Ch. IV-34 Compassionate/Terminal Extubation

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ISSUE: Withdrawal of life-sustaining measures is planned.
What are the clinical and ethical issues to consider before terminal extubation?

WHAT IS TERMINAL EXTUBATION?

Terminal extubation, sometimes referred to as compassionate extubation, is the removal of a patient's endotracheal tube during withdrawal of life-sustaining treatments. Terminal extubation is part of an overall treatment plan focused on comfort and dignity at the end of life. Similar to other therapies, it is ethically permissible to withdraw mechanical ventilation and remove the endotracheal tube, just as it is ethically permissible to withhold these therapies if inconsistent with goals of care.

Terminal weaning, in which ventilatory support is gradually reduced over time, is an alternative to terminal extubation and is preferred at some institutions. The endotracheal remains in place, lessening airway compromise and the associated noisy respirations that often occur during the dying process. Medications for pain, dyspnea, and agitation are titrated as needed with each reduction in ventilator support, which some practitioners feel allows for better symptom control. However, the presence of the endotracheal tube may prolong the dying process, especially in neuroscience patients without lung pathology. Discomfort is often associated with intubation, and families often wish to see the patient in a more natural state without tubes, issues that are not addressed by terminal weaning. In addition, many institutions do not allow patients with endotracheal tubes to transfer from the ICU to an acute care or hospice unit. Patients who are alert and at high risk for breathlessness following extubation may prefer terminal weaning.

WHAT IS THE RECOMMENDED PROCESS FOR TERMINAL EXTUBATION?

Once the decision to discontinue life-sustaining measures is made, the interprofessional team works to define the specific process for withdrawal based on the patient's clinical condition, patient and family preferences, and any cultural or religious considerations. If not already involved in the patient's care, consultation with palliative care specialists may be useful. The process is reviewed with the family and, if able to participate, the patient. Family members are encouraged to spend time with the patient prior to extubation and should be allowed to remain present during extubation if desired. Some patients and families may wish to pray or engage in other spiritual or religious activities during this time.

Information about the patient's post-extubation course is shared, including the possibility that respirations may be noisy. Many families ask how long the patient will live after extubation, but this can be very difficult to predict. It is important to acknowledge uncertainty while providing the family with reassurance that the team will focus on the patient's comfort throughout the dying process. Describing the care provided after extubation is helpful and is especially important if the patient will be moved to another area for end-of-life care.

Prior to extubation, preemptive administration of medications for pain, anxiety, and dyspnea is recommended, as appropriate for the patient. The administration of drying agents may lessen oral secretions and increase comfort for the patient and family. Additional medications should be available for prompt administration during and after extubation. Oral and in some cases endotracheal suctioning is performed prior to removal of the endotracheal tube. In many patients, coughing during and immediately following tube removal is an expected response, and this information is shared with the family prior to extubation. Following extubation, gentle oral suctioning may be used if helpful to the patient, but more aggressive suctioning is deferred because it causes discomfort. Supplemental oxygen is not necessary unless it improves patient comfort. Discontinuation of physiologic monitoring may help both family and care providers shift their focus from numerical values to the patient's experience during the dying process. Other interventions that are not focused on symptom relief are

also discontinued when life-sustaining treatments are withdrawn.

Medications for pain, anxiety, dyspnea, and secretions are titrated as needed for symptom control. Family education includes recognizing signs of distress such as diaphoresis, facial grimacing, and agitation. Although some medications such as opioids may depress respirations, their use following terminal extubation is supported by the principle of double effect. The principle of double effect states that it is ethically acceptable to provide interventions that are intended to benefit the patient through symptom control, even if there may be unintended consequences.

ARE THERE SPECIAL CIRCUMSTANCES IN WHICH THE PROCESS OF TERMINAL EXTUBATION SHOULD BE ALTERED?

Additional consideration is needed when withdrawal of ventilator support is planned in patients who are receiving neuromuscular blocking agents (NMBA). These agents prevent spontaneous respiration following extubation and are discontinued. Terminal extubation is generally delayed until the effects of the NMBA have dissipated or a reversal agent is given. On occasion, the delay or discomfort associated with discontinuation of the NMBA may be viewed as causing harm. In these rare cases, it is ethically acceptable to proceed with withdrawal of life-sustaining treatments, including terminal extubation if it is in the best interests of the patient. Consultation with the Ethics or Palliative Care service may be helpful.

Some neuroscience patients undergoing terminal extubation may be candidates for organ **donation after cardiac death (DCD)**. When withdrawal of life-sustaining treatments is being considered, referral is made for evaluation by the organ procurement organization. If the patient is a candidate and consent is obtained for DCD, terminal extubation may be delayed while the patient's organs are evaluated for suitability and the logistics of donation are arranged. The actual process of terminal extubation proceeds as previously described but may take place in or near the operating room. Care of the patient during terminal extubation is provided independent of the transplant team and does not deviate from the usual standards for withdrawal of life-sustaining therapies.

SUGGESTED READING/REFERENCES

Frontera JA, Curtis JR, Nelson JE, et al. Integrating palliative care into the care of neurocritically ill patients: A report from the IPAL-ICU (Improving Palliative Care in the Intensive Care Unit) project advisory board and the Center to Advance Palliative Care. Crit Care Med. 2015;43:1964-1977.

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