



AB088. 169. Identifying and reducing risks in functional endoscopic sinus surgery through a hierarchical task analysis

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Background: Our objective was to develop a hierarchical task listing of steps required to perform successful functional endoscopic sinus surgery (FESS). To complete a technical and human factor analysis of tasks resulting in the identification of errors, frequency of occurrence, severity and reduction through remediation.

Methods: A triangulation of methods was used in order to derive the steps required to complete a FESS: (I) a literature review was carried out of published descriptions of FESS techniques; (II) observations of three FESS; (III) interviews with 5 surgeons on FESS techniques. Data sets were combined to develop a task analysis of a correct approach to conducting FESS. A review by 12 surgeons, and observation

of 20 FESS resulted in refinement of the task analysis. With input from 5 consultant surgeons and 2 consultant anaesthetists, a Systematic Human Error Reduction and Prediction Approach (SHERPA) was used to identify the risks and mitigation in FESS.

Results: Ten tasks and 48 subtasks required for a correct approach to completing a FESS were detailed. A measure of risk for each step was calculated, and risk reduction methods at each step identified.

Conclusions: Hierarchical task analysis and SHERPA are valuable tools to deconstruct expert performance and to highlight potential errors in FESS. The HTA and SHERPA approach to surgical procedures are useful learning and assessment tools for novice surgeons. The information derived offers the opportunity to improve surgical training and enhance patient safety by identifying high risk steps in the procedure, and how risk can be mitigated.

Keywords: Human factors; task analysis; functional endoscopic sinus surgery (FESS)

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