

## Peer Review File

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### Reviewer A

Well done on a well written and inciteful paper. It does highlight a pressing issue and warrants the attention of the medical schools and JMO supervisors

The paper is well written, you have used appropriate methodology and have appropriately addressed the study shortcomings in your discussion.

Very minor correction:

“The study was conducted in accordance with the Declaration of Helsinki” Is repeated in line 92-94 and again 101-103

“Junior doctors participated voluntarily in this survey without personal or financial incentive” has also been duplicated 94-95 and again in 106-106

Reply 1: Thank you, we have deleted the duplications

### Reviewer B

This paper is the first Australian study to look at Junior doctor’s management and knowledge of epistaxis. The paper is very similar to reference 4 from the UK and would seem the second author also published this Uk study. This current work therefore allows the contrast and comparison of Australian junior doctors to their UK counterparts. It is perhaps disappointing to see Australia is doing no better in educating our junior doctors on this topic. This paper explores strategies that might improve these findings.

1. Keywords – not all mesh headings- suggest check on MESH website and can run the paper through MESH on demand to find appropriate keywords.

<https://meshb.nlm.nih.gov/search?searchMethod=FullWord&searchInField=allTerms&sort=&size=20&searchType=exactMatch&from=0&q=education>

Reply 1: We have changed the keywords to MESH headings

Changes in Text: Line 50 “Epistaxis; Emergency Service, Hospitals; Education; Primary Health Care”

2. Did the authors collect any objective information from the local medical schools? There may be poor memory of Ent teaching at med school rather than it not occurring ie recall bias. This is a limitation in the results and may warrant discussion.

Reply 2: We did not collect data from the local medical schools. Agree this could be evidence of recall bias

Changes in the text: Lines 268-271 in the discussion. “In addition, no objective information was collected from local medical schools to compare with self-reported ENT teaching from respondents. This may have helped ascertain the degree of recall bias from junior doctors in regards to their ENT experience during medical school.”

3. Line 116 – ensure number not just %

Reply 3: Agree

Changes in text: Line 121 “n=80” included

4. Would be useful to have more of the raw data to enable reader to analysis. eg What were the responses with regards to ant fibrinolytics and packing?  
What were the numbers with post graduate exposure and did this improve responses?

Reply 4: Agree with the suggestions, have included raw data about anti-fibrinolytics and nasal packing. Have also looked at whether post-graduate experience improved responses

Changes in text: Lines 125-129 in results “All respondents who were able to identify an anti-fibrinolytic agent named tranexamic acid in their answer. Of those who could identify a type of nasal packing, the majority identified a Rapid Rhino (88%, n=60) while the remaining identified ribbon gauze (5.8%, n=4), Merocel nasal pack (4.4%, n=3), and Kaltostat (1.5%, n=1).”

Lines 161-177 in results “The majority of respondents (70.4%, n=74) had no post-graduate ENT exposure, whilst 28 respondents (26.7%) reported four weeks or less, two respondents (1.9%) reported 5 to 12 weeks and 1 respondent (1%) reported three months or more of ENT exposure. Of the junior doctors with any post-graduate ENT experience, the majority (n=18, 58.1%) would incorrectly advise pressure on the nasal bones rather than nasal alae during epistaxis. This was similar to those respondents with no post-graduate ENT exposure (n=40, 54.1%, p=0.83). Junior doctors with any post-graduate ENT experience were three times more likely to be able to name a type of nasal packing used for management of epistaxis (OR 2.9, 95% CI: 1.1-8.8, p=0.0427). There was no significant difference in self-reported confidence with silver nitrate cautery (p=0.805), nor ability to name an anti-fibrinolytic agent (p=0.807) for those with any post-graduate ENT exposure.”

Lines 226-231 in discussion “Respondents with any post-graduate ENT experience were just as likely to incorrectly advise pressure on the nasal bones during epistaxis and had similar self-reported confidence in silver nitrate cautery compared to those with no post-graduate ENT exposure. However, junior doctors with any post-graduate

ENT exposure were more likely to correctly identify a type of nasal packing used in management of epistaxis.”

