

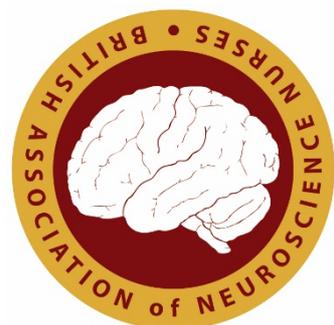
# Benchmark No. 2

## Tracheostomy Management

(3<sup>rd</sup> Edition)



**British Association of  
Neuroscience Nurses**



# Neuroscience Safe Staffing Benchmark Statements

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## History

The Neuroscience Nursing Benchmarking Group (NNBG) was established in the 1990's as a result of increasing concerns over inconsistencies in practices as part of a subsidiary of BANN. The group aims to improve on the quality of care by comparing and sharing practice with each other, and set explicit standards for comparison of current practice against the ideal standard. The group is committed to searching for the best evidence related to specific areas of neuroscience practice. Membership of the group consists of representatives from neuroscience units within the UK and Ireland, together with educational colleagues from both the NHS/HSC and Higher Educational Institutes. The group is further subdivided into regions and the first edition of this benchmark was developed by the North West regional group of the NNBG in 2006.

In 2016, the NNBG consolidated back into BANN and further information about NNBG can be found on the BANN website [www.BANN.org.uk](http://www.BANN.org.uk) . This second edition of the benchmark has been developed by the restructured NNBG working group under BANN.

BANN would like to acknowledge the leadership and significant contribution made by the NNBG, and all its contributors, to neuroscience nursing over the years.

# Benchmark No. 2 Tracheostomy Care

## KEY POINTS

- Tracheostomy care must only be undertaken by staff that have been assessed as competent in accordance to local policy.
- Following the assessment, an individualised care plan will be implemented and evaluated specific to all aspects of care relating to the patient's individual tracheostomy needs.
- Care needs must be reviewed at least 2 hourly or according to the patients' clinical needs.
- Essential equipment must be present at the bedside with documented evidence that the check is undertaken at least once per shift
- There is evidence of regular multidisciplinary team meetings to evaluate the care delivered and review the management plan.
- Information relating to the specific tracheostomy tube must be documented and is clearly visible at the bedside.
- All patients should have a 'Tracheostomy Passport' containing personal information relating to their tracheostomy
- All patients must have a double cannulated tracheostomy tube in situ, except for mini-tracheostomies.
- Cuff pressures (minimum occlusion volumes, MOV) should not exceed 25cmH<sub>2</sub>O
- If a patient has a fenestrated outer tube, the fenestrated inner tube must be exchanged for the plain inner tube prior to performing suctioning.
- Signs of respiratory distress must prompt an urgent airway assessment to investigate for possible tube displacement or blockage.
- Every clinical area caring for patients with a tracheostomy must have a clear procedure for managing tracheostomy care and escalation algorithm for emergencies and concerns
- To facilitate tube decannulation, the 'weaning' process must be guided by agreed parameters determined by the multi-disciplinary team.
- Following successful decannulation the patient must be closely observed and monitored for sign of respiratory distress.
- Humidification is essential for patients with a temporary tracheostomy
- To safeguard inter-hospital transfers, accompanying staff must ensure the appropriate equipment is available en-route and at the destination.

