

Using an alternative fixing device for nasogastric tubes

AUTHOR Jane Williams, PhD, MSc, RGN, is consultant nurse in stroke care, East Hampshire, Fareham and Gosport PCTs.

ABSTRACT Williams, J. (2005) Using an alternative fixing device for nasogastric tubes. *Nursing Times*; 101: 26-27.

Nasogastric tubes are increasingly used in both the hospital and community setting, especially with patients who have had a stroke. Fixing tubes in place can be a problem and this article describes the use of a new fixing method.

Enteral feeding is an essential form of life support for a large group of patients and has been a nutritional management option for many years. Feeding patients by a tube placed in the gastrointestinal tract began as early as 1598.

The first incident of tube feeding directly into the stomach was reported by Hunter in 1793 (Clevenger and Rodriguez, 1995). These early tubes were made of leather. The use of rubber, then the advent of various man-made materials such as polyvinyl, silicone and polyurethane have led to the production of tubes that are better tolerated and associated with fewer complications (Clevenger and Rodriguez, 1995).

Tube placement

Nasogastric tube placement is usually the responsibility of the nurse (Colagiovanni, 1999). The procedure is purported to be simple (Ciocon et al, 1988) and while this may be true for patients who are able to assist the passage of the tube by swallowing, in patients with dysphagia, correct placement can be much more difficult (McWey et al, 1988).

An increase in the use of nasogastric tubes in hospital and community settings has been reported in the British Artificial Nutrition Survey (Elia, 2001), with the largest single diagnostic group being reported as patients who have had strokes.

Passing the nasogastric tube can be an unpleasant experience for the patient, particularly if it induces coughing or retching. In patients who have impaired swallowing and protective reflexes the fine bore tube may be misplaced into the respiratory tract.

The procedure for checking nasogastric tubes has been the subject of a recent safety alert from the National Patient Safety Agency (2005). It is a

timely reminder that the process of placing and managing nasogastric tubes requires considerable skill and competence in order to minimise the risks to the patient. This includes minimising the number of intubations each patient has to tolerate and ensuring misplacement and displacement do not occur.

Fixing the tube

Working in the field of stroke care, nurses in all settings are responsible for considerable numbers of patients in whom enteral feeding has been instigated. The results of the FOOD Trial (2005) have been published and support early nasogastric feeding yet delaying percutaneous endoscopic gastrostomy (PEG) placement until it is clear that the patient will require longer-term feeding.

Fixing nasogastric tubes in place often causes problems and particular patients who are restless or cognitively impaired may displace the tube frequently (Ciocon et al, 1988). This problem becomes more complex and ethically sensitive if the patient is not thought to be suitable for PEG placement yet requires alternative feeding. While inadvertent removal can be a particular problem with such patients it occurs widely, for various reasons, and not just with uncooperative patients.

The disadvantages of nasogastric feeding have been well documented, with the inability to ascertain correct placement, blockage and subsequent failure to complete prescribed feeding all high on the list of problems. Recurring problems create cumulative nutritional deficits.

There have been many alternatives produced for securing nasogastric tubes. Most are unsightly and involve adhesive fixing systems or, in the past, suturing. A new system has been produced, called the nasal loop, clinically presented in a small study by Anderson et al (2004).

The nasal bridle

The nasal bridle (The AMT product leaflet, 2005) is a tape that is passed internally, up and over the nasal septum by means of a placement catheter and retrieval probe. The catheter and probe are inserted into opposite nostrils and magnets situated at the tips connect the two together.

The guide wire from the catheter is removed and the tape that is attached to the catheter is

NT CLINICAL is an essential resource for extending your knowledge base. You can achieve your continuing professional development PREP requirements by reflecting on these articles.

BOX 1. CASE STUDY

The patient was a 55-year-old female who had a devastating ischaemic stroke. Ten years previously she had undergone coronary artery bypass surgery following a myocardial infarction.

She was expressively and receptively dysphasic, dysphagic, incontinent and had a dense right-sided hemiplegia. She was drowsy and restless during the first week.

Nasogastric feeding was instigated but on numerous occasions the patient dislodged the tube. It was felt by the team and her family that this was in response to the sensation of the tube rather than a rejection of feeding. During the second week the patient became unwell and was diagnosed with a further ischaemic

event and aspiration pneumonia. Her family were prepared for her death.

