

PAEDIATRIC NURSING PRACTICE MANUAL
SECTION 7

CARE OF THE CHILD WITH A RESPIRATORY CONDITION

7.3 INTERCOSTAL CATHETER CARE

7.3.4 REMOVAL OF INTERCOSTAL CATHETER

Aim

To remove an Intercostal Catheter (ICC) safely without introducing air into the pleural cavity

Key points

1. Removal of an intercostal catheter should only be undertaken under the written instruction of a medical officer. This should be documented in the patient notes.
2. Two nurses may be required to undertake this procedure.
3. This procedure uses an aseptic non touch technique.
4. Analgesia and/or sedation may be required prior to procedure.
5. Removal of a chest drain may result in the movement of air into the pleural cavity. This is more likely to occur if the patient breathes in while the catheter is being removed.¹
6. Patients are to have continuous pulse-oximetry during this procedure.

Equipment

Dressing trolley
Disposable dressing pack
Gloves- non sterile & sterile
Normal saline 0.9% solution
Stitch cutter
Gauze squares
Steristrips
Transparent occlusive dressing or waterproof tape
Protective eyewear
Waste bag

PROCEDURE	ADDITIONAL INFORMATION
Explain procedure and breathing techniques to patient.	
Administer analgesia at least 30 minutes prior to removal.	Refer to guideline for oral conscious sedation if sedation required.

PROCEDURE	ADDITIONAL INFORMATION
Position patient for ease of accessibility of site, and reassure patient. Commence continuous oxygen saturation monitoring.	
If not already ceased, remove suction from the drain.	
Wash hands. Clean trolley with 70% alcohol or sporacidal detergent wipe. Allow to dry whilst gathering equipment.	
Put on plastic apron. Wash hands and don non sterile gloves. Open dressing pack and add extra equipment.	
Remove the chest drain dressing. Discard the dressing directly into the waste bag.	Do not contaminate aseptic field with the removed dressing.
Repeat hand hygiene. Put on sterile gloves and protective eyewear.	
Immediately prior to removal, clamp the intercostal tube with both of the guarded artery forceps. Note: if more than one drain in situ, clamp all until the catheter is safely removed and the site is covered with occlusive dressing.	For Ocean™ models equipped with an in-line connector, close the patient tube slide clamp prior to disconnecting the chest drain tube from the patient.
Swab around insertion site. Remove the suture on the catheter.	Other skin sutures are removed only as ordered.
Place the folded gauze squares over insertion site. Hold the prepared dressing ready.	
If old enough to comply, ask the child to take a deep breath and hold it. Otherwise time removal of the drain at the end of inspiration. ²	Either end inspiration or end expiration has been found to be safe. ¹ Reduces the movement of air into the pleural space.

PROCEDURE	ADDITIONAL INFORMATION
<p>Whilst holding the gauze squares firmly over the insertion site, remove the catheter.</p> <p>Once removed and the site covered, instruct patient to breath normally again.</p>	Prevents air entry. ³
<p>Apply steristrips so that the edges of the wound are approximated.</p> <p>Apply occlusive dressing or waterproof adhesive tape over the gauze squares.</p>	Promotes healing and minimises the risk of air entering the wound, usually only required if wound gaping.
<p>Discard chest drains and drainage unit into double yellow plastic bags and place in clinical waste.</p> <p>Clean trolley with sporacidal detergent.</p> <p>Remove gloves and perform hand hygiene.</p>	
<p>Document date/time of chest drain removal in the child's medical records.</p>	
<p>Observation</p> <p>Assess patient and record vital signs; hourly for 4 hours or as clinically indicated.</p> <p>Consider need for pulse oximetry monitoring.</p>	Report immediately any deterioration in condition.
<p>Ensure a chest x-ray is taken within 4 hours of removal.</p>	To exclude residual pneumothorax.
<p>Leave dressing intact for 48 hours or as ordered.</p>	

References:

- Bell R, Ovadia P, Abdullah F, Spector S & Rabinovici R. Chest tube removal: End inspiration or end-expiration? [Level II]. J Trauma.50:4:674-677; 2001.
- Royal Children's Hospital - Melbourne. Chest drain management. Clinical Practice Guidelines (Hospital) 2012. Available from: http://www.rch.org.au.pklibresources.health.wa.gov.au/rchcpg/hospital_clinical_guideline_index/Chest_Drain_Management/ Accessed: 7 February 2013
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- Hunter J. Chest drain removal. Nursing Standard 2008; 22(45): 35-38.