



Good Practice Points

- Ensure effective communication between clinical personnel before, during, and after procedure to minimise the risk of adverse events.
- Carefully assess the risks/benefits for out of hour's chest drain insertion.
- Patients with chest drains should be managed on specialist wards by staff trained in chest drain management.

Pre-procedure

- A Local Safety Standard for Invasive Procedures (LocSSIP) checklist must be completed for all pleural procedures.
- Review the patients' observations/ National Early Warning Scores 2 (NEWS2)
- Review up to date chest imaging and confirm side of abnormality.
- Review allergies and medication (specifically antiplatelet, anticoagulation etc.).
- Review blood clotting and where possible, any coagulopathy or platelet defect should be corrected.
- Ensure written consent has been obtained or act in the best interests of those who lack capacity.
- Point of care ultrasound should be used to guide chest drain placement (except in pneumothorax).

Post-procedure

- Ensure continual direct observation for the 15 mins following chest drain insertion and no transfer should be taken during that time.
- Ensure that the patient is informed to keep the chest drain bottle positioned below the level of the chest to prevent any backflow of fluid.
- Assess the patients comfort using the most appropriate discomfort scale for the target population and ensure that analgesia has been prescribed and administered.
- Ensure a post drain insertion chest radiograph has been requested and reviewed.
- The recommended standard approach is for nursing or AHP staff to stop drainage by **closing the three way tap** initially after 1 hour, or at any point earlier if the patient develops any of the key red flags/triggers below:
 - Severe pain or chest discomfort
 - Persistent cough, worsening breathlessness, or vagal symptoms
 - A deteriorating early warning score, and/or
 - Drainage of up to 1500ml (in selected cases, 1000ml drainage may be appropriate e.g. in smaller adults)
- The tap may be reopened after 1 hour, allowing up to 500ml per hour to drain before returning to free drainage
- Follow the **local emergency escalation policy** in the event of patient deterioration and inform a senior member of the medical team urgently.

**CHEST DRAIN
OBSERVATION CHART**

Chart number: _____

Patient Identification Label

Date & Time:

Drain inserted by (name/ grade):

Supervisor if necessary (name/ grade):.....

Side of drain: Left Right

Drain indication: Pleural effusion Pneumothorax

Pleural infection Haemothorax

Other indication:

Technique: Seldinger Blunt dissection

IR guided Other.....

Ultrasound guided: Yes No N/A

Drain size: 12F 18F Other.....

Suction required: Y N N/A

Chest drain flushing: Y N N/A

Timing of flushing: BD TDS QDS

Consider talc pleurodesis: Y N N/A

Ensure sodium chloride 0.9% intra-pleural flush and/or sterile talc is prescribed and available for use if indicated

Drain lot number/ sticker:

Frequency	Date and time	Patient comfort	Swinging	Bubbling	Drainage type	Drain Site satisfactory	Tubing and connections intact	Underwater seal intact	Bottle changed	Prescribed suction setting	* Volume saline flush if indicated	* Volume pleural fluid drained	Add both volumes together for cumulative (total) drained	Signature/ initials
Observations and chest drain check frequency		0 = no discomfort 10 = severe discomfort	Y/N	Y/N	See key below	Y/N	Y/N	Y/N	Y/N	kilopascal (KPa)	millilitre (ml)	millilitre (ml)	millilitre (ml)	
Continual direct observation for first 15 mins then every 15 mins for one hour														
Every hour for the next 3 hours														
4 hourly														

Key: Serous (straw/ yellow/ amber coloured) = S Haemoserous (lightly bloodstained) = HS Heavily bloodstained = HBS Empyema (frank pus) = E
Turbid (cloudy, green, infected looking) = T Chyle (white/ pink milky looking) = C Other = document finding

NB: Nursing staff must ensure controlled pleural drainage using the 3 way tap as outlined in the good practice points until controlled free drainage is achieved. Closing a 3 way tap in a pneumothorax can lead to serious complications and should only be performed in daytime hours upon a Consultants advice.

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References:

1. National Patient Safety Agency (NPSA) alert (2009): <https://www.bmj.com/content/339/bmj.b4923>
2. British Thoracic Society Pleural Disease Guidelines (2010): https://thorax.bmj.com/content/65/Suppl_2#BTS-PleuralDiseaseGuideline2010
3. National Safety Standards for Invasive Procedures (NatSSIPs) (2019) https://improvement.nhs.uk/documents/5405/NatSSIPs_Final_updated_June_2019.pdf
4. Up to date(2020): <https://www.uptodate.com/contents/placement-and-management-of-thoracostomy-tubes-and-catheters-in-adults-and-children>