

## Symposium on ‘Home enteral feeding’

# Home enteral-tube feeding: The changing role of the dietitian

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Enteral feeding in primary care has increased markedly over the last decade. It allows patients to be discharged to home or residential care who previously would have remained in hospital. Difficulties do arise for patients, their carers and health professionals, as care of these patients and support for health professionals is often patchy or non-existent. Dietitians are uniquely placed to participate in the management of tube feeding in primary care, provide support and education to patients and their carers, evaluate treatment and promote better outcomes for patients receiving tube feeding.

### Home enteral-tube feeding: Dietitian: Primary care

#### Home enteral-tube feeding

Chronic illness is now increasingly managed in the community, and it is likely that all professionals working in primary care will soon be caring for patients fed using a nasogastric tube, a percutaneous endoscopic gastrostomy tube or a percutaneous endoscopic jejunostomy tube.

This growth in tube feeding in primary care can be attributed to scientific advances in technology, development of the percutaneous endoscopic gastrostomy technique and the increasing pressure to transfer the care of stable patients from the costly acute hospital setting into primary care (Howard & Bowen, 2001). In the UK there has been a 20 % increase year-on-year in patients registered to be receiving home enteral-tube feeding (HETF), and patients remain on this form of feeding longer (Elia, 1999).

Although patient numbers in the UK have increased, service provision for patients has generally been reactive rather than proactive. Funding is the major problem and the British Artificial Nutrition Survey report that 40 % of the centres have no budget allocated specifically for artificial nutrition support (Elia *et al.* 2001).

The growth in HETF can have serious implications for already stretched services in primary care, which in turn can lead to difficulties for patients, carers and also for the health professionals involved. Recent work from Northern Ireland

shows that most general practitioners (91 %) felt they had received no education regarding percutaneous endoscopic gastrostomy and 53 % of the general practitioners surveyed encountered problems (Heaney & Tham, 2001). McNamara *et al.* (2000) reported that patients and carers in the Republic of Ireland lacked confidence in their general practitioner's knowledge of enteral tube feeding; only 19 % of the patients and carers said that they felt confident in their general practitioner's knowledge of the process.

Although dietitians have been practising in primary care for many years, the assessment and monitoring of patients receiving HETF is a role that is relatively new and is usually managed along with other clinical responsibilities, often on an *ad hoc* basis. In some areas dietitians affiliated to acute hospitals perform the monitoring of patients primarily on an out-patient basis, but many of these patients are not mobile or well enough to attend hospital (McNamara *et al.* 1999).

Some dietetic departments have taken the initiative, highlighted the problems and reorganised service provision (L'Estrange, 1997; Mensforth, 1999; Baxby, 2000; Howard & Bowen, 2001; Madigan *et al.* 2002). In carrying out this process they are trying to prevent or address potential problems that can occur with HETF. By dedicating staff to this clinical area they are also creating skilful practitioners who will be able to pre-empt and respond to the patient and carer needs in a number of ways.

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**Abbreviation:** HETF, home enteral-tube feeding.

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### Pre-discharge planning

The majority of patients who start enteral feeding do so within the hospital. Successful discharge is made possible by good communication with, and education of, the patient and/or carers before discharge, usually involving the hospital dietitian. If sufficient time is not available to educate before discharge or to set up the necessary systems in primary care, difficulties usually arise after discharge (Mensforth, 1999). It has also been suggested that the majority of time spent before discharge is actually on the organisation of the home feed rather than education (McNamara *et al.* 2001). Those patients who commence feeding in primary care will usually require very intensive support in the first few days and weeks from the primary care team.

### Problem solving

Assisting with problem solving is an essential role of the dietitian involved in HETF. Although enteral feeding is safer than parenteral nutrition, it is not problem-free. In the absence of appropriate and regular monitoring, major problems can occur. Diarrhoea, nausea and vomiting are common physical problems and may occur as a result of the underlying medical condition, medications, poor gastric emptying, infusion rate that is too rapid or contamination of the feeding system with bacteria. Aspiration of feed is the most serious complication, and ensuring the patient is elevated to at least a 30° angle during feeding can lessen the risk. Enteral tube feeding may also be associated with metabolic complications, including gastrointestinal intolerance, fluid and electrolyte balance, and the potential for drug–nutrient interactions (Edes *et al.* 1990).

The main mechanical problem is tube occlusion. Irrigation of the tube before and after feeding and drug administration can help prevent blockages. Medications are a potential cause of tube blockage, but liquid formulations are not always the best option, as there are marked amounts of sorbitol present in many liquid medications that may cause gastrointestinal disturbances and/or diarrhoea (Edes *et al.* 1990; Lutomski *et al.* 1993). Interestingly, no drugs are licensed for administration via enteral feeding tubes (O'Hare & Fair, 2000).

### Monitoring

For patients who are stable, monitoring can be as simple as reviewing weight gain or loss and evaluating their tolerance to the feeding regimen. This process can be carried out by measuring the presence or absence of diarrhoea, nausea, reflux, vomiting, abdominal cramps and distension (Ireton-Jones, 1998).

The traditional role of the dietitian in primary care has changed to include management of non-nutrition-related issues associated with HETF. It is necessary to provide ongoing advice on safe hygiene practices and review the condition of the feeding tube. By monitoring the condition of the feeding tube it is possible to identify when it may need to be replaced. Planned tube replacement can reduce unnecessary trips to Accident and Emergency departments

and long waiting times for patients. Patient review in primary care will not, and should not, be the responsibility only of the dietitian. There will be input from nursing staff, general practitioners, community pharmacists and, in some cases, speech and language therapists for assessment and treatments where dysphasia is present.

### Support and education

Initiation of this treatment for most individuals is a traumatic experience. The enjoyment and social aspects of eating are often overlooked. The majority of patients on HETF are elderly, generally more disabled and require much more support (Elia *et al.* 2001).

