	Document Scope: Departmental	
	Document Type: Clinical Practice Guideline Approved on 2019-08-20 Next Review Date: 2021-08-19	
	<b>Long-Term Ventilation Pathway</b>	Version: 2

## Introduction

The purpose of this document is to provide a care pathway for patients being considered for Long Term Ventilation (LTV) via tracheostomy. The goal of this care pathway is to ensure timely clinical management, minimize system borne delays and facilitate safe transition home via Holland Bloorview Rehabilitation Hospital (HBRH). This care pathway aims to improve interprofessional communication, patient and family satisfaction and community partnerships.

### Target Users

- Critical care: Advanced Practice Nurse/Nurse Practitioner, Dietitian, Physiotherapy, Occupational Therapy, Speech Language Pathologist, Social Worker, Staff Physician/Core Fellow, and Transitional Care Coordinator.
- ENT consult team
- Long-Term Ventilation team: Nurse Practitioner, Respiratory Therapist
- Respiratory Medicine consult team: Staff Physician, Fellow
- Connected Care Team: Registered Nurses, Respiratory Therapists


### Target Patient Population

- Inclusion criteria: patients being considered for invasive ventilation via tracheostomy
- Exclusion criteria: patients who are not being considered for invasive ventilation

### Acronyms

- ADP: Assistive Devices Program
- APN: Advanced Practice Nurse
- ARMS: Ambulatory Referral Management System
- ENT: Ear Nose and Throat
- HBRH: Holland Bloorview Rehabilitation Hospital
- LHIN: Local Health Integration Network
- LTV: Long Term Ventilation
- Multi-D: multi-disciplinary
- NP : Nurse Practitioner
- OT: Occupational Therapy
- PACT: Paediatric Advanced Care Team
- PT: Physiotherapy
- RT: Respiratory Therapist
- SLP: Speech Language Pathologist
- SW: Social Worker
- TCC: Transitional Care Coordinator
- Trach: Tracheostomy
- Vent: Ventilator
- VEP: Ventilator Equipment Pool
- VFS: Video fluoroscopy swallowing study

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## Recommendations

### [LTV Pathway printable version](#)


### [About Kids Health Parent & Caregiver information](#)

- The care pathway highlights the process for referring to the LTV team and the patient journey that is divided into four key timeframes.
- Each timeframe includes defined tasks to be performed in sequence by team members involved in the patient's care.
- Care goals are associated with each timeframe.
- The following is a high level overview of the LTV pathway.
- Please see the LTV pathway above for timelines and detailed roles of all key stakeholders.

#### **Pre-Tracheostomy: Panel 1**

- LTV pathway is activated by the Critical Care team upon the identification of a patient potentially requiring LTV via tracheostomy.
- Respiratory Medicine consultation, Otolaryngology-Head and Neck Surgery (ENT) as well as multi-disciplinary referrals (PT/OT/SW/ SLP/Dietician/TCC) are made by the Critical Care team.
- LTV team, consulted by Respiratory Medicine, meets with the child and family to discuss what life is like caring for a child receiving LTV at home.
- A multi-disciplinary meeting is held with the involved inter-professional clinicians and the family to support decision-making.
- This phase ends with the decision to move ahead with LTV or NOT to move ahead with LTV

Tasks	Care Goals
<ul style="list-style-type: none"> <li>• Respiratory Medicine consult</li> <li>• LTV referral</li> <li>• LTV multi-D meeting</li> <li>• SW assessment</li> <li>• LTV information sharing with family</li> <li>• Refer to Connected Care Team for trach teaching (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>• Involvement of LTV team</li> <li>• Informed decision-making by family</li> <li>• Placement of tracheostomy and initiation of ventilation (if applicable)</li> <li>• Education initiation (if applicable)</li> </ul>

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**Week 1-2 Post Tracheostomy: Panel 2**


- Discharge planning begins during this phase of the LTV pathway.
- The inter-professional team comes together to set a discharge date and to develop weekly action items, which are shared with the family. These include LHIN referrals, ADP applications and liaison with HBRH.
- An education schedule and teaching plan for tracheostomy care will be developed with the family by the Connected Care Team.
- ENT performs the first tracheostomy change.
- There is ongoing assessment of the child's medical stability and readiness for transfer to HBRH.

