Improving tracheostomy care for ward patients


Summary
The number of patients with a tracheostomy being cared for in the ward setting has increased recently as intensive care clinicians use this procedure to aid early weaning from mechanical ventilation. As a result, ward staff are providing the specialist care required by patients with a tracheostomy more frequently. This article describes how the outreach team and the critical care practice development nurse in one trust collaborated to identify, develop and implement strategies to ensure that patients with a tracheostomy in the ward setting would be cared for by an educated and supported team of nurses.

The critical care team in East Kent Hospitals NHS Trust (EKHT) embraced many of the changes advocated by Comprehensive Critical Care (Department of Health (DH) 2000). One of these changes was the establishment of the critical care outreach team in January 2001. The links developed by the outreach team have raised awareness of the many issues faced by ward staff in caring for patients with, or at risk of, acute illness. The management of patients with a tracheostomy had been identified as one area that required considerable investment, in terms of education and training, and direct practical support. Reasons contributing to this included:

- A lack of knowledge, skills and confidence among ward nursing staff in caring for patients with a tracheostomy.
- No trust guidelines for the management of tracheostomies.
- A lack of resources to care for a patient with a tracheostomy in the ward environment.

- The use of a diverse range of tracheostomy tubes across the trust (three main hospital sites).
- Poor quality documentation, and little information about the tracheostomy tube could be gleaned from patient’s notes. These issues led to confusion and a lack of parity of care.

Another development resulting from Comprehensive Critical Care (DH 2000) was the formation of clinical networks. These are formal networks by which services are co-ordinated, resourced and delivered, and they have a large number of informal links to other parts of the system. The Kent critical care network was developed in 2001. It consisted of one strategic health authority and four NHS trusts, of which EKHT is one. Within the network a number of subgroups were formed including a network group of critical care practice development nurses (PDNs). The PDNs had also identified that there were problems in caring for patients with tracheostomies across the whole network and not just in individual trusts, and they were in the process of developing visual prompt cards (Figure 1) and best practice guidelines (Box 1) to accompany patients with a tracheostomy on discharge from intensive care to the ward.

The outreach team and the PDNs collaborated to produce a comprehensive, easy-to-use package on the management of a patient with a tracheostomy. At the EKHT this package consists of:

- A detailed set of guidelines on the specifics of caring for a patient with a tracheostomy.
- A3 laminated visual prompt cards providing a quick and easy-to-read summary of the care required. These cards would be placed on the wall over the patient’s bed – an easily visible reference for staff, patients and relatives.
- A set of best practice guidelines.

Key words
- Clinical procedures
- Guidelines
- Tracheostomy

These key words are based on the subject headings from the British Nursing Index. This article has been subject to double-blind review.

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Figure 1. An example of a visual prompt card

**Tracheostomy care**

*This tracheostomy was inserted by the anaesthetists.*

**Date inserted**

**Non-fenestrated (without holes) cuffed double cannula**

**Blue Line Ultra**

**Tracheostomy patient**

Patients with tracheostomies require ongoing assessment and management of the following:

- Bowels
- Nutrition
- Psychological care
- Physiotherapy

**Tracheostomy guidelines**

For additional information on the guidelines for the care of a patient with a tracheostomy please refer to the clinical practice forum or access the outreach webpage via the internet.

**Checklist**

- Nurse call bell
- Pressure ulcer care
- Oxygen bag
- Oxygen available
- Oxygen
- Suction catheters/bowls
- H2O
- Suctioning available
- Humidification device
- Ventriculostomy tubing
- Stoma dressing
- Stoma maintenance

**Communication**

The stoma is not isolated for use with speaking valve. A speaking valve may improve communication, for example, during feeding.

**Humidification**

Must always be used with speech valve

**Changing tubes**

Change at 30 days, otherwise indicated

**Care of stoma**

Clear stoma with normal saline, dry and apply care of stoma dressing

**Suctioning**

If catheter cannot be passed:

- Patient in severe distress
- Fast bleep anaesthetist
- Contact the patient’s team
- Remove tracheostomy tube – keep stoma open with tracheal dilators or insert new tube
- Apply O₂ via stoma and mouth
- Call team 222
- Inflate tracheostomy cuff
- Bag via tracheostomy using high flow O₂
- Check chest is rising

**Eating and drinking**

Patients should not eat and drink with cuff inflated. If it is a quality of life issue, any signs of risk of aspiration should be noted. Communicate with the patient’s team regarding swallowing ability.

