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## Suspended Life or Extending Death?

I am troubled when I make rounds in critical care units today because of the grotesque and inhuman scenarios that I so frequently encounter. Recently, the 12-bed unit where I have been teaching resi-

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dents often has eight or nine patients who are receiving mechanical ventilation, for a variety of reasons. The purpose of a mechanical ventilator, of course, is to buy time in critical situations so that recovery can take place. There is nothing about mechanical ventilation that produces alterations in underlying disease processes (such as in ARDS) or insults to other critical organs that maintain life. But what I see these days are paralyzed, sedated patients, lying without motion, appearing to be dead, except for the monitors that tell me otherwise. Why this syndrome of sedation and paralysis has emerged baffles me, because this was not the case in the past. We rarely paralyzed patients, unless they were convulsing or totally out of control. The only drugs that we used for sedation and pain were morphine and occasionally low doses of benzodiazepines.

When we first started our unit in 1964, patients who required mechanical ventilation were awake and alert and often sitting in a chair eating food, which was made possible by the use of a tracheostomy early in the patient's course, where the predicted need for mechanical ventilation would be for more than a few days. By being awake and alert, these individuals could interact with their family, friends, and the environment. They could feel human. By so doing, they could sustain the zest for living, which is a requirement for survival. By contrast, patients with induced coma and pa-

ralysis cannot even maintain muscular tone or the normal integrity of the GI tract unless food is introduced artificially. Risks of thromboembolism rise, and muscle atrophy begins.

Why have we regressed to these critical care practices? My concern is not only about the complications that result, *ie*, critical care neuropathy, pulmonary emboli from immobilization, and sepsis from bacterial invasion of the atrophic GI tract, but also clouded sensorium that often result in what has been termed as intensive care delirium. I am afraid that the conspiracy between the requirements of high acuity care and available pharmacologic therapy has led to the present situation. It is a fact that the awake and alert patient who is anxious or depressed requires a great amount of interaction with the health-care team. In the past, nurses and respiratory therapists spent time at the bedside, comforting and caring for their patients, and working skillfully to adjust the machine's performance to meet the patient's needs. Understanding of the delicate machine/patient interface seems to be lost these days; thus the requirement of sedation and paralysis.

What is the solution to this problem? I honestly have no quick or glib answer. In my view, we must return to the basic principles of human caring and the fundamental principle of reason, as we try to guide desperately ill patients along the pathway to recovery. Today, we have marvelous ventilators, powerful antibiotics, pressors, antiarrhythmics, anticoagulants, antidepressants, and even biological materials such as surfactant that can improve the structure and function of the lungs in both the young and old who temporarily require mechanical ventilation. None of these advances, however, can begin to replace the caring physician, nurse, and therapist at the bedside to bring a patient from the threshold of death, back to the living.

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## Timing Tracheotomy

### Calendar Watching or Individualization of Care?

**T**he indications for tracheotomy in ventilator-dependent patients were clear 35 years ago. Patients requiring ventilatory support for longer than

3 days underwent tracheotomy because of the damaging effects of translaryngeal tubes of the day. Improvements in endotracheal tubes, the adoption of manufacturing standards, the recognition of the frequency of tracheotomy-induced tracheal stenosis, and the impression that airway injuries from translaryngeal endotracheal tubes may not be duration-dependent now encourage many physicians to delay tracheotomy for 2 to 3 weeks if not longer. Other clinicians argue for its earlier use.<sup>1</sup> Paradoxically, advances in respiratory care have muddied the indications for a tracheotomy in ventilator-dependent patients.

So when should ventilator-dependent patients undergo conversion to a tracheotomy? This question has often been approached by contrasting adverse outcomes from tracheotomy (perioperative complications and tracheal stenosis) with those from prolonged translaryngeal intubation (subglottic stenosis), while attempting to weigh the relative likelihood of beneficial outcomes (survival and duration of ventilator dependency) from the different routes of intubation. Unfortunately, in the absence of a formal decision-analysis model, these comparisons leave us juggling anatomically and functionally distinct sites of airway injury that present markedly different implications for patient outcome. Moreover, existing studies are difficult to interpret because of varying designs, small sample sizes, variations in case mix, and conflicting conclusions. In such circumstances, one would hope that the available data could be collected, critically appraised, and combined to determine best clinical practices.

This is the service performed by Maziak and colleagues in this edition of *CHEST* (see page 605) through their systematic review of articles that address the timing of tracheotomy. These investigators performed a comprehensive literature review to determine the impact of tracheotomy timing on patient outcome. Outcomes that were considered included duration of mechanical ventilation, injuries to the trachea, and other clinical events. Maziak and colleagues found numerous deficiencies in the quality of the available data and concluded that insufficient evidence supports the impression that any particular timing of tracheotomy alters clinical outcome and that randomized, controlled trials (RCTs) are needed to determine the ideal timing of the procedure.

The value of systematic reviews, as performed by Maziak and colleagues, lies in their ability to define best clinical practices by critically appraising high-grade investigations. In the absence of high-grade data, systematic reviews provide an alternative dividend by defining the boundaries of our knowledge. By describing shortcomings in the available data,