Maintaining hydration in enteral tube feeding

In this article...

- Why good hydration is essential
- What guidance is available for health professionals
- Suggested gaps in health professionals’ knowledge

Survey findings show that health professionals need to give more consideration to hydration when administering enteral tube feeding to patients.

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Abstract Best C, Lecko C (2013) Maintaining hydration in enteral tube feeding. Nursing Times; 109: 26, 16-17. Although recognition of the importance of hydration is increasing, there is little research relating to hydration in enterally fed patients. An online survey found a lack of evidence-based guidance and a need for a greater understanding of this area.

The past 10 years have seen recognition of the importance of hydration, but much of the literature relates to oral hydration, with little concerning patients who are enterally fed. This is surprising as, during 2010, an average of 55 people in every million in the UK were newly registered with the British Artificial Nutrition Survey as receiving enteral tube feeding at home. This is in addition to over 48,700 patients already being enterally fed at home (Smith, 2011).

Many patients with an enteral feeding tube rely on clinicians to calculate nutrition and hydration requirements, and on family or carers to provide those through their tube. When people become unwell, their fluid requirements may change. Dehydration is a serious risk for long-term enterally tube-fed patients who are:

- Unable to take fluids orally;
- Have an altered mental status;
- Are unable to communicate;
- Are fluid restricted;
- Have thirst impairment (Dickerson and Brown, 2005).

Older people are also at increased risk of dehydration. Clinicians caring for a patient with an enteral feeding tube therefore need their knowledge and organisational support to provide informed and appropriate care, supported by a strong evidence base.

Survey
To gain an understanding of current practice, we conducted an online survey in July 2012 of 1,500 members of the British Association of Parenteral and Enteral Nutrition, the Parenteral and Enteral Nutrition Group of the British Dietetic Association and the National Nurse Nutrition Group (Box 1). A total of 429 health professionals completed the survey—a response rate of 28%. The majority (78%) were hospital-based and most were dietitians (Fig 1).

Guidelines
Less than one third of respondents said their organisation had general hydration guidelines and less than a quarter had specific hydration guidelines on patients with an enteral feeding tube (Fig 2).

Of the areas with guidelines, very few provided information on daily fluid recommendations. A review highlighted that in clinical settings water requirements are often calculated by dietitians based on equations with unclear origins (Vivanti, 2012). This survey showed 30-35ml/kg body weight per day was the most frequently recommended guideline. This links to the PEN Group guidance (PEN Group, 2011), so may reflect the fact that the majority of responses received were from dietitians.

Responsibility for implementing guidelines varied (Fig 3). Many of those responsible would not be providing direct care on a daily basis, perhaps demonstrating a lack of knowledge and ownership of hydration management at the point of delivery.

5 key points

1 More than 48,700 patients are being enterally fed at home.
2 Staff caring for a patient with an enteral feeding tube must have organisational support to do so.
3 When people become unwell, their fluid requirements may change.
4 Clinical examination is essential to identify those at risk of dehydration.
5 The use of IV fluids exposes patients to risks such as cannula site infection, delay in cannula insertion and over hydration.

BOX 1. SURVEY QUESTIONS

- What guideline(s), if any, do you use for hydration?
- Who is responsible for administering the guideline(s)?
- What is the current recommendation for fluid intake per day?
- How do you identify patients at risk of dehydration?
- How would you identify if a patient on enteral feeding is dehydrated?
- What method do you use to give fluid to a patient solely dependent on enteral feeding?
- What practical challenges do you face when giving water via the enteral route?
Assessment
Assessing for dehydration is notoriously difficult. Respondents relied on a variety of methods, some of which cannot be unreliable. The three main methods were:
» Urine output/colour;
» Fluid balance charts;
» Biochemical markers (Fig 4).

Using clinical examination to assess skin condition, oral health and other signs – essential in identifying those at risk of dehydration – came in fourth place at 64%. However, this may reflect the high number of dietitians, who may not have clinical examination as part of their role. It is of concern that respondents relied on fluid balance charts, as these are often inadequate and inaccurate (Tang and Lee, 2010).

Hydration management
As this survey focused on patients receiving enteral tube feeding, specific consideration was given to how water was administered and the practical challenges of providing water to this patient group.

It is assumed enteral tube feeding is given in response to a poor or absent oral intake. It is perhaps no surprise, therefore, that if patients required additional fluids, virtually all (99%) of respondents said that they would use intravenous routes. However, administration of IV fluids has risks, such as cannula site infection, delay in cannula insertion and over hydration.

When water was given through an enteral feeding tube, a “manual flush” was the most common method (67%). The flush was usually given before and after medication or feed administration. Only 16% of respondents said that the pump was used to administer water. The commonest size of flush given was 30–35ml.

Understanding
Perhaps a key element of this survey was gaining insight into clinicians’ understanding of the effects of dehydration, and which were of greatest concern (Fig 6).

Respondents had a good awareness of the dangers of dehydration, yet the results suggest that adequate fluid is not always given in clinical practice. This contradiction may be influenced by the large number of dietitians responding; it may raise the question of whether dietitians expect nurses to manage this.

Conclusion
Clinicians are well aware of the dangers of dehydration. Despite this, dehydration in healthcare is not uncommon. Where patients have to rely on others for hydration, it is essential clinicians have sufficient knowledge and skills to be able to support them.

This survey found differences in opinions between clinicians who are considered nutrition and hydration specialists. The reason for this cannot be attributed to any one issue and work needs to be done to clarify the issues and provide guidance. NT

References