**Weaning from tracheostomy**

- sulphur dioxide
- Carbon dioxide
- Oxygen
- Humidification
- Communication
- Eating and drinking
- Suctioning

**Inner cannula use/care of**

- For additional information on the guidelines for the care of a patient with a tracheostomy please refer to the clinical practice forum or access the outreach webpage via the internet.

**In the event of respiratory distress**

- Call for medical help at usual tracheostomy site
- Oxygen mask
- High flow O₂
- Suctioning
- Check chest is rising

**In the event of cardiac arrest**

- Call 222
- Oxygen mask
- High flow O₂
- Suctioning
- Check chest is rising

**Experienced personnel**

Anaesthetists via ICU ext 62260 or 62259

**Physiotherapists**

Experienced personnel via ICU ext 65090

**Outreach**

Experienced personnel via outreach ext 65068

**NHS**

East Kent Hospitals

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A discharge letter providing information on the tracheostomy. It was hoped to standardise the type of tracheostomy used in each trust to avoid confusion and disparity of care. It was also recognised that education and training for the ward nurses were vital to improve knowledge and skills and to successfully introduce the new guidelines and visual prompt cards.

**Evidence**

**Developing the guidelines** An extensive literature search was undertaken by the critical care outreach team, looking at the care and management of patients with a tracheostomy. Morgan (1997) believed that guidelines should always be based on the highest level of evidence available. The programmes used for the literature search were Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Medline. The key words that were used were clinical effectiveness, change, and tracheostomy, and the years for the literature search were from January 1995 to January 2004. The literature search revealed no available level one or two evidence. However, it was found that most guidelines in use were adapted from the National Institute for Clinical Excellence (NICE) and the Department of Health (DH) guidelines. The PDNs developed visual prompt cards. These were put into practice. The comments were analysed and used in the policy. The final draft was sent to the clinical practice forum for validation before being made available for use on the wards. Von Morgan (1997) identified that guidelines should be adapted to suit local and trust-wide practices. Morgan (1997) identified that guidelines should be developed by a team that represents all of the professional groups involved in that care. The adapted guidelines were then sent for comment to members of the trust’s staff with a vested interest in this area – physiotherapists, speech and language therapists, infection control staff, anaesthetists, and ward and intensive care nursing staff. It was hoped that by involving members of the multidisciplinary team, the guidelines would be readily accepted when put into practice. The comments were analysed and used in the policy. The final draft was sent to the clinical practice forum for validation before being made available for use on the wards. Von Degenberg (1997) stated that evidence-based guidelines are necessary to turn theory into practice and to ensure that the NHS rejects ineffective practices and uses those that have been shown to work. The development of guidelines would provide clear instruction on the management of patients with a tracheostomy. The guidelines would also give ward nurses easy access to evidence-based best practice, empowering them to provide clinically effective care for patients.

Alongside the guidelines, the network group of PDNs developed visual prompt cards. These were based on work by Gray (2003) who was a member of the network group of PDNs. The DH (1997) identified that an essential component of clinical governance is the sharing of areas of good practice. This was the aim of the Kent critical care network. The PDNs also identified and devised best practice guidelines and developed a comprehensive discharge letter to improve documentation for patients with a tracheostomy.

The outreach team and the PDNs wanted to standardise the type of tracheostomy tube used in the trust. The Portex® Blue Line Ultra tube was chosen because it was one of the tubes being used in all of the trusts and most of the consultant anaesthetists favoured these insertion kits for percutaneous tracheostomy. The first time the tracheostomy needs to be changed is 30 days following insertion. An inner cannula can be inserted into the tracheostomy tube in a patient who is breathing spontaneously and this can then be removed for cleaning to maintain patency of the tracheostomy tube. The latter was essential because it was named one of the best practice methods of reducing the risk of tubes blocking on the wards, which had previously been an area of concern. The DH (1997) stated that improving the quality and consistency of the NHS services is an important part of improving the overall health of the population. A member of the network PDN group presented the guidelines and the rationale for standardising the choice of tracheostomy tube at a network board meeting. These were agreed at the meeting by the network board and the information was taken back to each of the individual hospitals.

