

Use of Feeding Tubes in the Care of Long-Term Care Residents

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One of the most difficult decisions faced by a family caring for a disabled elder is whether or not to place a gastric feeding tube. Recent high-profile media coverage of the Terry Schiavo case has brought this issue into the public arena. Prior to the early 1990s, placement of a feeding tube for direct delivery of nutrition into the stomach, or “enteral feeding,” was a surgical procedure requiring general anesthesia and the operating room. During the 1990s, the procedure became simplified, using percutaneous techniques either performed in the endoscopy suite or by interventional radiology. These procedures could be performed using conscious sedation and local anesthesia. Feeding could be initiated within 24 hours. The ease of the procedure was greater, and the immediate complication rate was reduced. Patients who were too ill for the procedure now received enteral feeding. Previously, enteral feeding was often performed through long-term naso-gastric tubes. These tubes frequently clogged or fell out, and were associated with significant patient discomfort. Coincident with the greater ease of gastrostomy tube insertion, the number of tube insertions rose dramatically, almost doubling during the 1990s even after adjustment for the increasing age of the population. Use of feeding tubes was even greater in the southeast, and this rise has continued as increasing numbers of tubes are being placed on an outpatient basis.¹

Indications for Feeding Tube Placement

Feeding tubes may be placed for a variety of reasons. Some are for acutely ill patients who are in an intensive care unit and are unable to take food by mouth, but who may otherwise have a reasonably good prognosis. This may be the case after trauma or a severe medical illness such as pancreatitis. Gastric feeding tubes are commonly used in head and neck malignancy patients as a ‘bridge’ around the time of surgery and radiation therapy. More controversial indications include placement of feeding tubes after a cerebrovascular accident (stroke). If the patient otherwise has a fairly good prognosis in terms of level

of consciousness and residual functional status, many tubes inserted after strokes can be removed in the year following the event.² The most problematic situation in which feeding tubes are used is for elderly adults with neurodegenerative diseases, including cognitive impairment due to Alzheimer’s disease and multi-infarct dementia. Unfortunately, these diseases are progressive, and the feeding tube is not part of a rehabilitation plan. There is extreme variability in the use of feeding tubes for

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this indication around the country. For unclear reasons, the use of feeding tubes is particularly common in the southeastern United States. According to data from the Medicare nursing home Minimum Data Set (MDS), North Carolina ranks sixth in the proportion of severely cognitively impaired elders in long-term care who receive gastric feeding tubes. In North Carolina, 40% of patients with cognitive impairment have feeding tubes, in Alabama the percentage is 47%, but in Maine, only 9%.³

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Risks and Benefits

When wide variation occurs in the utilization of a diagnostic or therapeutic treatment, it's generally due to uncertainty regarding therapeutic benefit, variations in the supply of providers and technology, and varying preferences for treatment.⁴ In the case of feeding tubes, providers are often uncertain regarding benefit, and families have variable preferences regarding the pros and cons of this treatment. Yet, over the past decade, moderate amounts of data have been collected and published regarding the utility of gastric feeding tubes in frail elderly with cognitive impairment. Rationales for insertion of these tubes include the prevention of aspiration pneumonia, prolongation of life, or improvement in quality of life. Unfortunately, the benefits of feeding tubes to prevent such complications appear to be quite limited. Alzheimer's disease and related dementing illnesses are conditions that affect the entire brain and the entire body, not just swallowing functions. Patients with gastric feeding tubes continue to have episodes of aspiration pneumonia after insertion.⁵ The pneumonia is likely due to aspiration of saliva into the lungs when the patient is asleep, as well as possible aspiration of the very thin liquid that is placed in the stomach through the feeding tube. In addition, healing of decubitus ulcers (bedsores) and improvement in nutritional parameters, such as blood albumin levels, appears to occur for only a minority of patients who receive feeding tubes.⁶ Overall, these frail patients have a mortality rate between 30 and 50% over six months, with some studies reporting even worse survival.⁷ Some authors recommend that gastric feeding tubes be considered extraordinary treatment since the benefits are limited at best in demented patients.⁸ Certainly, families should have a detailed and shared decision-making discussion regarding the very limited benefits of this technology, as well as its significant risks.

The risks of feeding tubes include some risks associated with tube insertion. While the risk of perforation of a structure such as the colon is rare, such complications are potentially catastrophic. Feeding tube removal in the days following insertion can also be extremely risky as peritonitis can result. When a feeding tube falls out or is pulled out (as by a confused patient) in the days following insertion, the patient needs to be emergently transported to the hospital for assessment for peritonitis and re-establishment of the feeding tube using a technique similar to the original endoscopy or a radiologic procedure. Patients may sometimes require arm restraints so that they do not manipulate the gastric feeding tube. These restraints lead to decreased quality of life. Finally, many of the other commentaries in this issue

address the social significance of food in our society. When a feeding tube is inserted and oral feeding is ceased, the sensory experience of eating is denied. The social interaction that is so much a part of meals is also absent. While some facilities use tube feeding as a supplement to oral feeding rather than as a replacement, many place patients on a "nothing-by-mouth" status.

Shared Decision-Making and Alternatives to Tube Feeding

Assisted feeding to an amount as much as the elder is able to take is certainly an acceptable alternative to placement of a gastric feeding tube for patients who have some remaining ability to swallow. Given the substantial uncertainties regarding the benefits of gastric tube feeding, discussions with families should include assisted feeding as an option, as long as all concerned recognize that ongoing weight loss may continue to occur.

What are the drivers that have led to the common use of a procedure with such limited evidence of benefit? Assisted feeding takes significant amounts of staff time, much of it one-on-one with the patient. Personnel must be trained, attention to set-up of utensils and foods must be performed, and diets may need to be individualized. Although advantageous to the patient, these interventions are costly to facilities. In contrast, once a feeding tube is inserted, the time involved for a staff member to hang a bag of high calorie liquid takes only a few minutes. Reimbursement to the facility may be increased due to the apparent technical nature of the activity. Labor costs are therefore decreased, reimbursement increased, and the care providers may have the somewhat false illusion that "everything is being done." These cost and reimbursement issues may represent a perverse incentive, leading to increased feeding tube use.⁹ Medicare's use of 10% weight loss as a nursing facility quality indicator is laudable, but is not intended to mandate use of tube feedings for patients with end-stage dementia. A palliative approach for such patients, appropriately documented, is certainly acceptable.

Policy interventions to assist families and providers in this extraordinarily difficult clinical situation should include financial incentives to facilities for provision of assisted feeding programs; development of shared-decision making modules for use by patients and providers as they grapple with these difficult decisions; and frank discussions of the limits of technology in its ability to preserve life or improve functional status for this important and frail population. **NCMedJ**

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