# 3 ARRANGEMENTS FOR CHEST DRAINS AND PLEURAL ASPIRATIONS

Elective insertion of chest drains during working hours is generally undertaken by pleural services, a sub-specialty of respiratory medicine and has been shown to have low complication rates.[6] Data from the organisational survey showed that a specialist pleural team was available in 118/178 (66.3%) hospitals. Cover by this specialist team was available 24/7 in five hospitals and for 40 hours (five working days of eight hours) or less in 92/118 (78.0%) hospitals, confirming that many hospitals had different arrangements in place for chest drains and pleural aspirations undertaken out of hours.

The development of specialist pleural services means that non-respiratory doctors undertake elective pleural procedures infrequently. The general internal medicine curriculum only requires doctors to be competent in unsupervised practice for aspiration of air or fluid from the pleural space, while other procedures such as chest drain insertion are listed as supervised or simulated.[7]

Competency for unsupervised insertion of chest drains is included in the specialty curricula for resident doctors in training in acute, critical care, emergency and respiratory medicine. However, responsibility for out of hours chest drain insertion for patients on general wards is generally allocated to the on-call medical registrar who may not be from one of the above specialties. Competency to insert a chest drain may have only been assessed in a skills laboratory, and doctors on the medical on-call rota who have been signed off as competent are only rarely required to insert a chest drain in clinical practice.

All organisations should have systems in place to ensure that appropriate out of hours expertise is available to support patient safety. The British Thoracic Society Quality Standard for pleural disease states that safety protocols should require operators to be adequately trained and procedures to be undertaken during working hours (usually 9–5), except in an emergency.[1]

Published data from the healthcare professional survey showed that self-reported confidence in chest drain insertion among non-respiratory medical registrars diminishes with increasing time since their last pleural procedure. The survey also showed that doctors in specialties with experience of pleural procedures within the last year were more likely to feel confident inserting a chest drain without supervision. However, in no specialty were all doctors confident with pleural procedures.[8]

When asked whether they had ever performed an out of hours pleural procedure, 63/64 (98.4%) doctors in respiratory medicine and 63/83 (75.9%) doctors in emergency medicine reported having done so. A lower percentage of doctors in intensive care medicine (85/159; 53.5%) and general medicine (121/391; 30.9%) had actual out of hours experience (T3.1). Only 44/391 (11.3%) general medicine clinicians felt confident to insert a chest drain unsupervised.

| T3.1 Chest drain experience and confidence of doctors in different specialties | | |
|---|---|---|
| **Specialty** | **Experience in last year (%)** | **Confident to perform unsupervised (%)** |
| Respiratory medicine | 63/64 (98.4) | 58/64 (90.6) |
| Emergency medicine | 63/83 (75.9) | 61/83 (73.5) |
| Intensive care medicine | 85/159 (53.5) | 97/159 (61.0) |
| General medicine | 121/391 (30.9) | 44/391 (11.3) |

*Clinician survey data; n=697*

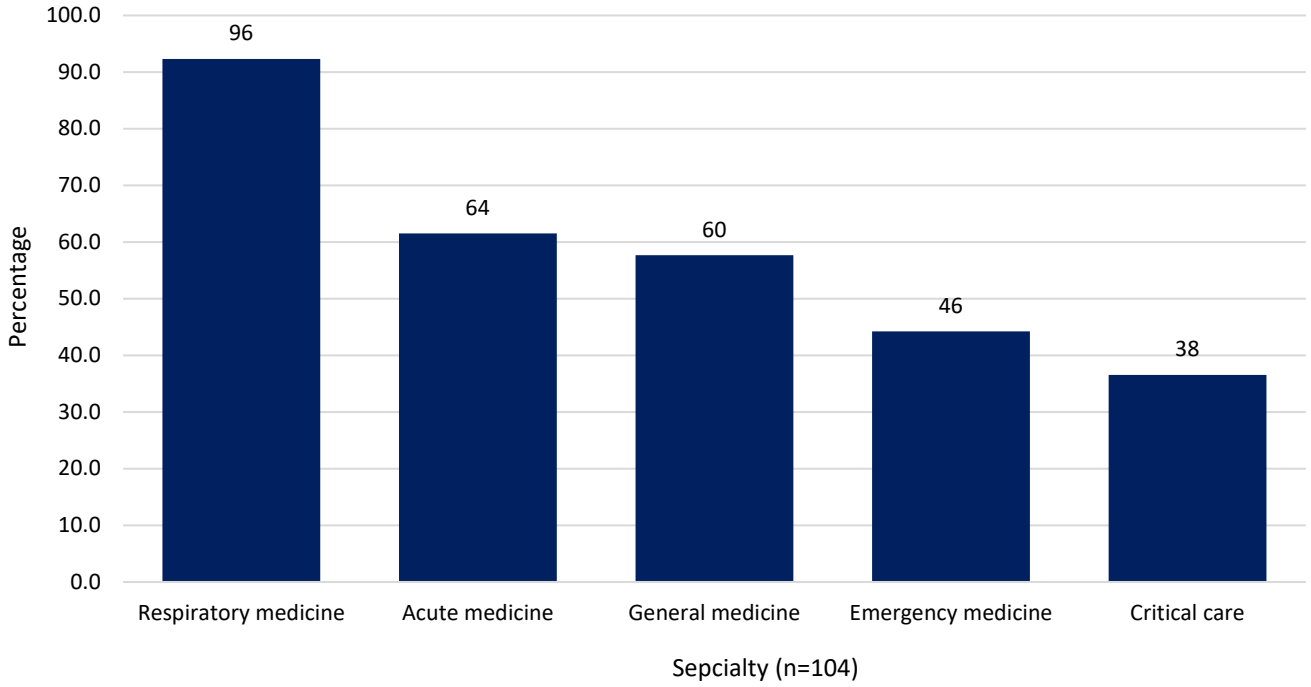
### Comments from medical registrars

*"It is the one procedure that the thought of terrifies me most and fills me with anxiety when working out of hours"*

