

8 October 2009

**Distributed to:**

- Chief Executives
- Directors of Clinical Governance
- Directors of Clinical Operations

**Action required by:**

- Directors of Clinical Governance

**We recommend you also inform:**

- Intensive Care Taskforce
- Directors of Medical Imaging
- Directors of Anaesthesia & Surgery
- Directors of Cancer Care
- Directors of Emergency Medicine
- Directors of Intensive Care
- Directors of Medical Services
- Directors of Specialty Training Units
- Directors of Vascular Access Team
- Directors of Nursing and Midwifery
- Medical staff
- Nursing staff

**Expert Reference Group**

## Content reviewed by:

- ICCMU
- Surgical Services Taskforce
- GMCT
- NAMO
- Clinical Excellence Commission

**Quality Safety, Clinical and Governance Branch**

NSW Department of Health  
Tel. 02 9391 9200  
Fax. 02 9391 9556

Email  
[quality@doh.health.nsw.gov.au](mailto:quality@doh.health.nsw.gov.au)

Website  
[www.health.nsw.gov.au/quality/sabs/](http://www.health.nsw.gov.au/quality/sabs/)

Intranet Website  
<http://internal.health.nsw.gov.au/quality/sabs/>

## Managing Pigtail Drains Safely

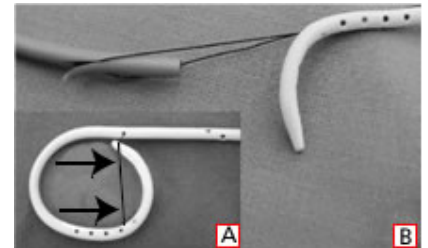
### Background

A number of incidents have been reported in NSW involving the use, management and removal of pigtail drains. A pigtail is a sterile, thin, long, universal catheter with a locking tip that forms a pigtail shape. The drain is used to remove unwanted body fluids from an organ, duct or abscess and is inserted under strict radiological guidance to ensure correct positioning. The pigtail end is created by gently pulling a string from the exposed end of the catheter which is wrapped around the end of the catheter and kept in place by a rubber stopper. The thread-like string is often mistaken for a suture.

Limited knowledge and experience with management of pigtail drains has resulted in a number of serious complications including pneumothoraces.

### Other Contributing Factors

- Availability of local procedures for staff reference.
- Handover between health professionals in relation to the drain.
- Access to medical product information brochures at the time of insertion.



String (arrows) helps to form the pigtail of the selflocking percutaneous biliary catheter (white) (A). A plastic stent (left) may be snared by this string, at a location where it is more fragile (B)

Source: *Cardiovascular and Interventional Radiology* (2007) 30:153-154

### Suggested Actions

Development of local procedures for staff reference that includes the following information:

- Pigtail drains must be inserted under strict radiological guidance
- Pigtail drains MUST be uncoiled prior to removal once a medical order is issued by the specialist.
- To uncoil the drain prior to removal, gently remove the drainage/collector appliance as per manufacturer's instructions, and then cut the catheter to release the string that coils the drain in a pigtail formation. Please refer to manufacturers instructions regarding distance from the chest wall and for specific cutting instructions.
- Once the pigtail drain has been cut to uncoil the 'pigtail', the catheter can be removed gently and a dressing applied to the drain site as appropriate.
- Failure to uncoil a pigtail drain prior to removal can cause severe pain and internal tissue damage to the patient.
- Clear insertion, management and drain removal procedures, including post referral observations, should be available for staff reference in all areas where the drain may be used.

### References

**Clinical update. Pigtail drain tubes : a guide for nurses** Hayes D; *Australian Nursing Journal*, 2005 May;12 (10): [19-20]

**Efficacy and complications of percutaneous pigtail catheters for thoracostomy in paediatric patients.** Roberts JS, Bratton SL, Brogan TV *Chest*. 114(4):1116-21,1998 Oct.

**Inadvertent fracture of a plastic biliary stent during a combined percutaneous-endoscopic procedure: a word of caution regarding self-locking pigtail biliary catheters.** Dumonceau JM, Kahaleh M, Terraz S *Cardiovascular & Interventional Radiology*. 30(1):153-4, 2007 Jan-Feb.

### Suggested Actions by Area Health Services

1. Ensure that this safety notice is distributed to all clinical staff involved in insertion, management and removal of pig tail drain devices.
2. Ensure staff members new to areas are made aware of the risks and understand the importance of close patient observations after drain removal.
3. Develop local procedures and ensure staff competency on pig tail drain care and removal.
4. Further information is available from the CIAP journals freely available to NSW Health staff at <http://internal.health.nsw.gov.au:2001> or at <http://www.ciap.health.nsw.gov.au>