Use of Feeding Tubes in Patients with Advanced Dementia
Are We Doing Harm?

ABSTRACT
The decision to place a feeding tube in a patient with advanced dementia is difficult for both family members and health care professionals. There is increasing evidence that the use of feeding tubes in these patients does not improve survival, prevent aspiration pneumonia, prevent or heal decubitus ulcers, or improve other clinical outcomes. Yet, despite this evidence, more than one third of nursing home residents with advanced dementia have feeding tubes, and many of these individuals have feeding tubes inserted on hospital admission for an acute care problem. Health care professionals need to examine the evidence carefully to identify practices that provide patients and families with information to make informed choices and respect their rights and dignity at end of life.

Jeanne M. Sorrell, PhD, RN, FAAN
During the next 40 years, the number of individuals 65 and older with Alzheimer’s disease is projected to be between 11 and 16 million (Alzheimer's Association, 2009). Health care professionals in both acute and long-term care facilities are a key component in ensuring these individuals receive considerate and competent care at all stages of this disease. As the final disease stages unfold, those with dementia often encounter severe functional impairment, eating problems, malnutrition, and recurrent infections. In anticipation or as a result of these problems, feeding tubes are often inserted.

Whether or not to place a feeding tube in a patient with advanced dementia is a difficult problem often faced by family members and health care professionals. Evidence from surveys with people in nursing homes and family members of people with dementia indicates that the majority would prefer not to have a feeding tube inserted at the end stages of life (Gardner, 2010). Yet, despite this evidence, more than one third of nursing home residents with advanced dementia have feeding tubes (Mitchell, Teno, Roy, Kabumoto, & Mor, 2003). One study explored nursing home characteristics associated with tube feeding in advanced dementia (Mitchell, Kiely, & Gillick, 2003). Surprisingly, having a full-time speech therapist and more licensed nurses on staff were independently associated with greater use of tube feeding. Other influencing factors were fewer nursing assistants, larger facility size, higher proportion of Medicaid beds, absence of an Alzheimer’s disease unit, pressure ulcers in 10% or more of residents, and a higher proportion of residents lacking advance directives and with total functional dependency.

Recent research suggests the problem of feeding tube insertion in patients with advanced cognitive impairment becomes especially critical when the individual is admitted to a hospital for treatment of an acute disorder; approximately two thirds of nursing home residents with advanced dementia who have feeding tubes had the tubes inserted during an acute-care hospitalization (Gardner, 2010; Teno et al., 2010). One study found that the practice of inserting feeding tubes in patients with advanced dementia was much more prevalent at some hospitals than at others (Teno et al., 2010). Researchers analyzed more than 250,000 admissions of nursing home residents 66 and older with advanced cognitive impairment who were admitted to a sample of 2,797 acute care hospitals in the United States from 2000 to 2007. The difference in the practices of inserting feeding tubes at various hospitals was startling. Some hospitals inserted feeding tubes in as few as 1 of every 100 patients in the sample; other hospitals inserted feeding tubes in as many as 1 of every 3 patients with dementia. Larger and for-profit hospitals were more likely than others to insert the tubes, as well as hospitals with greater use of intensive care units in the last 6 months of life. Specific nursing home resident characteristics were also associated with feeding tube use. Black residents were almost twice as likely as White residents to have a feeding tube inserted. Written end-of-life advance directives, do-not-resuscitate orders, and instructions to avoid artificial hydration and nutrition were associated with lower likelihood of feeding tube insertion.
HISTORY AND MODERN DAY USE OF FEEDING TUBES
Many people assume that feeding tubes are a fairly new practice, but some forms of feeding tubes have actually been in use since ancient Egyptian times, when reeds and animal bladders were used to deliver nutrients to patients. As early as 1793, a hollow whale bone covered with eel skin was pushed down the throat to the stomach to feed patients jelly, eggs, milk, sugar, or wine (Greene, 2005). Obviously, the technical aspects of feeding tubes have improved dramatically from those early times, but has the ease and efficiency of feeding tube insertion clouded our thinking about the ethical aspects of the practice?

Charlene Compher, a nutrition faculty member at the University of Pennsylvania Schools of Medicine and Nursing, has studied the history of artificial feeding and notes that since she began working in nutrition in 1972, the use of stomach tube feedings has mushroomed (Greene, 2005). These tubes are seen by many health professionals as interventions with minimal risks, but they can cause complications such as diarrhea, infection, and aspiration, and patients with dementia may have to be restrained and sedated to keep them from removing the tube. This may increase stress and agitation for patients and may deprive them of the pleasure of interacting with family members in normal approaches to eating and drinking.