*"There is often hesitancy to performing a chest drain by most specialty registrars not working in high volume specialist centres. This can lead to delays in procedure performance."*

*"I think it is dangerous to expect me to be able to insert a chest drain"*

Organisational survey data showed that respiratory medicine was the most common specialty for pleural procedure training, with programmes provided in 96/104 (92.3%) hospitals (F3.1). Training records were maintained and updated in only 55/124 (44.4%) hospitals and a register of competent clinicians was kept in 23/157 (14.6%) hospitals.



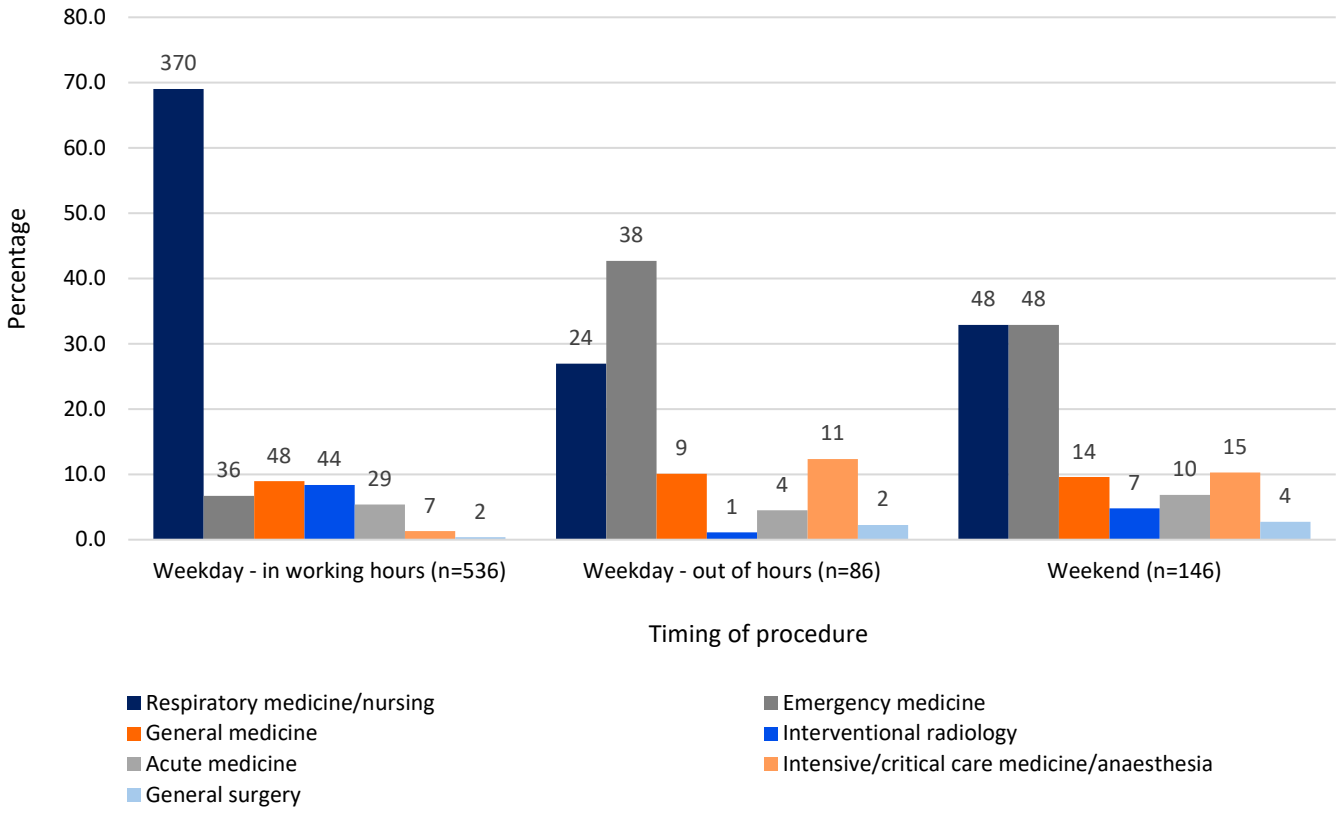

F3.1 Number of hospitals providing training in pleural procedures for different specialties
*Organisational data; n=104 (answers may be multiple)*

Just 16/173 (9.2%) hospitals ensured that a competent operator was present on their on-call rota and only 62/173 (35.8%) hospitals had an escalation protocol for complex or high-risk patients out of hours.

During working hours, pleural procedures in the study population were most commonly performed by respiratory medicine consultants or respiratory/pleural nurses (370/536; 69.0%).

Out of hours during the week, this fell to 24/86 (27.9%), with the majority being undertaken by emergency medicine clinicians (38/86; 44.2%). The remaining procedures were performed by clinicians in: general medicine, 9/86 (10.5%), critical care medicine 11/86 (12.8%), acute medicine (4/86), general surgery (2/86) and interventional radiology (1/86).

Weekends showed a similar pattern but with equal proportions of procedures undertaken by respiratory medicine and emergency medicine clinicians (48/146; 32.9%) (F3.2).




F3.2 The specialty of the operator at different times/locations

*Clinician questionnaire data; n=768*