

**Nursing Clinical Guidelines
EVIDENCE TABLE**

GUIDELINE TOPIC: Tracheostomy Management

Reference <i>(include title, author, journal title, year of publication, volume and issue, pages)</i>	Method	Evidence level (I-V)	Summary of recommendation from this reference (point form)
<p>Boyce, J.M.; Pitlet, D., Healthcare Infection Control Practices Advisory Committee. Society for Healthcare Epidemiology of America. Association for Professionals in Infection Control. Infectious Diseases Society of America. Hand Hygiene Task Force. Guideline for hand hygiene in health-care settings: recommendations of the healthcare infection control practices advisory committee and the HICPAC/SHEA/APIC/ IDSA hand hygiene task force. Infection Control and Hospital Epidemiology, 2002, 23 (12 Suppl), S3-40.</p>	<p>Review of data regarding handwashing and hand antisepsis in health-care settings.</p>	<p>I</p>	<ul style="list-style-type: none"> • Wash hands with either a non-antimicrobial soap and water or an antimicrobial soap and water if hands are visibly dirty or contaminated. • If hands are not visibly dirty, decontaminate hands with either alcohol-based hand rub or an antimicrobial soap in water before having direct contact with patients or inserting invasive device. • Decontaminate hands after contact with a patient's skin, body fluid, excretions, mucous membranes or wound dressings.

<p>Ridling, D.A.; Martin, L.D.; Bratton, S.L. (2003) “<i>Endotracheal suctioning with or without instillation of isotonic sodium chloride solution in critically children</i>”. American Journal of Critical Care, 12 (3) 212-19.</p>	<p>Randomized Control Trial</p>	<p>II No power analysis, small sample size, with many confounding factors</p>	<ul style="list-style-type: none"> • Instillation of isotonic sodium chloride solution during endotracheal tube suctioning may not be beneficial and actually may be harmful, and routine instillation of bolus of isotonic sodium chloride solution during suction is not recommended.
<p>American Thoracic Society (2000) “<i>Care of the child with a chronic tracheostomy</i>”. American Journal of Respiratory Critical Care Medicine, vol 161. pp 297-308. www.atsjournals.org</p>	<p>Guideline, consensus agreement, expert opinion</p>	<p>V</p>	<ul style="list-style-type: none"> • Routine instillation of isotonic sodium chloride is not recommended. • The premeasured technique is recommended for all routine suctioning. • With adequate and continuous suction pressure, the length of time required to perform the premeasured technique should be on the order of a few seconds at most. • The technique should also include twirling and rotating the catheter between figure and thumb. • Suctioning should be done on the basis of clinical assessment. In children with no evidence of secretion, suctioning patient twice a day to check for tube patency is recommended. • Clean technique is recommended for home care.

<p>Hussey, S.G, Ryan, C.A and Murphy, B.P. (2007) <i>“Comparison of three manual ventilation devices using an intubated mannequin”</i>. Arch Dis. Child. Fetal Neonatal Ed. (2004); 89; 490-93. http://fn.bmj.com/cgi/content/full/89/6/F490</p>	Comparative study	III-3	<ul style="list-style-type: none"> The anaesthetic bag with manometer and neopuff™ device facilitate accurate and reproducible manual ventilation by health care professionals.
<p>Choate, K and Sandford, M (2003) "Tracheostomy: Clinical Practice and the formation of policy and guidelines" Australian Nursing Journal, 10, 8 p: CU1.</p>	Guideline, consensus agreement, expert opinion	V	<ul style="list-style-type: none"> Phone survey was conducted of 14 major hospitals within Australia to benchmark the level of observation of patients in general wards with a tracheostomy. Common practice is to locate patients with a tracheostomy close to areas where they can be observed easily or heard by nursing staff, usually near the nurse's desk area. The working party recommended the level and frequency of observation be decided on the basis of individual clinical assessment of the patients.
<p>Scoble M, Copnell, B. Taylor, A. Kinney, S and Shann, F. (2001) "Effect of reusing suction catheters on the occurrence of pneumonia in children" Heart and Lung vol 30, 3 p: 225-233.</p>	RCT	II	<ul style="list-style-type: none"> The study investigated the practice of reusing suction catheters in paediatric intensive care patients for up to 24 hours. It was found that practice had no effect on either the rate of pneumonia or the time taken to develop infection. It was concluded the practice of reusing suction catheters for up to 24 hours was both safe and cost effective.
<p>Blackwood, Bronagh (1999) <i>“Normal saline instillation with endotracheal suctioning: primum non nocere (first do no harm)”</i> Journal of Advanced Nursing, 29(4), 928 -934</p>	Meta-analysis and systematic review of the literature	III-3	<ul style="list-style-type: none"> The existing evidence does not support NSI as being beneficial in removing secretions

Halm, M and Krisko-Hagel, K (2008) "Instilling Normal Saline with Suctioning: Beneficial Technique or Potentially Harmful Sacred Cow?" American Journal of Critical Care, 17: 469-472.	Clinical Evidence Review	III-3	<ul style="list-style-type: none"> • Support against the routine use of normal saline with suctioning • Hydration, adequate humidification, use of mucolytic agents and mobilization best interventions for managing thick, tenacious secretions • Normal saline may be indicated in situations to elicit a cough
Wang, CH et al (2017) "Normal saline instillation before suctioning: A meta-analysis of randomized controlled trials". Australian Critical Care, Sep: 30(5): 260-265.	Meta-analysis of randomized controlled trials 5 RCT included	II	<ul style="list-style-type: none"> • NS instillation before suctioning does not benefit patients undergoing endotracheal intubation or tracheostomy. • Included 5 RCT studies – adult patients only >18 years of age
Paratz, J & Stockton, K. (2009) "Efficacy and safety of normal saline instillation: A systematic review". Physiotherapy 95, (2009) 241-250.	Systematic review: Included 5 RCT studies 8 randomized cross-over studies 1 bench top study 1 observational	II	<ul style="list-style-type: none"> • Decrease in oxygenation following NSI – limited clinical significance • Positive effect of NSI with increase in sputum yield • 4 studies – neonatal (3) and paediatric (1) patients

<p>Schults J, Mitchell ML, Cooke M and Schibler A (2017) "Efficacy and safety of normal saline instillation and paediatric endotracheal suction: An integrative review" Australian critical care, Mar 24</p>	<p>3 studies 2 RCT</p>	<p>II - III</p>	<ul style="list-style-type: none"> • Efficacy of NSI is inconsistent • NSI was associated with a transient decrease in oxygen saturation, bronchospasm • In children with obstructive mucous, NSI may have a positive effect. • Inclusion criteria - paediatric patients 0 -18 years, ETT insitu, defined ETS solution intervention
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