4.2 Insertion of Underwater Seal Chest Drain

Objectives

By the end of this section you should know how to:

- Prepare the patient for the insertion of a chest drain;
- Collect and prepare the necessary equipment;
- Assist the doctor in the insertion of a chest drain.

Equipment

- Trolley
- Sterile dressings pack
- Chest drain insertion tray
- Alcohol-based antiseptic for skin cleansing
- Local anaesthetic and equipment for administration
- Sterile scalpel and blade
- Sterile suture (either black silk 2/0 or ethibond W2991)
- Sterile chest drain – ask medical staff for preferred six, and if with or without a trocar
- Sterile chest drain bottle and tubing
- Bottle of sterile water
- 2 pairs of tubing clamps
- Non-adhesive dressing (Mepore etc)
- Small piece of sleek tape
- Receptacle for soiled disposables
- Chest drain stand (if using thoraseal bottles then stand provided in pack)

Procedure

- Perform hand hygiene;
- Collect and assemble equipment;
- Explain the procedure to the patient;
- Ensure written consent is present and administer sedation to patient, if prescribed;
- Ensure patient’s privacy;
- Administer analgesia/sedative if prescribed by medical staff;
- Assist the patient into the appropriate position, as advised by medical staff;
- Perform hand hygiene;
- Prepare the chest drain bottle as per the instructions on the packaging, using sterile water;
- Open the sterile equipment and assist the medical practitioner as requested;
- Using the small piece of sleek tape, tape the connection between the chest drain and the tubing attached to the chest drain bottle;
- If there is excessive drainage (i.e. over 500 mls) clamp drain for 5-10 minutes, and then release;
- Ensure the bottle is always below the level of the patient’s chest, to ensure no reflux into the pleural space;
- Ensure the drain is working – the fluid should be oscillating/fluctuating in time with the patient’s respirations;
- Apply a sterile non-adhesive dressing to the drain site with the minimum of tape;
4.2 **Insertion of a Chest Drain** cont.

**Procedure cont...**

- Ensure the patient is left feeling as comfortable as possible;
- Dispose of the equipment as per Division policy;
- Perform hand hygiene;
- Document the procedure, monitor after-effects and report abnormal findings immediately.

**SUCTION**

- If suction is required, the following equipment is necessary:
  - LOW suction point for the wall
  - Suction bottle
  - Adequate suction tubing
  - Small lengths of sleek to seal connections
- Medical staff will indicate how much suction is required i.e. 1-2 kpa.
- Connect the point, suction bottle and tubing, then check the suction is working;
- Turn the point off and connect to patient’s chest drain bottle;
- Turn on suction point and gradually increase suction until the required amount is reached;
- Observe patient throughout and report immediately if suction is not being tolerated.

**REFERENCES:**