

Improving the proficiency of chest drain insertion by anaesthetists

Katherine James, Sofia Hanger

The Royal Free Hospital, London

Background

- The 2021 curriculum for a certificate of completion of training in anaesthesia states that anaesthetists should be able to insert chest drains unsupervised at the end of training.¹
- Anecdotally anaesthetists are not frequently taught this skill and encounter few opportunities to maintain it to supervision level 4.
- In contrast, a supervision level of 3 only is expected for fiberoptic intubations, insertion of double lumen tubes and low thoracic epidurals.
- Chest drain insertion is not a low risk procedure; in 2008 the National Patient Safety Agency reported that over a 26 month period there were 2152 incidents involving chest drains; 12% of these resulted in moderate patient harm, 1% in serious harm and 1% in death.²
- The anaesthetic curriculum does not specify the situations in which anaesthetists should be inserting chest drains.
- Chest drain insertion (by an anaesthetist) may be a necessary emergency intervention for a clinically significant perioperative pneumothorax.
- The 2023 British Thoracic Society (BTS) guidelines stipulate that thoracentesis of a pleural effusion should always be image guided, which itself requires training and expertise, as detailed in the BTS training standards for thoracic ultrasound.^{3,4} It is important that anaesthetists are made aware of the indications and management of pleural diseases, which rarely require emergency insertion of a chest drain; where a chest drain is required it should be performed by an experienced operator.

Methods

A survey was sent to the non-consultant grade anaesthetists in our hospital to evaluate their experience of chest drains.

Results

There were 15 respondents of whom two were dual anaesthetic and intensive care trainees. 86.7% had completed Stage 1 training.

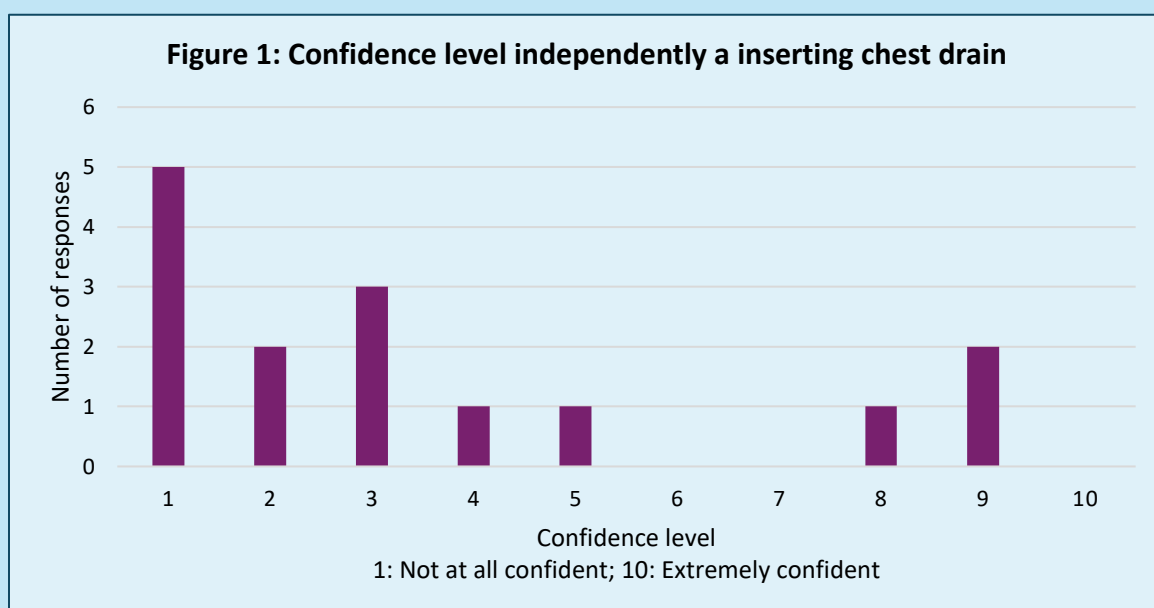


Figure 2: Approximate number of chest drains inserted into a patient since starting anaesthetics

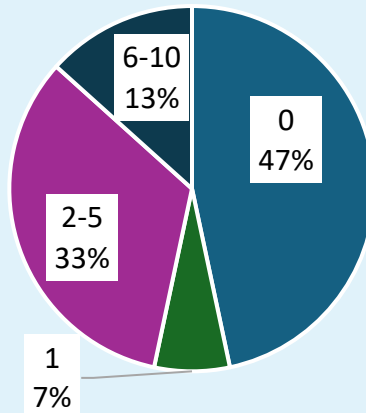
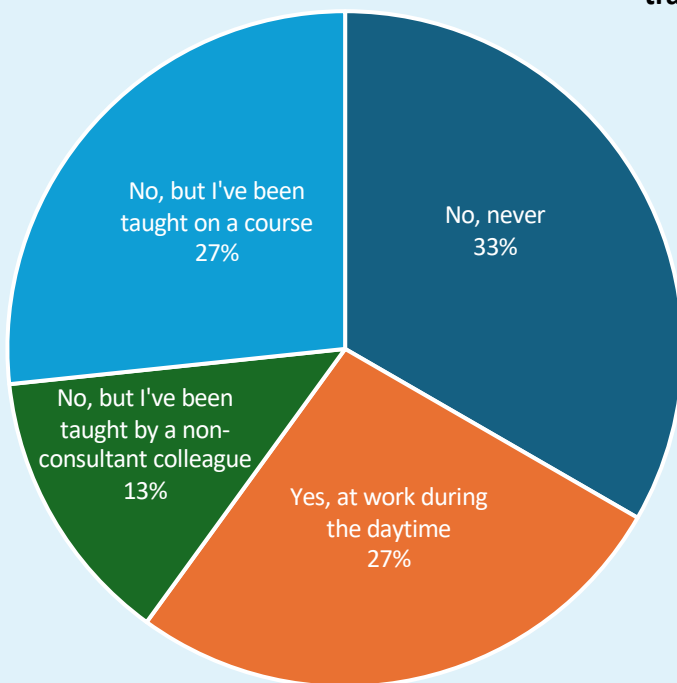


Figure 3: Responses to the question: Have you received practical training on chest drain insertion by a consultant anaesthetist/intensivist during your anaesthetic training?



- The median score for confidence performing chest drains independently was 3 (see Figure 1).
- 46.7% had never inserted a chest drain during their anaesthetic training.
- 26.7% had received chest drain teaching by a consultant anaesthetist/intensivist during their training.
- 14 out of 15 respondents answered that they would like more chest drain teaching.

In response to the survey a Seldinger chest drain teaching session was arranged and facilitated with the help of a respiratory physician, during working hours. Four anaesthetists attended the session and three completed feedback; all three answered that they would feel confident inserting a chest drain independently following the session, and the confidence score improved for each attendant.

Conclusion

- This was a local pilot project to improve proficiency of a skill expected of anaesthetists by the Royal College of Anaesthetists and the General Medical Council.
- A clear need for improved chest drain teaching for anaesthetists was demonstrated by the survey and the teaching was beneficial and easy to organise.
- We expect the results of the survey to be representative of other anaesthetists and encourage all anaesthetic departments to ensure that their trainees receive formal teaching of chest drain insertion, within working hours, as they do with the other procedures in which anaesthetists are expected to be proficient in.

Acknowledgements

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References

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