

Otorhinolaryngology: Trainee-led versus Trainer-led procedures

Joshua McKenna¹, James O'Hanlon¹, Ka Siu Fan², Jeremy Chan³

¹: Swansea University Medical School, Swansea University, Swansea, UK ²: Institute of Medical and Biomedical Education, St George's University of London, Cranmer Terrace, London, UK ³: Translational Health Sciences, Bristol Medical School, Bristol, UK

Introduction

Otorhinolaryngology (ENT) training consists of two years foundation training, two years core surgical training, and six years speciality training. The importance of getting operative experience early on is well established. While increased involvement in procedures will benefit the trainees' development, this review aimed to assess the impact of trainee involvement on ENT procedures.

Method

A literature search was conducted on 01/08/20 via Embase, Cochrane, and Medline, independently by two of the authors (JM,JOH) in accordance with PRISMA guidelines. Papers comparing outcomes of trainee-led and trainer-led ENT procedures and simulations were included and any discrepancies were settled by discussion and consensus with a third author (KSF).

Results

From a total of 120 identified records, 6 studies were included in qualitative synthesis (see Figure 1). Results pertained to six different procedures. With the exception of senior trainees in surgical simulation, trainee-led procedures took longer than trainer-led procedures, there was no significant difference in outcomes or hospitalisation time, and trainers had significantly less variation in their executions, especially in critical parts of the procedures, and had superior efficiency of movement (See figure 2).

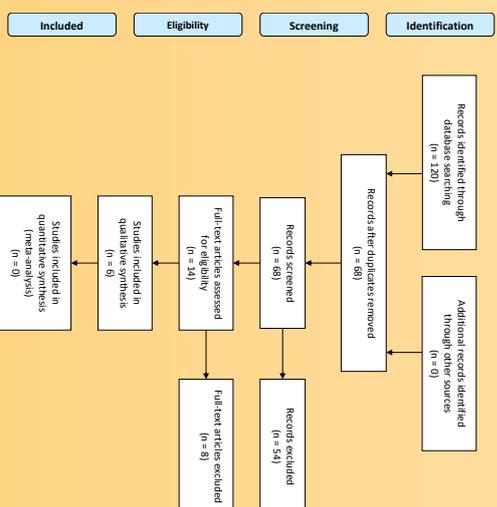


Figure 1: PRISMA flow chart for trainee-led versus trainer-led procedures in otorhinolaryngology.

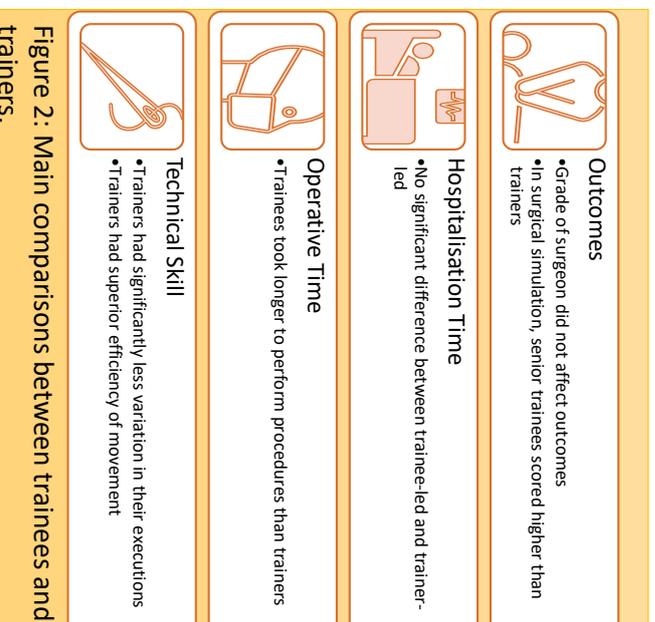


Figure 2: Main comparisons between trainees and trainers.

Discussion

Our findings for ENT surgery were consistent with current literature focusing on vascular surgery. A review of simulation in ENT surgery found that a strong performance in simulations may not necessarily translate to a strong performance of actual procedures, suggesting that the superior performance of senior trainees in surgical simulation when compared to trainers may not translate to superior performance of the actual procedures.

Conclusion

Overall, ENT surgery can be safely performed by trainees under senior trainers' supervision.

References

- Alzhrani, F., Aldub, R., Alosaimi, K., Islam, T., Almuhawes, F., & Alsanosi, A. (2020). Safety of tympanoplasty and ossiculoplasty performed by otorhinolaryngology trainees. *The Journal Of Laryngology & Otology*, *134*(3), 213-218. doi: 10.1017/s0022215120000584
- Bowles, P., Harries, M., Young, P., Das, P., Saunders, N., & Fleming, J. (2014). A validation study on the use of intra-operative video recording as an objective assessment tool for core ENT surgery. *Clinical Otolaryngology*, *39*(2), 102-107. doi: 10.1111/coa.12240
- Curry, M., Malpani, A., Li, R., Tantillo, T., Jog, A., & Blanco, R. et al. (2012). Objective assessment in residency-based training for transoral robotic surgery. *The Laryngoscope*, *122*(10), 2184-2192. doi: 10.1002/lary.23369
- Karlsson, T., Shaheel, M., Al-Adhami, A., Suhailae, S., Ram, B., & Ah-See, K. (2013). Revision nasal surgery after septorhinoplasty: trainees versus trainers. *European Archives Of Oto-Rhino-Laryngology*, *270*(12), 3063-3067. doi: 10.1007/s00405-012-2162-9
- Ross, P., Steven, R., Zhang, D., Li, H., & Abel, E. (2014). Computer-assessed performance of psychomotor skills in endoscopic otolaryngology surgery: construct validity of the Dundee Endoscopic Psychomotor Otolaryngology Surgery Trainer (DEPOST). *Surgical Endoscopy*, *29*(11), 3125-3131. doi: 10.1007/s00464-014-4036-2
- Zhou, Y., Wjgwickrema, S., Ioannou, I., Bailey, J., Kennedy, G., Nestel, D., & O'Leary, S. (2018). Do experts practice what they profess?. *PLoS ONE*, *13*(1), e0190611. doi: 10.1371/journal.pone.0190611