

# HEAD AND NECK CONFERENCE: THE MULTIDISCIPLINARY APPROACH

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## Postnatal growth of the paranasal air sinuses in relation to the nasal cavity and craniofacial skeleton

Carmen Rennie, Mohammed Rashid Haffajee and Kapil Satyapal

University of KwaZulu-Natal, South Africa

Craniofacial form may have a bearing on Paranasal Air Sinuses (PAS) morphology; however, few studies have fully illustrated this relationship. The aim was to assess the growth of the craniofacial skeleton in relation to the PAS postnatally. The relationship of the linear parameters of each PAS was assessed with volume of each PAS, nasal cavity and craniofacial skeleton linear parameters. Computerized tomography scans (n=480; 276 males; 204 females) were reviewed with age range 1-25 years. To determine the volume of each PAS, 3840 three-dimensional (3D) models were reconstructed using 3D Slicer program. Linear parameters of the PAS, nasal and cranial cavity were measured from axial, coronal and sagittal planes. Multiple regression analysis assessed the relationship of the parameters. Overall, the results indicated a weak relationship between the linear parameters of the PAS to linear parameters of the nasal cavity and craniofacial skeleton. A similar trend was observed according to age, sex and population groups. Variation in volume of the air sinuses was contributed to the linear parameters of the PAS. The weak relationship between the PAS, nasal cavity and craniofacial skeleton parameters, confirmed that the PAS may be inherently expansive structures with consequently related changes externally.

### Biography

Carmen Rennie has completed her PhD in 2018 and is a Lecturer in the Department of Clinical Anatomy, University of KwaZulu Natal. She is a Member of the Anatomical Society of Southern Africa and has produced 13 articles in international peer reviewed journals (DOHET approved) in the field of clinical anatomy and education. She has a keen interest in the field of craniofacial skeletal development with a focus on paranasal air sinuses.

rennie@ukzn.ac.za

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