**Completed the tracheostomy package** The next step was to inform the ward staff about the guidelines and the visual prompt cards, and how to use them. Lomas (1993) felt that it would be naïve to assume that when information is made available it would automatically be accessed, appraised and applied to practice by professionals. The literature on persuasive communication and advertising makes a distinction between communications that increase awareness and those that bring about changes in behaviour, therefore raising awareness of the guidelines and prompt cards would help with their implementation. The guidelines were made available on the outreach team’s website on the hospital intranet site and an e-mail was sent to all hospital employees informing them of the guidelines and how to access them. To reinforce this information, the outreach team visited the wards to inform staff of the guidelines, where they were available and how to use them.

Obtaining information about tracheostomies from patients’ notes had proved difficult for the ward nurses and the outreach team. For example, information about when the tube was inserted, when the tube was last changed, and problems that had been encountered with the tracheostomy was needed. In the intensive care unit (ICU), this information was documented on critical care charts that remain in the ICU when the patient is discharged. Hence there was no information available in the patient’s discharge letter providing information on the tracheostomy.

**Box 1. Principles of best practice for the care of patients discharged to the ward with a tracheostomy**

- All patients will have an inner cannula in situ
- The cuff pressure will be measured daily and the tracheostomy tube changed if persistently high
- The first change of tube should be carried out by an anaesthetist
- These patients have a right to be assessed by a registered nurse who is competent to do so
- All patients will have a laminated tracheostomy guidelines card by their bedside and these guidelines will be followed
notes. The PDNs also identified this as an area of concern and produced a tracheostomy discharge letter to be filled in by the ICU staff before the patient is discharged to the ward (Table 1). This information would stay with the patient’s notes. Fulbrook (1998) stated that high quality nursing documentation is vital because it will be used to inform other professionals subsequently involved in the care of the patient. To lead by example and encourage accurate documentation, the outreach team maintained thorough and concise records on the management of tracheostomies in their documentation.

Developing knowledge and skills
Once the tracheostomy package was in place, a study day on the care of tracheostomy patients in the ward setting was held to educate the ward staff and to introduce the guidelines and visual prompt cards. A half day was used for theoretical input and skills stations. There was a great demand for places, confirming the view that there was a knowledge deficit in the care of patients with tracheostomies among ward nurses. The teaching session was well received and the feedback was positive. The nurses who attended felt well supported and were confident about their newly acquired skills and were keen to put them into practice. In line with trust recommendations, a set of competencies was formulated to be completed by the ward nurses following this formal training. In addition, the critical care outreach team assured the ward nurses that they would be readily available for teaching and support if a patient with a tracheostomy was on the ward. This encouraged the nurses to apply the theory to practice and develop their confidence. Rycroft-Malone et al (2002) propose that facilitators of change not only have a key role in affecting the context in which the change is taking place but also in working with the practitioners to make sense of the evidence being implemented.

Because of the overwhelming response to this formal teaching session, more have been planned, with the aim of using them across the trust and attracting a more multiprofessional audience.

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This project to improve the care of patients with a tracheostomy has proven to be both rewarding and challenging. The challenges we encountered were far reaching and frustrating at times. Lawrence-Parr (1999) states that the greater the number of people involved in the change of practice, the better the outcome. However, in this project the involvement of a large number of disciplines from the multidisciplinary team resulted in conflicting opinions on best practice. Negotiation and the use of effective communication and interpersonal skills were paramount. Despite adopting this approach and agreement at network board level to standardise the type of tracheostomy tube used in the trust, we still encountered resistance to this change in practice. Regan (1998) suggests that it is reasonable to expect adjustment problems in an overworked and understaffed profession.

