RISK REFERENCE SHEET

Mismanagement of Ventilated Patients

Sector: Homecare

When a patient/client relies on mechanical ventilation for chronic respiratory support, they are deemed 'ventilator dependent' or 'ventilator assisted'. For patients/clients requiring invasive support (e.g. endotracheal tube or tracheostomy) the ventilator may do all the breathing (total support) or just partly to help the patient's/client's own breathing effort (partial support). In home care patients/clients always have tracheostomies. Long-term ventilated patients/clients can be successfully managed in complex care, chronic rehabilitation or community (home) settings. Healthcare providers (HCPs) and family members and caregivers working with ventilator dependent patients in these settings must possess ventilation training and skills to safely care for the ventilated patient/client.

COMMON CLAIM THEMES

- Inappropriate assignment of HCPs (e.g. RPN/LPN) for patients/clients with health conditions that are complex, unpredictable, unstable or if the client is at high risk for negative outcomes.
- Ignoring or silencing ventilator alarms without investigation of cause.
- Repositioning of patient that leads to kinked or disconnected ventilator tubing or accessories.
- Failure to reassess ventilated patient and the ventilator connections and settings when moved from one position to another.
- Inability to replace decannulated tracheostomy.
- Failure to appreciate deteriorating respiratory status.
- Inadequate monitoring of ventilated patient.

CASE STUDY 1

A ventilator-assisted quadriplegic patient as assisted back to bed by a HCP. The HCP did not check to ensure the bedside ventilator was working properly before leaving the patient's room. After a few minutes elapsed, the family alerted the staff that the patient/client did not appear to be breathing, nor was the ventilator working. The patient suffered a cardiac arrest after being oxygen deprived for several minutes. After transfer the hospital, the patient subsequently died. A claim brought forward by the family was settled out of court.

CASE STUDY 2

A ventilator-assisted patient was turned while receiving routine care by a non-regulated HCP when the ventilator alarm starting beeping. The HCP at the bedside silenced the alarm twice within a short interval of time and subsequently noticed the patient was in considerable respiratory distress. The HCP reattached the ventilator tubing not realizing the diaphragm in the tubing had fallen out. As a result the patient did not receive the necessary oxygen and they suffered a cardiac arrest. The autopsy report indicated the cause of death was from complications of mechanical ventilation. Expert opinion stressed the fact that untrained staff may not appreciate the seriousness of a ventilator alarm and that they should never disconnect a breathing circuit component and attempt to correct a problem without seeking help.

Canadian Case Examples

HIROC

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REFERENCES

- HIROC claims files.
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- Critical Care Services Ontario (CCSO). (2013). Long-term mechanical ventilation. Toolkit for adult acute care providers.
- Dumas H M. (2012). Rehabilitation considerations for children dependent on long-term mechanical ventilation. *International Scholarly Research Network*, 2012(756103): 1-15.
- National Institutes of Health Critical Care Therapy and Respiratory Care Section (2000). Standard of practice: Care of the mechanically ventilated patient.
- Simonds A K. (2006). Risk management of the home ventilator dependent patient. *Thorax*, 61: 369-371.

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MITIGATION STRATEGIES

Note: The Mitigation Strategies are general risk management strategies, not a mandatory checklist.

Reliable Care Processes

- ☐ Develop guidelines/policies and procedures for the care of ventilated patients/clients.
- ☐ Create a core team of HCPs for ventilated patients/clients to support continuity of care.
- ☐ Ahead of transition to home ensure a safe environment for each patient including:
  - Ensuring an adequate number of grounded electrical outlets are available and a source of back-up electricity (e.g. batteries or generator);
  - Alerting the power company so the patient/client will be prioritized for a portable power source as needed if power is not restored (physician letter may be required);
  - Checking backup power (e.g. generator, batteries) is available in case of power outage and staff is aware of how to identify which power supply is being utilized;
  - Developing a contingency plan to address problems that may arise such as power outages, accidental disconnection and equipment failure;
  - Notifying the respiratory equipment supplier of the patient/client needs and required equipment (e.g. backup ventilator) is set up prior to discharge to the setting;
  - Ensuring emergency plan is available for the different locations the patient/client may spend time (e.g. home, school, work, transit etc.).

  Ensure HCP's caring for the patient are familiar with:
  - Patient/client-specific instructions from the discharging facility;
  - The patient's/client's normal respiratory patterns and when to report changes in the patient's/client's condition;
  - Emergency life support measures, specifically:
    - Adequate airway;
    - Manual ventilation support;
    - Oxygenation;
    - How to troubleshoot, ventilator and alarms (e.g. high or low pressure signal, ventilator disconnect), and tracheostomy issues (e.g. suctioning).
- ☐ Follow available guidelines or protocols for the manufacturer's recommendations for ventilator servicing.
- ☐ Perform regular checks on equipment and backup supplies (e.g. tank oxygen, suctioning unit, ambu-bag, backup tracheostomy cannulas.)

Patient/Client & Family-Centred Care

- ☐ Advocate for care conferences with patient/client/family and healthcare providers.
- ☐ Ensure patient/client and or family has up-to-date emergency, healthcare provider and ventilator respiratory equipment vendor contact information.
- ☐ Educate and train patients/clients, families (e.g. ventilator function, ventilator settings, features and troubleshooting), to help them use ventilator equipment confidently and safely.
- ☐ Educate the family on how to manually bag and suction airway.

Documentation

- ☐ Ensure documentation of:
  - Initial settings as well as changes to ventilator parameters; ventilator settings at regular intervals (e.g. every 2-4 hours); equipment routines (e.g. changes, cleaning, fluid top-ups etc.).
  - The patient's/client's artificial airway (i.e. tracheostomy is secure and positioned);
  - Airway care maneuvers (including suctioning) when performed, tolerance of suctioning and include the nature of secretions suctioned (i.e. amount, colour, consistency);
  - The patient/client's respiratory status, including pulse oximetry readings (if available) as ordered.

Monitoring and Measurement

- ☐ Implement formal strategies to monitor adherence to ventilator care guidelines/policies and procedures (e.g. periodic chart audits, analysis of reported incidents/events, learning from medico-legal matters) and develop quality improvement plans as needed.