**FACTOR 1 – Documentation**

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
1.0 Following assessment of the patient, an individualised care plan is available	NTSP, 2013			
1.1 The care plan is evaluated every shift or when the patients' health needs change	Alabdah et al 2018			
1.2 Nursing documentation includes the following information <ul style="list-style-type: none"> <li>a. Reason for insertion of the tracheostomy</li> <li>b. Type of tracheostomy tube</li> <li>c. Size of the tube</li> <li>d. Date of insertion and method</li> <li>e. Date to be changed</li> <li>f. Stoma Care</li> <li>g. Vital signs - respiratory rate and O<sub>2</sub> saturation</li> <li>h. Oxygen requirements</li> <li>i. Method of humidification</li> <li>j. Suction requirements</li> <li>k. Quality and type of secretions (colour, volume, odour consistency).</li> <li>l. Subglottic tube aspirates (colour, volume, consistency, odour).</li> <li>m. Inner tube checks</li> <li>n. Cuff pressure monitoring</li> <li>o. Visual check of tube position</li> <li>p. Dressing and tape change</li> <li>q. Speaking valve/Passy Muir valve</li> <li>r. Essential equipment at the bedside including emergency tracheostomy kit is checked at least once per shift</li> <li>s. Weaning plan</li> </ul>	ICS, 2014  McGrath, 2014  Santos et al 2018  Speed et al, 2018  St. George's NHS Trust, 2006.  Hunt & McGowen, 2005.			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p>1.3 The following bed space essential equipment is checked and documented once per shift:</p> <ul style="list-style-type: none"> <li>a. Spare tracheostomy tube (same size and one size smaller)</li> <li>b. Tracheostomy dilators (as per local protocol)</li> <li>c. Suction equipment, suction catheters, Yankeur</li> <li>d. Personal protective equipment (PPE)</li> <li>e. Sterile gloves - for performing deep suction</li> <li>f. Non re-breath bag, bag valve-mask, oxygen tubing</li> <li>g. Working oxygen point</li> <li>h. Sterile water</li> <li>i. Humidification</li> <li>j. 10ml syringes</li> <li>k. Tracheostomy dressing and tape</li> <li>l. Cuff manometer</li> <li>m. Lubricant</li> <li>n. Scissors (stitch cutter if tracheostomy tube is sutured)</li> <li>o. Over bed signs with emergency algorithm</li> <li>p. Patient call bell</li> </ul>	<p>NTSP, 2013,  NCEPOD, 2014  NHS Scotland, 2007</p>			
<p>1.4 Tracheostomy tube data, including behind the bed signs with emergency algorithm, is clearly visible</p>				
<p>1.5 The patient has a Tracheostomy Passport' containing personal information relating to their tracheostomy</p>	<p>NCEPOD, 2014.</p>			
<p>1.6 All patients, in ward environments, have a double-lumen tracheostomy tube in situ, (except for mini- tracheostomies).</p>	<p>ICS, 2014</p>			
<p>1.7 There is documented evidence of regular multidisciplinary team meetings to review the plan of care.</p>	<p>GPIC, 2019</p>			



STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p><b>2.2 Tracheostomy Tube Changes</b></p> <ul style="list-style-type: none"> <li>a. A collaborative decision to change the tube has been documented</li> <li>b. Tracheostomy tube changes are initiated at least every 30 days (or as per manufacturer's recommendations)</li> <li>c. Tracheostomy tube changes are undertaken by two practitioners who are trained and competent</li> <li>d. If a difficult tube change is anticipated, then a clinician experienced in upper airway management and a practitioner experienced in managing patients with a tracheostomy is present</li> <li>e. The procedure is carried out aseptically</li> <li>f. The practitioners apply appropriate PPE</li> </ul>	<p>ICS, 2014.</p> <p>NTSP, 2013</p>			
<p><b>2.3 Cleaning Inner Tubes</b></p> <ul style="list-style-type: none"> <li>a. The inner tube is cleaned at the bedside with sterile water using a non-abrasive cleaning device and is air-dried prior to reinsertion</li> <li>b. (abrasive wire brushes will scratch the internal lumen of the tubes and increase the risk of colonisation)</li> <li>c. The inner tube is checked and cleaned at least 4 Hourly or as clinically indicated</li> <li>d. A spare inner tube is available at the patient's bedside</li> </ul>	<p>NTSP, 2013</p>			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p><b>2.4 Cuff management</b></p> <ul style="list-style-type: none"> <li>a. Cuffed tracheostomy tubes must have their cuff pressure checked and documented at least once per shift (15–25 cmH<sub>2</sub>O/10-18 mm Hg (may be higher in ventilated patients).</li> <li>b. A cuff pressure manometer/ gauge should be used to check the cuff pressure</li> </ul>	<p>ICS, 2014</p> <p>NTSP, 2013</p>			
<p><b>2.5 Stoma care</b></p> <p>The application of a stoma dressing is dictated by individual clinical need:</p> <ul style="list-style-type: none"> <li>a. When indicated, a polyurethane pre-cut key-hole dressing is inserted around the stoma (gauze dressings are not recommended as loose fibres can enter the airway)</li> <li>b. The dressing is kept clean and dry according to clinical need</li> <li>c. If a dressing is not indicated then a barrier film is advocated</li> <li>d. The stoma site is cleaned with normal saline using non-fibre shedding gauze swabs to remove exudates/secretions.</li> <li>e. If not contra-indicated, cotton tapes or commercial tracheostomy holders should be used to secure the tube</li> <li>f. Tapes are checked at least once per shift and changed as clinically indicated (the tension of the ties</li> </ul>	<p>NHS QIS, 2003</p> <p>NTSP, 2013</p> <p>NHS QIS, 2003</p> <p>NTSP, 2013</p>			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p>should be assessed to ensure one finger can slide between the tapes and neck</p> <p>g. The procedure is carried out aseptically using appropriate PPE (protective eye wear, sterile gloves and aprons)</p>				
<p><b>2.6 Humidification</b></p> <p>The patient with a tracheostomy receives some form of humidification e.g.</p> <ul style="list-style-type: none"> <li>▪ Cold or heated humidification</li> <li>▪ heat moisture exchanger (HME)</li> <li>▪ Buchanan bib</li> <li>▪ Saline nebulisers</li> </ul> <p>Oxygen therapy is clearly prescribed stating the percentage, duration and delivery system</p>				
<p><b>2.7 Suctioning</b></p> <ul style="list-style-type: none"> <li>a. Suction pressures no greater than 20 kPa // 150 mmHg is recommended</li> <li>b. Appropriate sized, single-use multi-eyed catheters are used</li> <li>c. Catheter diameter should be less than half the inner diameter of the tube to allow airflow around the sides of the catheter.</li> <li>d. Fenestrated tracheostomy tubes – the non-fenestrated inner tube is inserted prior to suctioning.</li> <li>e. Suctioning should last no longer than 10 seconds at each pass.</li> <li>f. Suction is only applied during withdrawal of the catheter.</li> </ul>	<p>NTSP, 2013</p> <p>ICS, 2014</p>			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<ul style="list-style-type: none"> <li>g. A closed-circuit suctioning device is utilised for patients requiring mechanical ventilation or high flow O<sub>2</sub></li> <li>h. Open suction technique is performed as an aseptic technique</li> <li>i. Consider pre-oxygenation prior to suctioning, dependent upon the patients clinical needs</li> </ul>				
<p><b>2.8 Weaning</b></p> <p>The person or team responsible for tracheostomy management is clearly defined, particularly if it is not the specialty with primary responsibility for the rest of the patient's care.</p> <p>Prior to decannulation, an assessment of the upper airway is undertaken before any occlusive test of the tracheostomy is applied</p> <p>Weaning is a sequential process with consideration to the following:</p> <ul style="list-style-type: none"> <li>a. The patient has agreed parameters determined by the MDT</li> <li>b. The patient has been regularly reviewed</li> <li>c. If unable to follow the weaning plan, this is documented.</li> <li>d. Safe staffing levels are available to maintain patient safety.</li> <li>e. Throughout the weaning process, the patient is continually assessed and evaluated for signs of respiratory distress,</li> <li>f. A period of cuff down trials is clearly documented.</li> </ul>	<p>ICS, 2014</p> <p>NTSP, 2013</p> <p>ICS, 2014</p>			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p>g. If a patient has had a tracheostomy tube in situ for a prolonged period of time, cuff deflation should normally be tolerated for around 24 hours prior to attempting further interventions and proceeding with the decannulation plan.</p> <p>h. Feeding regimes are reviewed and may be stopped prior to the commencement of any stage of the weaning process to minimise the risk of aspiration.</p> <p><b>Speaking valves and occlusion caps</b></p> <p>The use of a speaking valve may be advocated prior to tube removal (aim for successful 24hr trial to determine if safe for decannulation). <i>Failure to deflate the cuff when a speaking valve or cap is attached will result in total occlusion of the patient's airway and suffocation.</i></p> <ul style="list-style-type: none"> <li>• Tube occlusion technique "capping" for a pre-determined period may be trialled in some clinical settings</li> <li>• Tracheostomy 'BED SIGNS' are clearly visible</li> </ul>	<p>Passy-muir.</p> <p>Freeman-Sanderson <i>et al</i> 2018</p> <p>Sutt et al, 2015</p>			
<p><b>2.9 Decannulation</b></p> <p>It is important to ensure that the cuff is deflated and the patient can breathe through their upper airway. Following successful decannulation:</p> <ul style="list-style-type: none"> <li>• The patient is closely observed and monitored for signs of respiratory distress.</li> </ul> <p>An airtight dressing is applied over the stoma site and observed for signs of inflammation.</p>	<p>ICS, 2014</p>			