Research findings suggest that decisions about insertion of feeding tubes in patients with advanced dementia are more likely to be based on hospital practices than on the wishes of patients and their families (Mitchell, Kiely, et al., 2003; Teno et al., 2010). This raises serious concerns about the processes for eliciting and respecting patient choice and the need to explore current practices in both nursing homes and acute care hospitals to identify changes needed.

COSTS OF CARING FOR PATIENTS WITH FEEDING TUBES
Costs of care may be one factor in the practice of inserting feeding tubes. A study in the United Kingdom found that many care homes across the country were requiring placement of a feeding tube for admission to the facility with the understanding that it is more cost effective to insert a feeding tube than to invest staff time in feeding patients by mouth (Boseley, 2010). A retrospective study by Mitchell, Buchanan, Littlehale, and Hamel (2003) compared the costs associated with caring for severely demented nursing home residents with and without feeding tubes. The researchers found that the daily costs of nursing home care were higher for the residents without feeding tubes compared with residents with feeding tubes. However, Medicaid reimbursement to nursing homes was often higher for residents who were tube fed than for residents with similar deficits who were not tube fed. Thus, nursing homes may have a financial incentive to tube feed residents with advanced dementia since this generates a higher daily reimbursement rate from Medicaid, yet requires less expensive nursing home care (Mitchell, Buchanan, et al., 2003). More research is needed to determine the impact of fiscal incentives on decisions to insert feeding tubes in these patients. Obviously, decisions should not be based on the convenience of staff or fiscal incentives.

NEED TO IDENTIFY CLEAR GOALS FOR PLACEMENT OF FEEDING TUBES
Health care professionals can help families make an informed decision about inserting a feeding tube in a patient with dementia by identifying clear goals. They can help family members maintain meaningful interactions with the patient by “comfort feeding”—feeding the patient as long as it is feels safe and comfortable but not trying to shovel down food to maintain the patient’s weight (Gardner, 2010). Even when people with advanced dementia can no longer eat because of swallowing problems, they may be able to take small tastes of favorite foods and beverages (Ersek & Hanson, 2009). This also provides them with the pleasure and social contact involved in normal eating and drinking.

NEED FOR EDUCATION ABOUT PLACEMENT OF FEEDING TUBES
Another important factor in the insertion of feeding tubes in patients with advanced dementia is a lack of information by both families and health care professionals. Dr. Teno pointed out that many people are simply not aware that dementia is a terminal disease, although it is in fact the fifth- or sixth-leading cause of death (Gardner, 2010). In addition, unfortunately, it may not be known whether the patient would have wanted a feeding tube inserted.
Feeding is a very emotional issue for families, and they worry about their loved one experiencing hunger and thirst if they do not agree to placement of a feeding tube. They should know that small studies and experts in dementia care suggest that most patients with advanced dementia do not feel hungry or thirsty (Ersek & Hanson, 2009). They should also be informed that there is evidence that feeding tube insertion does not extend life or improve quality of life and may even be harmful (Gardner, 2010; Sampson et al., 2009). Also, it is important to realize that stopping the tube feeding is a more difficult decision than deciding to have the feeding tube inserted in the first place (Ersek & Hanson, 2009). Health care professionals also need to be informed about current research related to insertion of feeding tubes. A report from the British Society of Gastroenterology noted that health care professionals are sometimes at odds over the merits and ethics of inserting feeding tubes with a misguided belief that tube feeding keeps patients alive longer (Boseley, 2010). People in the later stages of dementia have complex end-of-life needs, and it is vital that the use of artificial nutrition not be used in place of care designed to enhance quality of life.

**SUMMARY**

At present, there appears to be a disconnect between evidence and current practices in the use of feeding tubes in both nursing homes and hospitals. Health care professionals need to examine the evidence carefully to identify practices that provide patients and families with information to make informed choices and respect their rights and dignity at end of life.

**REFERENCES**


---

*Dr. Sorrell is Professor Emerita, School of Nursing, College of Health and Human Services, George Mason University, Fairfax, Virginia.*

The author discloses that she has no significant financial interests in any product or class of products discussed directly or indirectly in this activity, including research support.

**Address correspondence to Jeanne M. Sorrell, PhD, RN, FAAN, 2870 E. Overlook Road, Cleveland Heights, OH 44118; e-mail: jsorrell@gmu.edu.**

Posted: April 22, 2010
doi:10.3928/02793695-20100331-02