However, as is common, the prognosis proved to be inaccurate and the patient's condition slightly improved. The family were keen for feeding to be recommenced but her condition was not stable. PEG placement was discussed but ruled out as associated with too high risks.

Nasogastric feeding was resumed but the patient again inadvertently dislodged the tube. Her family began taking it in turns to spend large amounts of time with her to prevent her pulling the tube out. This clearly would become too onerous for the family and would not be sustainable in the longer term.

pulled through until a length of tape is visible from each nostril. The catheter is cut free leaving the tape in place.

The tape and nasogastric tube are secured together (as close to the nose as possible) into a retaining clip. Once this clip is shut it cannot be opened. Excess tape is then trimmed. If the patient inadvertently pulls at the tube the resistance and sensation felt discourages the patient from pulling further.

As a consultant nurse in stroke care I am regularly involved with difficult feeding situations. I had been introduced to the nasal bridle system a few weeks earlier. My immediate impression was that it looked rather difficult to apply – especially in those patients who had experienced strokes – but that it might be a reasonable choice when it was utilised in theatre with surgical patients. I was unclear about its feasibility in my clinical practice.

However, after one particular patient was referred to me for advice (Box 1) I discussed the system with the senior nutrition nurse specialist and we agreed it was a viable option.

I met with the patient's family and described the option of trying this new fixing system, explaining that it had not been used in the area before. They were keen to try as their mother was not receiving adequate nutrition and they felt PEG placement was too high risk at that stage.

Two people are required to pass the bridle. Our first attempt demonstrated that it was a fiddly but relatively simple procedure. We followed the manufacturer's instructions and correctly placed the bridle first time. The patient was not distressed at any time during the procedure.

Following the placement of the bridle, nasogastric feeding then progressed straightforwardly. The

patient did not make any further attempts to pull at the tube and over the next three weeks received an adequate dietary intake through the tube and overall made significant progress.

At this juncture her condition was stable but the dysphagia had not improved. PEG placement was therefore deemed appropriate and as her condition had improved, risks of the procedure had diminished. Placement was organised and undertaken successfully without complications. The patient was then accepted for transfer to an inpatient rehabilitation ward, where she continued to make gradual progress.

Implications for practice

Following this success the bridle system has been used on several other occasions in the trust. Its use has stimulated local discussion. As a new piece of equipment and a new intervention, the bridle is only being made available for placement by the nutrition nurse specialists and myself, and each use is being evaluated to gauge benefits and potential for harm.

It is clear that for some patients this method of fixation would not be appropriate. It is particularly contraindicated in those with such severe impairments, restlessness and agitation that they would continue to pull the tube, even when trauma was caused, for example possibly patients with a head injury or advanced dementia.

Like any other clinical decision, options have to be considered and made in the light of full information, discussion with families, and consultation as far as possible with patients. With increasing experience and evaluation of each use, a clearer picture will be established of the contribution of this equipment in nutritional support of enteral tube-fed patients. ■

REFERENCES

- The AMT Bridle (2005) *Nasal tube retaining system*. www.appliedmedical.net
- Anderson, M.R. et al. (2004) The nasal loop provides an alternative to percutaneous endoscopic gastrostomy in high-risk dysphagic stroke patients. *Clinical Nutrition*; 23: 4, 501–506.
- Clevenger, F., Rodriguez D., (1995) Decision making for enteral feeding administration: The why behind where and how. *Nutrition in Clinical Practice*; 3: 104–113.
- Ciocon, J.O. et al (1988) Tube feeding elderly patients: Indications, benefits and complications. *Archives of Internal Medicine*; 148: 429–433.
- Colagiovanni L. (1999). Taking the Tube. *Nursing Times*; 95: 21, 63–71.
- Elia, M. et al (Eds) (2001) *Trends in artificial nutrition support in the UK during 1996–2000*. Maidenhead: BAPEN.
- The FOOD Trial Collaboration (2005) Effect of timing and method of enteral tube feeding for dysphagic stroke patients (FOOD): a multicentre randomised controlled trial. *The Lancet*; 365: 764–772.
- McWey, R. et al (1988) Complications of nasoenteric feeding tubes. *The American Journal of Surgery*; 155: 253–257.
- National Patient Safety Agency (2005) *Patient Safety Alert 05. Reducing the harm caused by misplaced nasogastric tubes*. London: NPSA.
- This article has been double-blind peer-reviewed.
- For related articles on this subject and links to relevant websites see www.nursingtimes.net