One issue that had not been considered before starting the project was the educational needs of the critical care staff. Most of the education had been aimed at the ward nurses. Although the critical care staff had been made aware of the new guidelines and visual prompt cards at unit meetings and through the communication diary, it became evident that this was not adequate. Inner cannulas and cleaning brushes in the percutaneous insertion packs were being thrown in the bin because staff did not know what they were used for. In addition, not all of the staff had been made aware of the visual prompt cards, best practice guidelines and discharge letter that were to accompany the patient to the ward when discharged from ICU. For change to be fully effective, all staff involved need to be well-read and informed (Lawrence-Parr 1999).

What seemed like a small-scale initiative has grown enormously and the time involved to undertake the project and see it through to conclusion has been extensive.

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The benefits of the project far outweigh the challenges. We have not audited the effectiveness of the new guidelines, visual prompt cards and

### Table 1. Critical care tracheostomy discharge information to remain with the patient’s observation charts (EKHT)

<table>
<thead>
<tr>
<th>Name of patient</th>
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<tbody>
<tr>
<td>Type of tracheostomy tube</td>
</tr>
<tr>
<td>Date of insertion</td>
</tr>
<tr>
<td>Date due for change</td>
</tr>
<tr>
<td>Reasons for insertion</td>
</tr>
<tr>
<td>Type and quantity of sputum</td>
</tr>
<tr>
<td>Condition of stoma</td>
</tr>
<tr>
<td>Cuff pressure (cmH2O)</td>
</tr>
<tr>
<td>Any problems encountered with the tracheostomy</td>
</tr>
<tr>
<td>Humidification</td>
</tr>
<tr>
<td>Oxygen requirements</td>
</tr>
<tr>
<td>Speech and swallowing abilities</td>
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</tbody>
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discharge letters, because they have only just been printed and made available for use on the wards. An audit tool is being developed with the aim of using it after a three-month trial of the tracheostomy package. However, the perceived benefits are valid and important. They are:

- There is parity across the trust in the care of patients with tracheostomies. This care is evidence-based and structured and reflects best practice.
- The study days and the guidelines provide education, training and support for ward staff in the care of tracheostomy patients. Combined with continued clinical support from the outreach team this will empower nurses to develop their skills and increase their confidence in practice.
- The guidelines and visual prompt cards are an important source of information for health professionals, patients and relatives.
- One of the greatest benefits is the collaboration between the outreach nurses and the PDNs which was rewarding and mutually beneficial. The project was advanced by working collaboratively as a team. The benefit of such a team, as discussed by Pyles and Stern (1983), is to ensure that good practice is shared.

Future

There are still areas of the project that need to be developed. Once their use is well established, the guidelines, visual prompt cards and discharge information will need to be assessed for effectiveness, ease of use and accessibility, and to ascertain whether they make a difference to patient care. The guidelines may need to be altered in the light of new evidence to reflect best practice and as new products become available.

A bid has been made for funding for equipment to develop tracheostomy boxes that will stay with the patient in the ward environment until discharge, or until the tracheostomy is decannulated. The boxes would contain essential equipment required for tracheostomy care, for example, tracheal dilators, inner cannulas, dressings and a cuff manometer. This equipment is currently supplied as necessary by the critical care unit.

Patient information leaflets are being developed and should be available for distribution across the network soon. The project has been expanded to cover community settings because district nurses are facing the challenge of caring for patients with tracheostomies at home. There has been a lack of preparation for this role and advice and support has been sought from the outreach team. Two members of the outreach team have already been into the community to provide skills teaching in this area. In addition, two district nurses from the community attended the tracheostomy study day and it is envisaged that further education and training will be required.

Conclusion

The collaborative approach to tracheostomy care in the ward environment, through the combined efforts of practice development and outreach, has achieved a great deal, including widely available guidelines, laminated bedside visual prompt cards, best practice guidelines, a discharge letter, and a study day providing lectures and hands-on skills stations using mannequins. What started as a small-scale project has grown and resulted in a comprehensive package to educate, develop skills and empower ward nurses to provide evidence-based best practice for patients with a tracheostomy. This collaborative and multifaceted approach to changing practice has ensured that, despite many challenges, implementation has been effective (Halliday and Bero 2000). This is an ongoing project that will require close evaluation and audit, as well as continued teaching and updating of practices and the assessment of competencies.

REFERENCES