5. Given how similar this survey was to the UK paper (reference 4 and first author of this is second author on this current study) the authors may want to directly comment on and contrast with this study and what those authors may have proposed as solutions – what is different or the same with the uk. This paper may be able to incur that Australian doctors have similar undergraduate exposure to ENT as the UK.

Reply 5: Agree with above, our results closely mirror the UK paper. Likely due to similar undergraduate experience for medical graduates

Changes in text: Lines 243-256 in discussion “Our results mirror a similar UK study cross-sectional survey study, which found 82% of junior doctors lacked confidence in performing nasal cautery, 59% would apply correct nasal pressure during epistaxis and ENT undergraduate exposure was associated with more confidence in managing a patient with epistaxis ( $p < 0.0001$ ). (4) This could possibly be due to similar undergraduate ENT exposure in the UK compared to Australia. The recommendations made for the UK doctors and medical schools have been echoed in this paper and include targeted epistaxis teaching with a particular focus on basic management principles.”

6. Does any geographical area do this better? Has anyone audited interventions to improve epistaxis education?

Reply 6: We did not collect geographical data in this survey. We could not find any Australian papers that examine the effectiveness of interventions. The US study mentioned in comment 9 looked at effectiveness of education for nursing staff. We have recommended that assessing interventions for Australian junior doctors could be of interest in future research.

Changes in text: Lines 246- 241 in discussion “An American study assessing epistaxis knowledge and management amongst nursing staff demonstrated significant improvements in general knowledge about epistaxis and comfort in managing epistaxis following structured education sessions from an ENT resident and nurse educators. (13) A similar study looking at educational interventions could be performed in Australia with junior doctors.”

7. Tassone P, Georgalas C, Appleby E, Kotecha B. Management of patients with epistaxis by general practitioners: impact of otolaryngology experience on their practice. *Eur Arch Otorhinolaryngol*. 2006 Dec;263(12):1109-14. doi: 10.1007/s00405-006-0141-8. Epub 2006 Sep 12. PMID: 16967262.

This paper might be useful to include in the discussion as it suggested that even with ENT experience GP's are uncomfortable managing epistaxis but those with experience are more likely to use AgNo4

Reply 7: An interesting paper that has been included in our discussion

Changes in text: Lines 231-236 in discussion “A 2006 UK study of GPs found that those with ENT post-graduate experience were twice as confident in nasal cauterity ( $p=0.002$ ) but overall lacked confidence in epistaxis management compared to those with no post-graduate ENT exposure.(12) This may reflect a lack of formal education during ENT rotations as a junior doctor and emphasis should be placed on learning of key practical skills in management of epistaxis.”

8. Jamshaid S, Banhidly N, Ghedia R, Seymour K. Where should epistaxis education be focused? A comparative study between the public and healthcare workers on knowledge of first aid management methods of epistaxis. *The Journal of Laryngology & Otology*. 2023 Apr;137(4):408-12.

A very recent paper that I would encourage the authors to incorporate.

The above paper suggests that doctors are really no better than the general public highlighting the poor education during medical school and junior doctor training.

Reply 8: An interesting paper that has findings similar to our study.

Changes in text: Lines 192-195 “A UK study of 100 healthcare workers and 100 members of the public found little difference in correct nasal pressure between the groups, highlighting poor education during medical school and as a junior doctor.”

9. Nelson A. Improving Epistaxis Knowledge and Management Among Nursing Staff. *Journal of Clinical Outcomes Management*. 2022 Jul 1;29(4).

Reference that discusses success of simple education with nursing staff.

Reply 9: As outlined in Reply 6, this paper was included as an assessment of the effectiveness of targeted education. An interesting perspective and an idea that could be repeated in an Australian setting.

Changes in text: Lines 236-239 in discussion “An American study assessing epistaxis knowledge and management amongst nursing staff demonstrated significant improvements in general knowledge about epistaxis and comfort in managing epistaxis following structured education sessions from an ENT resident and nurse educators.”