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p><b>2.10 Communication</b></p> <ul style="list-style-type: none"> <li>a. Prior to insertion of the tracheostomy, the patient/relatives are informed that they will lose their ability to speak clearly whilst the tube is insitu.</li> <li>b. Patients with a tracheostomy will have complex communication needs and must be assessed by speech and language therapist in order to meet their specific needs</li> <li>c. Alternative forms of communication should be readily available to aid conversation</li> <li>d. Consideration must be given to the psychological impact of the loss of voice.</li> </ul>	<p>Freeman-Sanderson <i>et al</i> 2018.</p> <p>Speed &amp; Harding, 2013</p>			
<p><b>2.11 Nutrition</b></p> <ul style="list-style-type: none"> <li>a. A formal dysphagia assessment must be undertaken by a speech and language therapist or dysphagia trained practitioner.</li> <li>b. The patient must be reviewed by the dietician to ensure good nutritional care.</li> </ul>	<p>Davis et al 2002.</p>			

FACTOR 3 – Education

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
<p>3.0 All practitioners involved in the care of a patient with a tracheostomy are provided with a structured competency-based training program. This includes an understanding of:</p> <ul style="list-style-type: none"> <li>a. Identification of different neck breathers (tracheostomy, laryngectomy)</li> <li>b. The rationale for insertion of the tracheostomy tube</li> <li>c. Potential risks and complications associated with a tracheostomy</li> <li>d. The range of equipment used for neck breathing patients</li> <li>e. Infection control</li> <li>f. Associated documentation</li> <li>g. Weaning tools</li> <li>h. Cuff management</li> <li>i. Emergency escalation algorithm</li> <li>j. Nursing care (as outlined in section 2)</li> <li>j. Feeding regimes</li> </ul>	<p>Berston <i>et al</i> 2019</p> <p>Epic 3, 2014</p> <p>Russell, 2005</p>			
<p>3.1 Staff are aware of how to access relevant protocols, guidelines and evidence-based information</p>	<p>McGrath <i>et al</i> 2017</p> <p>NPSA, 2005.</p>			

**FACTOR 4 – Patient Information**

STATEMENT OF BEST PRACTICE	EVIDENCE & REFERENCES	ACHIEVED	NOT ACHIEVED	VARIABLES
4.0 Patient information is available and reviewed in accordance with local policy.				
4.1 Patients/carers must be given current evidence based verbal and written information including: <ul style="list-style-type: none"> <li>a. Rationale for the intervention</li> <li>b. How often the patient will be reviewed</li> <li>c. Possible complications</li> <li>d. Risks and benefits</li> <li>e. Equipment that they are likely to encounter e.g., humidification, suctioning.</li> <li>f. Likely duration of the tracheostomy</li> </ul>	Coe <i>et al</i> 2018  Hunt & McGowen, 2005			
4.2 Any information verbal /written that is given to the patient/carers is documented in the patients notes				

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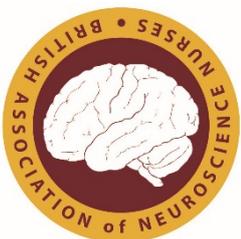
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