



CHECKLIST

Chest drain insertion

Indication, safe triangle, technique, connection and aftercare



EM Orbit

Patient reference

Date

Time

Completed by

In trauma the drain follows needle or finger decompression; in medical effusions and pneumothorax, ultrasound first and Seldinger where possible.

Before

- ☐ **Indication confirmed: tension (after decompression), haemothorax, large or symptomatic pneumothorax, empyema, effusion needing drainage**

Never insert a trocar drain.

- ☐ Correct side marked and checked against the film; ultrasound for fluid; consent (or emergency justification)
- ☐ Coagulation: platelets > 50, INR < 1.5 unless life-threatening; anticoagulants noted
- ☐ Drain size chosen: small-bore (10–14 Fr) Seldinger for most air and fluid; large-bore (28–32 Fr) for haemothorax and trauma
- ☐ Analgesia and, where appropriate, sedation; monitoring on
- ☐ Sterile field, gown, gloves; lidocaine 1% up to 3 mg/kg infiltrated to the pleura

- ☐ Large-bore: incision, blunt dissection with forceps over the rib, finger sweep into the pleura, clamp-guided tube — apically for air, basally for fluid
- ☐ Seldinger: aspirate air or fluid first, wire, dilator, drain; never force the dilator
- ☐ Connect to an underwater seal below the patient; confirm swinging or bubbling
- ☐ Suture and secure with a dressing; a mattress suture for closure later

After

- ☐ Chest X-ray for position and lung re-expansion
- ☐ Documentation: side, site, size, drain output, complications; ward instructions written

- ☐ **Never clamp a bubbling drain; keep the bottle below chest level; observations and drain output charted**

- ☐ Large effusion: drain no more than 1.5 L in the first hour (re-expansion pulmonary oedema)

Insert

- ☐ **Safe triangle: 4th–5th intercostal space, anterior to the mid-axillary line, above the rib, arm abducted**

Tension pneumothorax: needle decompression 4th–5th ICS anterior axillary line in adults (2nd ICS mid-clavicular in children), or finger thoracostomy, then a drain.

