**Endoscopic Ear Surgery Needs Analysis – Literature Search**

**Research Question:** Why have many ear surgeons not adopted endoscopic ear surgery? What are the major technical barriers of endoscopic ear surgery and what technological advances would encourage surgeons to adopt the technique?

**Key concepts:**

Endoscopic Ear Surgery, Survey, Questionnaire, Time Flow Analysis of endoscopic ear surgery.

**Relevant Papers:**

(1) This article is a qualitative survey on endoscopic neurosurgical approaches; this project will conduct a similar survey but for ear surgery instead. This gives an outline of how the survey should be conducted, and results should be presented in a paper.

(2) This survey outlines the current status of endoscopic ear surgery and gives an idea of what kind of questions the survey should ask to characterize subjects’ surgical experience, use of endoscopes in ear surgery and advantages and concerns with endoscopic ear surgery. It also shows the different types of ear surgery and what percent of each type employ an endoscope.

(3) This paper took records of 50 patients who underwent laparascopic procedures between a two-year time period. This paper gives a method of how to select and present statistical results of studying the efficiency of different types of procedures where they recorded various time points, compared to traditional surgery.

(4) This paper analyzed preoperative setup and postoperative breakdown times in the conventional OR and minimally invasive OR in an experimental and clinical setting for laparoscopic surgery. This was not a surgical time flow study but still gives an idea of how to conduct a statistical time flow analysis.

(5) This paper presents the timing and analysis of MRI- guided intervention and provides a detailed analysis of the surgical workflow encompassing staff, time, devices used, patient safety and clinical efficacy. This will also give an idea of how to conduct the time flow study and use ANOVA statistical analysis of the variance to test the effects of the study protocols.

(6) This article gives a good background for the literature review on the applications, advantages, indications for use and limitations of endoscopic middle ear surgery. The limitations will direct the type of questions asked in the survey for surgeons to develop the needs analysis.

(7) This paper about residual cholesteatoma, or abnormal skin growth, that can be removed via endoscopic intervention will give a background of this type of surgery which will be discussed in the questionnaire survey and the time flow analysis. This study presents the results of cholesteatoma surgical success in endoscopic vs. microscopic intervention.

(8) A part of the project is to conduct a time flow study of ear drum reconstruction (tympanoplasty) surgery. This paper outlines the top ten considerations of this type of surgery, which gives a thorough background of the details of the surgery, as well as the surgical approach.

**Relevant Papers:**

1. Marcus HJ, Cundy TP, Hughes-hallett A, Yang Z, Darzi A, Nandi D, et al. Europe PMC Funders Group Endoscopic and Keyhole Endoscope-assisted Neurosurgical Approaches : A Qualitative Survey on Technical Challenges and Technological Solutions. 2015;28(5):606–10.

2. Yong M, Mijovic T, Lea J. Endoscopic ear surgery in Canada : a cross-sectional study. J Otolaryngol - Head Neck Surg [Internet]. Journal of Otolaryngology - Head & Neck Surgery; 2016;1–8. Available from: http://dx.doi.org/10.1186/s40463-016-0117-7

3. Hsiao KC, Machaidze Z, Pattaras JG. Time Management in the Operating Room : An Analysis of the Dedicated Minimally Invasive Surgery Suite. 2004;300–3.

4. Pierie CHÆJPEN. Interoperative efficiency in minimally invasive surgery suites. 2009;2332–7.

5. Rube MA, Fernandez-gutierrez F, Cox BF, Holbrook B, Houston JG, White RD, et al. HHS Public Access. 2015;10(5):637–50.

6. James AL. E n d o s c o p i c Mi d d l e E a r S u r g e r y in C h i l d ren. Otolaryngol Clin NA [Internet]. Elsevier Inc; 2012;(November). Available from: http://dx.doi.org/10.1016/j.otc.2012.10.007

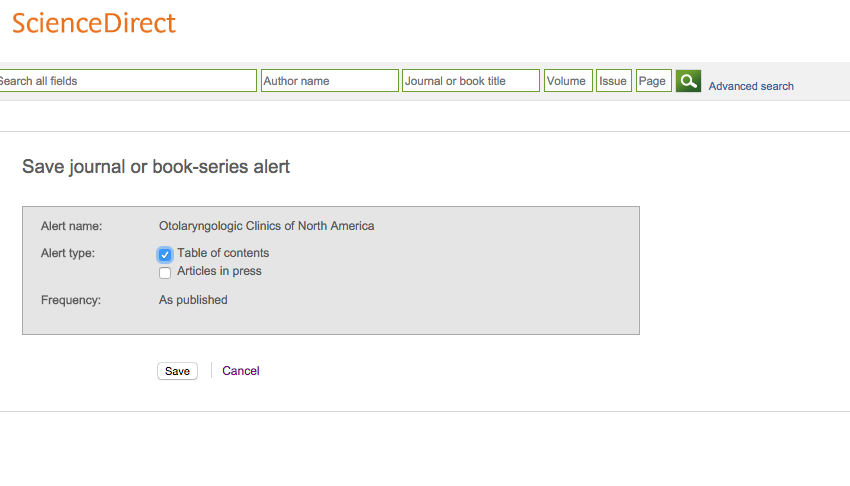
7. James ÃAL, Cushing ÃS, Papsin ÃBC. Residual Cholesteatoma After Endoscope-guided Surgery in Children. 2015;196–201.

8. James AL, Papsin BC, Papsin BC. -- Head and Neck Surgery. 2012;(September).

**Relevant Journals:**

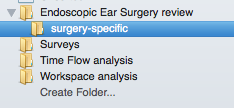
|  |  |  |
| --- | --- | --- |
| Name: | Publisher: | Impact Factor: |
| Journal of Otolaryngology – Head & Neck Surgery | Biomed Central The Open Access Publisher | 1.585 |
| american academy of otolaryngology – Head and Neck Surgery | Sage Publishing | 2.02 |
| Otolaryngologic Clinics of North America | Elsevier | 0.82 |
| The Laryngoscope | Wiley Online Library | 2.272 |
| Annals of Otology, Rhinology & Laryngology | Sage Journals | 1.171 |

**Email alert:** The Otolaryngologic Clinics of North America reports on many endoscopic ear surgery cases and so would be useful to keep updated.



**Reference Manager:** Mendeley

Folder structure for papers in Mendeley:



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| My research question: | Needs analysis and time flow study for endoscopic ear surgery. | | | |
| Places to search for information: | My supervisor, who is an endoscopic ear surgeon, pubmed, grad students from my lab who have done similar searches for their research. | | | |
|  | | | | |
| List of sources searched: | Date of search | Search strategy used, including any limits | Total Number of Results found: | Comments |
| PubMed | 22-Sep-2016 | endoscopic ear surgery AND (needs analysis OR question\* OR survey) in PubMed search | 157 |  |
| Papers from students in my lab | 22-Sep-2016 | Spoke with labmates who have done a survey or needs analysis before. | 4 |  |
| U of T Library – articles and books | 22-Sept-2016 | endoscopic ear surgery AND (needs analysis OR question\* OR survey) in PubMed search | 6881 articles  4 books |  |
| Google search | 28-Sep-2016 | “time management surgery procedure” | 4.6 million | Was trying to find a ‘time flow analysis’ paper and was having trouble finding the right words so tried google first. |
| Papers cited by PI | 28-Sep-2016 | From previous grant application proposal | 31 |  |

Concept: time flow analysis related term: time management, procedure time, procedure length

Concept: survey related term: question\*, needs analysis