

## **Guidelines for Ventilator Withdrawal**

Once you decide that further aggressive medical care is unlikely to meet the desired goals of care for a ventilator-dependent patient, you should consider discussing ventilator withdrawal to allow natural death.

If you and the patient or patient surrogate(s) decide to withdraw ventilator support, the following guidelines are recommended:

### **Family Preparation**

The counseling of families is a critical aspect of care for the patient who is to be removed from a ventilator. Before withdrawal, the following issues should be discussed.

- **Potential outcome of ventilator withdrawal**

Assuming that all other life-sustaining treatments have been stopped, including artificial hydration and nutrition, there are several potential outcomes: rapid death within minutes (e.g., patients with sepsis on maximal blood pressure support) or death in hours to days. Explain that, while we can be quite confident about long term prognosis, predicting exactly how long patients will survive after extubation is often impossible.

- **Assurances about Comfort**

Assure the family that the patient's comfort is of primary concern. Explain that breathlessness may occur, but that it can be managed. Confirm that you will have medication available to manage any discomfort. Make sure they know that the patient will likely need to be kept asleep to control symptoms. Tell them that involuntary moving or gasping does not reflect suffering if the patient is properly sedated or in a coma.

Explain how the family can be at the bedside before and after withdrawal. Explain that they can show love and support through touch, wiping of the patient's forehead, holding a hand and talking to him or her.

- **Reinforce the decision**

Even though a family is able to make a definite decision for ventilator withdrawal, such a decision is always emotionally charged. Families often second-guess themselves, especially if the death appears to linger following ventilator withdrawal. Assure them repeatedly that they have made a good decision, that this is good care.

- see other side for detailed procedures -

## Procedure for Withdrawal

1. Encourage family members to make arrangements for clergy, special music or rituals that may be important to them.
2. Document clinical findings, discussion with family and plan of care.
3. Turn off all monitors and alarms.
4. Remove any unnecessary medical paraphernalia (e.g. NG tube).
5. Maintain IV access for administration of palliative medications.
6. Suction patient and set the FiO<sub>2</sub> to .21; observe for signs of respiratory distress; adjust medications as needed to relieve distress before proceeding further.

## Medication Protocol

The most common symptoms related to ventilator withdrawal are breathlessness and anxiety. Opioids and benzodiazepines are the primary medications used to provide comfort, typically requiring doses that cause sedation to achieve good symptom control.

The dose needed to control symptoms will depend on the neurological status of the patient and the amount of similar medication used up to the time of extubation. Patients who are awake at the time extubation or in whom significant amounts of opioids and benzodiazepines have been used previously will require greater dosages or change to a barbiturate to achieve symptom control.

Sedation should be provided to all patients, even those who are comatose.

1. Discontinue paralytics. Do not use paralytic agents for ventilator withdrawal.
2. *Before ventilator withdrawal*, administer a bolus dose of morphine 2-10mg IV and start a continuous morphine infusion at 50% of the bolus dose/hr. If anxiety is an issue, administer a bolus of 1-2mg of midazolam IV or lorazepam IV and begin a drip at 1mg/hr. *For children*, obtain dosing advice from a pediatric intensivist.
3. Titrate these drugs to minimize anxiety and achieve the desired state of comfort and sedation *prior* to extubation.
4. Have additional medication drawn up and ready at the bedside so it can be rapidly administered, if needed to provide symptom relief.
5. *After ventilator withdrawal*, aggressive and immediate symptom control is needed at the first signs of breathlessness or restlessness. Use morphine 5-10 mg IV push q 10 minutes and/or midazolam 2-4mg IV push q 10 min, until distress is relieved. Then adjust both infusion rates to maintain relief.
6. Remember that specific dosages are less important than the goal of symptom relief.

Adapted from von Gunten C and Weisman DE. Fast facts and concepts #33-35: ventilator withdrawal protocol, Jan 2001. End-of-Life Physician Education Resource Center. [www.eperc.mcw.edu](http://www.eperc.mcw.edu)