

plane according to the registration between the 3D model of cranium and its “mirrored” version [6]. The collocation of a midsagittal plane involves relevant difficulties as there are no universally accepted midpoints to guide a comparison between the two sides of the skull and manual methods for collocating a symmetry plane are affected by low reliability [18].

The present procedure solves this problem as the mirroring procedure is automatically performed by the software, reducing the possible error due to manual localization of the midsagittal plane. In addition, the entire procedure proved to be well repeatable.

In conclusion, this article proposes a novel approach to the assessment of asymmetry of bony structures based on mirroring and registration of segmented 3D models from CT scans. The method may be used to study anatomical symmetry and for planning reconstructive surgery in case of previous traumatic injuries or a tumour removal.

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