

## **Bony landmarks to identify the Stylomastoid foramen in humans - A preliminary study.**

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This study aimed at identifying the location of the stylomastoid foramen relative to the Mastoid tip and the Tympanomastoid suture in a Sri Lankan population. This knowledge is important to the surgeon to localize the facial nerve as it exits the skull.

A total of 42 dry adult skulls from cadavers donated to the Faculty of Medical Sciences in University of Sri Jayewardenepura and University of Colombo for teaching and research purposes were analysed to measure the distance from the centre of the stylomastoid foramen(cSMF) to the tip of the mastoid(MT) and the lowest margin of the tympanomastoid suture(TMS). The angle between the anteroposterior line passing through the MT to the base of the zygomatic process and the line between MT to cSMF was also measured.

The mean distance between the cSMF and the MT was  $1.3 \pm 0.2$ cm with  $1.2 \pm 0.1$ cm on the right-side and  $1.3 \pm 0.2$ cm on the left-side. In a majority 84.5%(71/84) cSMF to MT distance was 1.1-1.5cm with a range of 0.7cm to 1.6cm.

Between the cSMF and the TMS it was  $0.9 \pm 0.2$ cm with  $0.8 \pm 0.1$ cm on the right and  $0.9 \pm 0.2$ cm on the left. In a majority 89.3%(75/84) cSMF to TMS distance was 0.6-1.0cm with a range of 0.5cm to 1.3cm.

In analysed skulls the angle was  $61.4^\circ \pm 7.9$  with  $61.0^\circ \pm 7.1$  on the right and  $61.7^\circ \pm 8.7$  on the left. Majority of the angles 26.2%(22/84) were between  $56-60^\circ$  with a range of  $43-80^\circ$  degrees.

In conclusion the knowledge on distances cSMF-MT and cSMF-TMS with the angle enable to locate the facial nerve trunk at the stylomastoid foramen. The distance from MT is similar to Indian studies but distance from TMS is higher than Indian and European studies. There is no statistical difference between right and left but further studies are needed to derive population values.