



Queensland  
Trauma Education

**CHEST TRAUMA**

# Intercostal catheter and chest drain management

## Case discussion

Participant resource kit

**CSDS**



Clinical Skills Development Service

Metro North  
Health



Queensland  
Government

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## Queensland Trauma Education

The resources developed for Queensland Trauma Education are designed for use in any Queensland Health facility that cares for patients who have been injured as a result of trauma. Each resource can be modified by the facilitator and scaled to the learners needs as well as the environment in which the education is being delivered, from tertiary to rural and remote facilities.

## National Safety and Quality Health Service (NSQHS) Standards



## About this training resource kit

This resource kit provides healthcare workers with the knowledge and skills on how to optimise the management of a patient with an ICC and chest drainage systems following a traumatic chest injury.

### Learning objectives

By the end of this session the participant will be able to:

- Describe the principles of chest drainage systems including underwater and dry seal drains.
- Understand strategies to troubleshoot and escalate care with chest drainage systems.

# Overview of chest trauma and intercostal catheter management

Chest trauma is the second most common traumatic injury in non-intentional trauma.<sup>1</sup> Trauma to the chest is associated with the highest mortality; in some studies, up to 60% depending on the mechanism of injury.<sup>2</sup> The management of chest trauma often requires the insertion of intercostal catheter to treat life-threatening injuries including traumatic haemo-pneumothorax.

Clinicians caring for patients with intercostal catheters and chest drainage systems require knowledge and skills of the overarching principles of ICC management to optimise treatment and reduce the risk to patients. Patients with ICCs should be cared for in clinical environments where clinicians are competent in the assessment and ongoing management of ICC with the ability to effectively troubleshoot and escalate care where necessary.

## Further reading

NSW Agency for Clinical Innovation (2016), Pleural Drains in Adults – A Consensus Guideline, ACI Respiratory Network. <https://www.aci.health.nsw.gov.au/resources/respiratory/pleural-drains/pleural-drains-in-adults>

Porcel J. M. (2018), Chest Tube Drainage of the Pleural Space: A Concise Review for Pulmonologists. *Tuberculosis and respiratory diseases*, 81(2), 106–115. <https://doi.org/10.4046/trd.2017.0107>

Maskell, N. (2010), British Thoracic Society Pleural Disease Guidelines - 2010 update. *Thorax*, 65: 667-669. <http://dx.doi.org/10.1136/thx.2010.140236>

MNHHS RBWH Procedure 000634: Intercostal Catheter Management. <http://hi.bns.health.qld.gov.au/rbh/policies/procedures/000634.pdf>

## Recommended online learning

Chest Drain Course for Doctors, Clinical Skills Development Service, Queensland Health. <https://central.csds.qld.edu.au/central/courses/135>

Chest Drain Course for Nurses, Clinical Skills Development Service, Queensland Health. <https://central.csds.qld.edu.au/central/courses/138>

## Acronyms and abbreviations

<b>ICC</b>	intercostal catheter
<b>UWSD</b>	underwater seal drain
<b>VATS</b>	video assisted thoracoscopic surgery

## References

1. NSW Agency for Clinical Innovation (2016) Pleural Drains in Adults – A Consensus Guideline, ACI Respiratory Network <https://www.aci.health.nsw.gov.au/resources/respiratory/pleural-drains/pleural-drains-in-adults>
2. Doyle, G.R., McCutcheon, J.A. (2015). *Clinical Procedures for Safer Patient Care*. Victoria, BC: BCcampus. Retrieved from <https://opentextbc.ca/clinicalskills/chapter/10-7-chest-drainage-systems/>
3. MNHHS RBWH Procedure 000634: Intercostal Catheter Management <http://hi.bns.health.qld.gov.au/rbh/policies/procedures/000634.pdf>
4. Millar F R, Hillman T. (2018) Managing chest drains on medical wards *BMJ*, 363 :k4639 <https://doi.org/10.1136/bmj.k4639>

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