Best practice in the care of patients with a tracheostomy

NHS QUALITY Improvement Scotland (NHSQIS) was established as a special health board on 1 January 2003. The purpose of NHSQIS is to improve the quality of healthcare in Scotland by setting standards, monitoring performance and providing NHS Scotland with support and advice on effective clinical practice and service improvements.

The Scottish Nursing and Midwifery Practice Development Unit produced best practice statements offering guidance and encouraging a consistent and cohesive approach (Hotchkiss, 2002). The SNMPDU launched a statement on the care of patients with a tracheostomy in March 2003.

Why tracheostomy?
Caring for patients with a tracheostomy is a source of confusion and anxiety for many nurses. In addition to risk-management issues due to the potential for airway obstruction, there are also many inconsistencies in practice associated with tracheostomy care (Buglass, 1999)

The development of a best practice statement aims to reduce nurses’ uncertainties and increase patients’ and their carers’ confidence. Nurses must provide quality care that encourages a realistic level of patient independence while also promoting patient safety.

Care should be linked to the patient’s underlying medical condition and confidence, not to the tracheostomy itself.

People of any age may need a tracheostomy for many reasons (Box 1) and care should vary accordingly.

Who was involved
Three project leaders developed the statement, working collaboratively with colleagues in ear, nose and throat (ENT), head and neck, and maxillofacial nursing. A wider reference group was established to reflect the multidisciplinary approach essential in the management of patients with a tracheostomy. This included a patient representative, medical consultants, specialist nurses, community nurses, speech and language therapists, physiotherapists and dietitians. The draft was commented on by this group before a wider consultation involving every NHS trust and academic department of nursing and midwifery in Scotland.

The format of the statement
The statement has six sections that address key aspects of tracheostomy care:

- Communication;
- Nutrition;
- Tracheostomy stoma care;
- Tracheostomy tube management;
- Humidification;
- Tracheal suction.

These themes encompass the core management of a patient with a tracheostomy and apply to all care settings.

Each section consists of statements of best practice, reasons for these practices and methods of achieving them. Key points and the challenges presented by each statement are included, along with information relating to the needs of children and patients being cared for in the community. Children have specific care needs, which will alter as they grow and develop. This makes ongoing assessment a vital aspect of their care. The challenges in primary care settings are also highlighted.

Communication
The impact on patients of losing their normal voice after a tracheostomy should never be underestimated. Wherever possible, the patient and family members should be prepared for this. An alternative method of communication is a vital component of care. Involvement of the speech and language therapist and/or nurse specialist is particularly important where specific communication problems are anticipated.

Patients who depend on a ventilator and who have the ability to vocalise can achieve speech as long as they have respiratory stability (Dikeman and Kazandjian, 1995). The use of specialised speaking valves should be considered. Children also have specific requirements and early involvement of the speech and language therapist is advocated to avoid any developmental delay. Speaking valves have been effective with children and young babies as they assist with pre-speech development (Engleman and Turnage-Carrier, 1997).

BOX 1. EXAMPLES OF PATIENTS WHO REQUIRE A TRACHEOSTOMY

- A baby with an upper airway obstruction
- A teenager with a cystic hygroma (a cystic growth formed by the lymph vessels and occurring most frequently in the neck, axilla, and groin)
- An adult with motor neurone disease being treated with home ventilation
- An older patient with advanced laryngeal cancer
Nutrition

The presence of a tracheostomy tube can greatly impair swallowing and may compromise the patient’s nutritional status. Nurses have a vital role to play in ensuring optimal nutrition is achieved and maintained.

The statement highlights some of the factors that may contribute to swallowing difficulties (see Box 2) and emphasises the importance of accurate assessment of individual needs and a clear prescription of individual nutritional requirements with appropriate dietetic input. Nutritional needs may change with alterations in the patient’s health.

Tracheostomy stoma care

A review of the literature and of local protocols in Scotland identified wide variations in practice in tracheostomy stoma care. The statement promotes a cohesive approach, highlighting the importance of assessing individual needs.

