

**P15. THOMPSON, RORY, RUTH TOWNEND, NICHOLAS CHILVERS and CECILIA BRASSETT, Human Anatomy Teaching Group, Department of Physiology, Development and Neuroscience, Downing Site, University of Cambridge, Cambridge, UK. **Determining Optimal Nasogastric Tube Length: a Comparison of Methods****

Nasogastric tube (NGT) insertion is a common procedure in which a tube is introduced to the stomach via a nostril. Insertion length is estimated during the procedure itself, with four different methods of estimation ('NEX', 'XEN+10', 'NXU/2', and 'Hanson') described to date. Each relies upon measurements between the nose, tragus, xiphisternum or umbilicus. This study aimed to determine the correlation between these measurements and optimal NGT length, thereby evaluating their accuracy. The distance between the nose, left tragus, xiphisternum, and umbilicus was measured on 23 embalmed cadavers. The abdominal cavity of each cadaver was then opened, the stomach incised, and an NGT inserted. The length of each tube between the nostril and the oesophagogastric junction was recorded. This study was powered to detect a moderate correlation ( $r \geq 0.50$ ) between surface measurements and NGT length ( $\alpha = 0.05$ ,  $\beta = 0.30$ ). However, no statistically significant correlations were found. All methods were therefore unreliable: an NGT inserted to a length estimated by the 'NEX', 'XEN+10', 'NXU/2', and 'Hanson' methods would have been optimally positioned within the stomach in just 14/23(61%), 8/23(35%), 2/23(9%), and 7/23(30%) cases respectively. Clinicians should therefore confirm NGT length by other means, such as the aspiration of gastric contents or a confirmatory radiograph.