

# Prolonged Ventilation Checklist (ICU day 14 onwards)

## 1. Confirm Prolonged Mechanical Ventilation (PMV)

	Yes	No
Is the patient medically stable apart from ventilatory support? <i>(If No, Stop here)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Reversible factors identified by team? (see next page)	<input type="checkbox"/>	<input type="checkbox"/>
Risk of PMV confirmed? <i>(If No, Stop here)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Prognosis and treatment options have been shared with patient/family?	<input type="checkbox"/>	<input type="checkbox"/>
If prognosis and goals are unclear, Palliative Care has been consulted for assistance (if available)	<input type="checkbox"/>	<input type="checkbox"/>

## 2. Optimize Successful Weaning

	Yes	No
Transfer of care to specialized inter-professional centre/unit/team? <i>(if feasible)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Intact bulbar function confirmed in neuromuscular disease patients?	<input type="checkbox"/>	<input type="checkbox"/>
If Yes to above, has extubation to continuous non-invasive ventilation been considered?	<input type="checkbox"/>	<input type="checkbox"/>

	Yes	No
<b>Individualized Care Plan charted for?</b>		
Weaning (Protocol)	<input type="checkbox"/>	<input type="checkbox"/>
Patient communication	<input type="checkbox"/>	<input type="checkbox"/>
Mobilization	<input type="checkbox"/>	<input type="checkbox"/>
Nutrition (Thirst)	<input type="checkbox"/>	<input type="checkbox"/>
Minimal Sedation	<input type="checkbox"/>	<input type="checkbox"/>
Psychological state (Anxiety, Delirium, Depression, Sleep)	<input type="checkbox"/>	<input type="checkbox"/>
<b>Continuity of weaning plan ensured from</b>		
day to day	<input type="checkbox"/>	<input type="checkbox"/>
weekday to weekend	<input type="checkbox"/>	<input type="checkbox"/>
week to week	<input type="checkbox"/>	<input type="checkbox"/>
<b>Over last week, on daily basis</b>		
Progress documented in weaning chart accessible to entire team?	<input type="checkbox"/>	<input type="checkbox"/>
Weaning progress towards previous day's weaning targets been reviewed every morning?	<input type="checkbox"/>	<input type="checkbox"/>
Patient progressively mobilized from passive to active movement including daily ambulation?	<input type="checkbox"/>	<input type="checkbox"/>
Reason for each failed weaning trial been documented?	<input type="checkbox"/>	<input type="checkbox"/>
Expert advice obtained from Prolonged-ventilation Weaning Centre?	<input type="checkbox"/>	<input type="checkbox"/>

## 3. Confirm Need for Long-term Mechanical Ventilation (LTV)

	Yes	No
Multiple failed weaning trials with optimized care & expert advice obtained? <i>(If No, Go to previous section)</i>	<input type="checkbox"/>	<input type="checkbox"/>
Prognosis and treatment options have been shared with patient/family?	<input type="checkbox"/>	<input type="checkbox"/>
If prognosis and goals are unclear, Palliative Care has been consulted for assistance (if available)	<input type="checkbox"/>	<input type="checkbox"/>
If appropriate, transitioned to palliative care?	<input type="checkbox"/>	<input type="checkbox"/>
Need for LTV outside ICU confirmed? (see definition on next page) <i>(If No, Stop here)</i>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Transition protocols to LTV care been implemented for?</b>		
Non-invasive Ventilation	<input type="checkbox"/>	<input type="checkbox"/>
Invasive LTV in community	<input type="checkbox"/>	<input type="checkbox"/>
Institutional Invasive LTV	<input type="checkbox"/>	<input type="checkbox"/>
Transfer of care to a LTV specialized centre/unit/team?	<input type="checkbox"/>	<input type="checkbox"/>
Has Expert advice for LTV been obtained?	<input type="checkbox"/>	<input type="checkbox"/>

# Prolonged Ventilation Checklist (ICU day 14 onwards)

## Acute to Prolonged Ventilation

### Key Criteria\*

- (1) Physiologically stable patient
- (2) Repeatedly unsuccessful weaning attempts
- (3) Consideration of the patient's wishes

### Other Considerations\*

- Patient characteristics (underlying disease, presence of comorbidity and cognitive status)
- Diagnosis & prognosis
- Anticipated quality of life
- Consideration of patient & family motivation
- Establishment of a ventilator weaning plan

## Prolonged to Long-term Ventilation

### Key Criteria\*

- (1) Physiologically stable patient
- (2) Establishment of a transition plan
- (3) Option of withdrawal of care is discussed
- (4) Acceptance and motivation of the patient based on informed choice

### Other Considerations\*

- Recognition that the need for mechanical ventilation (either invasive or non-invasive) is indefinite
- Redefinition of the goals of care
- Ability of the team to provide care including adequate resources and a transition placement
- Patient prognosis, diagnosis and quality of life
- Patient care needs that could be managed in the community or a long-term care facility
- Family motivation

*\*Rose L et al. Patient transitions relevant to individuals requiring ongoing ventilatory assistance: A Delphi study. Can Respir J. 2014;21(5):287-92*

## Factors Associated with Ventilator Dependence (Identify reversible factors guided by list below)

### Systemic factors

- Chronic comorbid conditions (e.g. hypothyroidism, malignancy, COPD, immunosuppression)
- Overall severity of illness
- Non-pulmonary organ failure
- Poor nutritional status

### Mechanical factors

- Increased work of breathing
- Reduced respiratory muscle capacity
  - Critical illness polyneuropathy
  - Steroid myopathy
  - Disuse myopathy
  - Isolated phrenic nerve or diaphragmatic injury (e.g., after surgery)
- Imbalance between increased work of breathing & respiratory muscle capacity
- Upper airway obstruction (e.g., tracheal stenosis) preventing decannulation

### Iatrogenic factors

- Failure to recognize withdrawal potential
- Inappropriate ventilator settings leading to excessive loads/discomfort
- Imposed work of breathing from tracheotomy tubes
- Medical errors

### Complications of long-term hospital care

- Recurrent aspiration
- Infection (e.g., pneumonia, sepsis)
- Stress ulcers
- Deep venous thrombosis
- Other medical problems developing in the PMV care venue

### Psychological factors

- Sedation
- Delirium
- Depression
- Anxiety
- Sleep deprivation

### Process of care factors

- Absence of weaning & sedation protocols
- Inadequate nursing staffing
- Insufficient physician experience

*MacIntyre NR, Epstein SK, Carson S, et al. Management of patients requiring prolonged mechanical ventilation: report of a NAMDRG consensus conference. Chest. 2005;128:3937-3954.*

## Expert Advice

**Prolonged-ventilation Weaning Centre of Excellence** [prolonged.ventilation@tehn.ca](mailto:prolonged.ventilation@tehn.ca), website [www.tehn.ca](http://www.tehn.ca), fax 416-469-7717

**Website Tools:** Rapid Screening Tool, PMV ICU Checklist, Patient & Family Booklet, PWC referral Form, LTV Referral Form, PWC poster

### PWC Admission Criteria

- Adult ICU patients on a mechanical ventilator for more than 14 days with a tracheostomy.
- Patients who are hemodynamically stable.
- Patients who can participate in and direct their own care.
- Goals of care discussions documented and substitute decision maker/power of attorney identified.

**Patients are considered on a case-by-case basis for admission to the PWC.**

**OTN teleconsultation can also be arranged**