

Chest Tubes: Instillation of Alteplase or Dornase

Policy

1. Use aseptic technique when accessing chest tubes, chest drainage systems, or insertion sites
2. Instillation of medication or other substances into a chest tube is a Physician or Nurse Practitioner responsibility.
3. Irrigation of chest tubes is a Physician or Nurse Practitioner responsibility

Before the procedure

Ensure baseline vital signs are recorded on chart (within last 4 hours)

Explain procedure to the patient/family including:

- Sensation of pressure and slight discomfort during the procedure
- Following procedure chest tube may be clamped for a period of time. Once unclamped there may be more drainage
- Advise patient to notify the nurse immediately if any of the following occur
 - Difficulty breathing
 - Drainage from the chest tube site
 - Pain during/after instillation of solution (can happen with loculated effusions)

During the procedure (instillation of fluid or medication)

Monitor patient response to procedure, including pain, medication reactions. Assist physician as necessary

Following procedure:

Chest tube may be clamped for a pre-determined amount of time (per physician order). Assess patient and chest tube system within 15 minutes, then Q1H PRN or as per prescriber order. Refer to [BD-00-07-40011](#) Chest Tubes and Chest Drainage Systems: Patient Assessment and Interventions. Using the Chest Tube Flowsheet/Clinical Record assess and document:

- Vital signs (BP, HR, SpO₂)
- Rate, depth and ease of respirations
- Skin colour
- Pain
- Lung auscultation
- Chest tube insertion site (dressing)
- Amount and type of drainage
- Subcutaneous emphysema or other signs of distress

1. Barthwal, M.S., Marwah, V., Chopra, M, Garg, Y., Tyagi, R., Kishore, K., Bhattacharya, D. (2016) A five year study of intrapleural fibrinolytic therapy in loculated pleural collections. The Indian Journal of Chest Diseases & Allied Sciences 58(1), 17-20.
2. Najib M. Rahman, Nicholas A. Maskell, Alex West, Richard Teoh, et al. Intrapleural Use of tissue plasminogen activator and DNase in Pleural infection. August 2011 N Engl J Med 2011; 365:518-526 DOI: 10.1056/NEJMoa1012740
3. Saskatoon Health Region Chest tubes: irrigation and/or administration of a medication to the pleural space. ID.1096 November 2016