The tracheal stoma is an open wound that predisposes the patient to infection. However, effective management can reduce or prevent this risk.

The issue of clean versus sterile stoma care has provoked debate. The statement advocates that tracheal stoma care is assessed on an individual basis, with care undertaken at least twice daily using a clean technique. Skin protection should be provided by a barrier film applied to the surrounding skin (Serra, 2000).

While dressings promote comfort for patients with a silver tube, the use of dressings is not recommended with other tube types because tracheostomy tubes have soft flanges that do not require a dressing between the tube and the skin. Tracheostomy dressings can be a source of contamination.

Tracheostomy tube management

Tube management is arguably the area of greatest concern to nurses. The aim of this section is to demystify tube care and provide guidelines for their straightforward management. The section is subdivided into sections addressing general tube management, inner tube management, cuffed tracheostomy tubes and fenestrated tubes.

Effective tube management is crucial and combined with appropriate suction and humidification can greatly reduce the incidence of postoperative complications (Serra, 2000; Harkin, 1998). Knowledge of the surgical technique used to form the tracheostomy, for example, the open or percutaneous method is necessary as this will influence tube management.

The wide range of tubes available allows the selection of the most appropriate tube for the patient. The statement recommends patients’ requirements be considered in conjunction with their clinical condition.

Although the first tube change is often undertaken by nurses, in many areas this practice is not formalised, and there is no recognised training or competency assessment. This section highlights the importance of ensuring the competence of nurses to perform the first tube change, with the exception of paediatrics where this is normally done by the consultant paediatrician or anaesthetist.

BOX 2. FACTORS AFFECTING THE NUTRITIONAL STATUS OF THE PATIENT WITH A TRACHEOSTOMY

- Postoperative pain and oedema
- Radiotherapy pain
- Restriction of laryngeal elevation due to the presence of the tracheostomy tube or inflated cuff
- Compression of the oesophagus from the inflated cuff
- Reduction in laryngeal sensitivity
- Delay in laryngeal closure

Humidification

The normal system to humidify inhaled air is bypassed in patients with a tracheostomy and so must be artificially supplemented. It is vital that patients remain well hydrated to prevent retention and thickening of secretions. The need for humidification in this patient group is ongoing, and a range of products is available to provide humidification in the patient’s home environment.

When a patient has a cuffed tube in place, a T-tube must be used on the artificial humidification system because there is a risk of occlusion of the airway if a mask is used (Safety Action Notice 01/36, 2001).

Suctioning

This section highlights the risks of suctioning and emphasises the importance of providing tracheal suction only when required. Tracheal suction should maximise the removal of secretions with minimal hypoxia and tissue damage.

The classification of safe and effective suction pressures is another area where inconsistencies exist. The recommended suction pressures in this section reflect the consensus of the working group, the wider reference group and the available literature (McEleney, 1998; Dean, 1997). The recommended pressures are:

- Adults < 120mmHg;
- Children 80-100mmHg;
- Neonates 60-80mmHg.

Conclusion

The multifaceted nature of the needs of patients with a tracheostomy and the complexities associated with their care are highlighted in the best practice statement. Key elements of care are covered, providing an opportunity to develop local policy regarding tracheostomy care while working within a national framework.

The context of care is an important factor; individuals may be cared for at home, and in many community settings and hospital departments. The working group recognised the challenges faced by those caring for patients without designated ENT units and in remote and rural areas without the benefit of a specialist unit nearby.

The statement aims to alleviate some of the confusion and anxiety associated with caring for patients with a tracheostomy and to ensure that patients benefit from a cohesive approach to their care, regardless of setting.

REFERENCES


USEFUL WEBSITES

NHS Quality Improvement Scotland: www.nhshealthquality.org

All seven best practice statements can be found in full at: www.nmpdu.org/projects/bestpractice.html

For related articles on this subject and links to relevant websites see www.nursingtimes.net