, with significant interval growth from ages 16-18 to adult ( $p < 0.01$ ). ID displayed significant growth from ages 0-3 to 4-7 ( $18.0 \pm 2.4$  mm to  $20.7 \pm 1.9$  mm;  $p = 0.002$ ) and ICD from ages 0-3 to 8-11 ( $12.0 \pm 1.8$  mm to  $13.5 \pm 2.1$  mm;  $p < 0.001$ ), without further significant interval growth. SSP was not seen in patients  $< 3$ , but was 100% by ages 8-11. SSTs progressed from conchal/presellar (60% at ages 4-7) to sellar/postsellar (80% at adulthood).

The sella and parasellar regions have varied growth patterns with development. Knowledge of the expected maturation of key **anterior skull base** structures may augment surgical planning in younger patients <sup>1)</sup>.

<sup>1)</sup>

Rennert RC, Brandel MG, Steinberg JA, Nation J, Couldwell WT, Fukushima T, Day JD, Khalessi AA, Levy ML. Maturation of the **sella turcica** and **parasellar region**: Surgical relevance for anterior skull base approaches in pediatric patients. Clin Neurol Neurosurg. 2022 Mar 2;215:107168. doi: 10.1016/j.clineuro.2022.107168. Epub ahead of print. PMID: 35247690.

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