

Referencing orbital measures for surgical and cosmetic procedures

Abstract:

Orbital morphometry is an important consideration during surgical procedures such as reconstruction of the face and cranium. These are done to restore lost functional capacity or to improve cosmetic appearance. Periorbital and intraorbital neurovascular structures risk relative damage during these maneuvers. A thorough understanding of orbital anatomy is therefore essential in avoiding surgical complications. The aim of this study was to describe the average orbital distances and depths from known identifiable anatomical landmarks. One hundred and thirteen adult crania obtained from National Museum of Kenya, Nairobi were examined. Measurements of superior and inferior orbital depths and the biorbital and marginofissural distances were taken using a sliding vernier caliper and their mean measurements documented. The superior orbital depth was 53.38mm in males and 52.03mm in females. The inferior orbital depth was 55.17mm in males and 53.76mm in females. The marginofissural distance was 23.79mm and 22.30mm in males and females respectively. The biorbital breadth was 99.49mm in males and 96.43mm in females while the interorbital distance was 18.91mm in males and 18.26mm in females. This study proposes that orbital measures be given special consideration during orbital reconstruction. A depth of 53mm is recommended as a safe superior orbital depth during operations involving the deep orbit. Similarly, on the orbital floor 55mm into the orbital cavity should be considered safe from the optic nerve.