Dietitians often assist in developing coping skills, provision of technical and emotional support and ongoing education for the patient, the family and other health professionals in primary care. Anxiety in hospital may prevent patients and their families from fully understanding the feeding system, and follow-up education within the home environment is essential. Difficulties may only arise in the days and weeks post discharge, and patients and their carers need access to health professionals who can answer their questions either in person or via the telephone. The skill of ensuring compliance with the feeding regimen, while maintaining the lifestyle as near normal as possible, is one of the greatest challenges faced by those involved in HETF (Shopbell, 1997).

### Conclusion

Successful enteral feeding at home is made possible by providing the right support and follow-up to the patient, the family and the health professionals involved with their care. Monitoring the enteral feeding system in primary care is a vital aspect of patient care; it ensures that the nutritional requirements of the patient are met, it assesses the effectiveness of the treatment plan and allows early detection of complications. It has been observed that patients and carers find the first few weeks post discharge the most difficult, and the greatest number of problems is reported during this period (Mensforth, 1999).

The American Society for Parenteral and Enteral Nutrition (1999) recommend that patients who receive this type of treatment at home should be monitored by physicians and nutrition support specialists who are familiar with the procedures and complications of enteral tube feeding. In the primary care setting the monitoring is most likely to be carried out by community dietitians.

In Leicestershire a home enteral nutrition service was established in the early 1990s to meet the needs of patients and their carers (Mensforth, 1999). This tube-feeding-care package now includes: assessment and review of nutritional requirements and feeding regimen; review of oral intake (if necessary); review of feed administration methods; condition of enteral feeding tube; feed tolerance; changes to medical and social circumstances; review of equipment requirements and the delivery system. Similar dietetic-led services have been developed in other areas, e.g. Avon and London. In Avon service changes have been facilitated by

changes in financial arrangements within the area (Howard & Bowen, 2001).

In Northern Ireland community dietitians, who have other clinical commitments and/or health promotion duties, review patients. Within the Eastern Health and Social Services Board area of Northern Ireland community dietetic services were reorganised in 1997, following an audit of HEFT (L'Estrange, 1997). This reorganisation allowed one full-time community dietitian to develop the service and meet the recommendations, which suggested that patients should be reviewed at least every 6 months.

Pulling together the practical aspects of HETF and the emotional, social and educational issues associated with tube feeding relies heavily on trained practitioners in primary care. Larger caseloads will allow dietitians to gain experience, along with formal continuing education (Howard & Bowen, 2001). If dietitians are willing to develop new roles and expand their skills, many more opportunities will be available.

### Acknowledgements

A National Primary Care Award from the Regional Research and Development Office, Northern Ireland currently supports S.M.M.

### References

- American Society for Parenteral and Enteral Nutrition (1999) *Standards of Practice for Home Nutrition Support*. Silver Spring, MD: ASPEN.
- Baxby EJ (2000) Home enteral nutrition – an audit of care in Tayside. *Proceedings of the Nutrition Society* **59**, 481.
- Edes TE, Walk BE & Austin JL (1990) Diarrhoea in tube fed patients: feeding formula not necessarily the cause. *American Journal of Medicine* **87**, 352–360.
- Elia M (1999) *The 1998 Annual Report of the British Artificial Nutrition Survey (BANS)*. Maidenhead, Berks.: BAPEN.
- Elia M, Russell C & Stratton R (2001) *Trends in Artificial Nutrition Support in the UK during 1996–2000. A Report by the British Artificial Nutrition Survey (BANS)*. Maidenhead, Berks.: BAPEN.
- Heaney A & Tham T (2001) Percutaneous endoscopic gastrostomies: attitudes of general practitioners and how management may be improved. *British Journal of General Practice* **51**, 128–129.
- Howard P & Bowen N (2001) The challenges of innovation in the organisation of home enteral tube feeding. *Journal of Human Nutrition and Dietetics* **14**, 3–11.
- Ireton-Jones C (1998) Nutrition support in home care. In *Nutrition Support: A Clinical Guide*, pp. 611–623 [M Gottschlich and L Matarese, editors]. Philadelphia, PA: WB Saunders.
- L'Estrange F (1997). An audit of adult patients on home enteral tube feeding in a region of Northern Ireland. *Journal of Human Nutrition and Dietetics* **10**, 277–287.
- Lutomski DM, Gora ML, Wright SM & Martin JE (1993) Sorbitol content of selected oral liquids. *Annals of Pharmacotherapy* **27**, 269–273.
- McNamara E, Flood P & Kennedy NP (1999) Home Enteral Tube Feeding: A growing problem? *Irish Journal of Medical Science* **168**, 246–247.
- McNamara EP, Flood P & Kennedy NP (2000) Enteral tube feeding in the community: survey of adult patients discharged from a Dublin hospital. *Clinical Nutrition* **19**, 15–22.
- McNamara E, Flood P & Kennedy NP (2001) Home tube feeding: an integrated multidisciplinary approach. *Journal of Human Nutrition and Dietetics* **14**, 13–19.
- Madigan SM, O'Neill S, Clarke J, L'Estrange F & MacAuley DC (2002) Assessing the dietetic needs of different patient groups receiving enteral feeding in primary care. *Journal of Human Nutrition and Dietetics* **15**, 179–184.
- Mensforth A (1999) Home enteral nutrition – the Leicestershire experience. *British Journal of Homecare* **1**, 114–118.
- O'Hare M & Fair R (2000) *Administering Drugs Through Enteral Feeding Tubes*. Belfast: The Royal Hospitals.
- Shopbell JM (1997) Home infusion therapy: An expanding area of dietetics practice. *Nutrition* **13**, 1005–1007.