

EDITORIALS

"No resuscitation" orders

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Although perhaps lacking in precise definition, the terms the dying and the terminally ill enjoy a measure of understanding and acceptance among health care professionals and the public. Consequently, the issue of the quality of life with respect to the application of resuscitative measures in emergency situations can readily be addressed from philosophic, moral, ethical and, to some extent, legal viewpoints. However, the issue is perhaps somewhat obscure when it pertains to the elderly, particularly if they are mentally impaired and if long-term care is being provided in institutions.

This situation derives partially from certain attitudes among some health care professionals: first, that the elderly are "bed blockers" in acute care institutions; and, second, that their health problems constitute an expected decrepitude to be considered summarily, with little reference to the usual vigorous and disciplined professional problem-solving approach.

There is evidence that the first of these attitudes is based on a misconception.¹ The second ignores the facts that most elderly persons are remarkably healthy, in that they cope competently with their life situation, and that there are well substantiated scientific explanations for their altered physiologic responses. Reshaping of such attitudes is obviously necessary.

The first principle follows logically that in a first-contact emergency situation resuscitative measures should not be withheld on the basis of advanced age alone. The imperatives of time and the unavailability of adequate information predicate immediate positive action. The same principle should apply to elderly persons whose mental competency is such that they are able to engage in the decision-making process but who have not had the opportunity of discussing resuscitative measures with their physicians. It is therefore important that physicians provide their elderly patients with basic information about resuscitation. There will be some patients with a continuing zest for life who will accept the idea of resuscitation. However,

there will be others for whom life is merely to be endured as a tiresome and even painful burden; they are prepared for death, with the expressed reservation that they wish to die in comfort and without undue intervention. That all patients, elderly or otherwise, have the right to accept or reject treatment must not be overlooked or forgotten.

But what of the irreversibly demented elderly person who has feeble recall, an eroded intellect and a crumbling personality? It is disturbing to hear the opinion that such individuals do not know what is going on anyway. In actual fact it is we who do not know what is going on in their minds or whether our view of their quality of life is at variance with their feelings. True, there are no methods currently available with which to probe adequately for such information. Hence, the process of making decisions about treatment for these individuals should be no less rigorous than for others.

The rigorous approach to arriving at a decision regarding the application of resuscitative measures for elderly persons requires a prior search for information and a comprehensive clinical appraisal. It requires full discussion with the mentally competent patient and his or her participation in and agreement with the proposed treatment action — the process of informed consent. For the mentally impaired person incapable of such participation, it requires information from members of the patient's family and a frank discussion with them about the clinical situation and possible eventualities; however, the family has little, if any, responsibility unless it has been assigned legally. The rigorous approach requires that the physician include institutional staff ("the treatment team") in the process in order to promote their participation and understanding. It requires the physician to write informatively in the medical record about the diagnosis and likely prognosis, indicating with sufficient clarity the criteria upon which the decisions were based so that treatment action can be supported if subsequently challenged. This aspect is discussed by Kenneth Evans on page 892 of this issue of the Journal. Also, the physician should avoid writing a "No resuscitation" order unless the hospital has established a "Do not resuscitate" policy. In this issue (starting on page 830) Aileen McPhail and her colleagues examine the effectiveness of such

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a policy at McMaster University Medical Centre in Hamilton.

As always, the full responsibility for treatment action rests with the physician, given the principle of informed consent and despite pressures from other

quarters during the decision-making process.

Reference

1. SHAPIRO E, ROOS NP: The geriatric long-stay hospital patient: a Canadian case study. *J Health Polit Policy Law* 1981; 6: 49-61

Analgnesia with nitrous oxide/oxygen mixtures

ARTHUR A. SCOTT, MD

Critically ill patients who require care on their way to hospital have most frequently been victims of a heart attack or trauma. Both of these conditions may be associated with considerable pain. The need for early relief of pain in a safe, controlled fashion prompted a search for an analgesic with rapid reversibility and minimal depression of the respiratory, cardiovascular and central nervous systems.

The use of nitrous oxide in analgesic but not anesthetic doses was one answer. The administration of equal proportions of gaseous nitrous oxide and oxygen from a single tank has become the practice in many countries. In Canada, however, the use of the mixture in this format has been less widely accepted because nitrous oxide begins to liquefy at temperatures below -6°C , and the resulting stratification produces excessive concentrations of nitrous oxide as the contents of the cylinder are used up. The alternative is a two-tank delivery system. The gases are blended before they are delivered to the patient, and a protective device shuts off the flow of nitrous oxide when the pressure in the oxygen tank is reduced. This removes the risk at lower temperatures. Although this system is somewhat bulkier, its weight can be kept down if aluminum cylinders are used. In addition, pure oxygen can be administered, and the risk of diffusion hypoxia is eliminated in patients emerging from analgesia with the nitrous oxide/oxygen mixture.

In this issue of the *Journal* (starting on page 836) Dr. Kent McKinnon reports on the use of these mixed gases. Nitrous oxide and oxygen were administered to

patients in Kitchener-Waterloo, where the temperature at the roadside frequently falls below the temperature at which separation of nitrous oxide occurs. Special precautions were taken to maintain the temperature and to ensure mixing when a single tank (Entonox) was used, and no serious problems were encountered. However, the hazard is there, and with widespread use in less carefully controlled circumstances there might be a very real danger to the patient. The two-tank delivery system is therefore preferable when it is colder.

To the contraindications of analgesia with nitrous oxide/oxygen listed by Dr. McKinnon (arterial air embolism, decompression sickness, head injury with impaired consciousness, heavy sedation, inability to follow instructions, inebriation, major facial injuries and pneumothorax) I would add severe chronic obstructive lung disease and hysteria. This form of analgesia may be used safely in most patients; however, occasionally nausea and vomiting may occur and aspiration is possible.

A prerequisite for the use of nitrous oxide/oxygen is a good training program for the worker. When this form of analgesia is introduced, its use should be monitored, its effectiveness evaluated and its complications documented. As with narcotics, abuse has been reported; however, nitrous oxide/oxygen is probably less hazardous for ambulance personnel and less desirable to the addict on the street.

Dr. McKinnon has focused our attention on a very valuable and humane addition to the armamentarium of the prehospital emergency care worker. Self-administration by the patient of nitrous oxide/oxygen appears to be the best available way of providing analgesia in prehospital emergency treatment. ■

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