Queensland Government

THE THORACIC SOCIETY OF AUSTRALIA AND NEW ZEALAND

A guide to devices used for long term chest tube drainage

For some patients a chest tube may need to be in place for an extended period of time and the treating medical team may elect to discharge the patient home rather than remain hospitalised. In this scenario, the treating medical team and nurse will need to select an appropriate device for the patient, family or community nurses to manage at home. The device selected will need to firstly meet the patient's particular needs, for example for management of persistent air leak or continued drainage. There are a number of commercially available products designed to maintain a chest tube in the home setting and if used should be used in accordance with the manufacturer's recommendations.

Considerations if patient being discharged to community:

1. Who will attend to dressings and assessment of chest tube and device?
2. Who to contact if there are signs of infection or feeling unwell?
3. How to cover dressings to shower?
4. What activities need to be avoided?
5. How to dispose of contaminated dressings and waste fluid?

Selecting a device	**Device**	**Contraindications**	**Complications**
Drainage of fluid with no air leak: ▪ Uncomplicated pleural effusion for example – malignant effusion and chylothorax. ▪ Drainage of infected space following pneumonectomy.	▪ Sterile drainage bag with anti-reflux valve preferably with the ability to be emptied.	▪ Presence of air leak. ▪ Presence of clots and fibrin. ▪ Empyema with tenacious exudates.	▪ Small bore of connector to chest tube prone to blocking with fibrin and clot. ▪ Connector can be changed to larger bore for example 3/8 to 1/4 connector.
Drainage of air (pneumothorax) : ▪ Unresolved air leak – ideally single chest drain without exudate drainage.	▪ Heimlich flutter valve. ▪ **Suitable for patient transport including air.**	▪ Exudate drainage.	▪ Potential for blood and body fluid exposure as exudate is not contained. ▪ Valve may block with tenacious exudates.
Drainage of air and fluid : ▪ Unresolved air leak associated with exudate.	▪ Heimlich flutter valve connected to vented drainage bag. ▪ Vented drainage bag with anti-reflux valve. ▪ Commercially available portable chest drainage system. ▪ **Suitable for patient transport including air.**	▪ Large air leak. ▪ Presence of clots and fibrin. ▪ Empyema with tenacious exudate.	▪ If atmospheric vent too small, the drainage bag fills with air. Patient may have to assist in air removal with gentle pressure on bag. ▪ Valve may block with tenacious exudate or clots. ▪ Potential for blood and body fluid exposure if bag inverted.

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