Tasks	Care Goals
<ul style="list-style-type: none"> <li>• First trach change</li> <li>• G-tube insertion (if applicable)</li> <li>• Assessment of medical stability</li> <li>• Transfer to HBRH (if applicable)</li> <li>• Completion of funding and equipment applications</li> <li>• Ongoing education</li> </ul>	<ul style="list-style-type: none"> <li>• Stable airway and adequate ventilation</li> <li>• Optimization of nutrition</li> <li>• Medical stability</li> <li>• Transition to HBRH</li> </ul>

**Week 3-4 Post Tracheostomy: Panel 3**

- This phase is characterized by ongoing discharge planning, family caregiver education and reassessment of medical stability.
- An education schedule and teaching plan for home ventilation will be developed with the family by the LTV team once tracheostomy education is complete.
- The inter-professional team follows up on ADP referrals, LHIN referrals and ordering of equipment and supplies.
- There is ongoing assessment of the child's medical stability and readiness for transfer to HBRH.

Tasks	Care Goals
<ul style="list-style-type: none"> <li>• Securing of home feeding supplies</li> <li>• Completion of LHIN referral (if applicable)</li> <li>• Assessment of medical stability</li> <li>• Transfer to HBRH (if applicable)</li> <li>• Completion of insurance letter and home O<sub>2</sub> application</li> <li>• Ongoing education</li> </ul>	<ul style="list-style-type: none"> <li>• Home environment readiness</li> <li>• Medical stability</li> <li>• Transition to HBRH</li> </ul>

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#### **Week 5-8 Post Tracheostomy: Panel 4**

- The final phase is characterized by complete readiness for discharge home.
- Of note, transfer to HBRH may also occur during this phase.
- The completion of family caregiver training ends with a successful Care by Parent period.
- The child is medically stable on their current ventilator settings.
- Lastly, the community is ready for the child and family. This involves safe equipment and supply set-up in the home, clear follow up and emergency plans, as well as trained community nurses ready to care for the child in the home environment.


Tasks	Care Goals
<ul style="list-style-type: none"> <li>• Support for Care by Parent</li> <li>• Establishment of community follow-up</li> <li>• Establishment of home safety plan</li> <li>• Assessment of medical stability</li> <li>• Transfer to HBRH (if applicable)</li> </ul>	<ul style="list-style-type: none"> <li>• Caregiver competency and autonomy</li> <li>• Transition to HBRH or home</li> </ul>

#### **Implementation Plan**

- The LTV pathway steering committee met with key stakeholder representatives to determine milestones required for seamless transition of patients and families requiring LTV via tracheostomy.
- The care pathway has undergone multiple reviews by key stakeholder representatives and has been sent to their respective groups for review and feedback.
- Additionally, the care pathway was presented to the NICU and PICU inter-professional groups.
- The LTV team is committed to ongoing education and awareness building during fellow orientation for Respiratory Medicine. The LTV pathway steering committee is also committed to providing updates in practice to the Respiratory Medicine and Critical Care teams.

#### **Evaluation Plan**

- A mixed methods program evaluation study will be completed. Qualitative data will be collected via semi-structured interviews (pre=10, post =10) with family caregivers of children initiated on LTV via tracheostomy 2 years pre and post implementation of care pathway.
- Additionally, healthcare providers involved in the care of these patients will be asked to participate in focus groups.
- Quantitative data will be collected through healthcare records review including length of stay.
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## References

1. Baker CD, Martin S, Thrasher J, et al. A Standardized Discharge Process Decreases Length of Stay for Ventilator-Dependent Children. *Pediatrics* 2016; 137 (4):e20150637
2. Sterni LM, Collaco JM, Baker CD, et al. An Official American Thoracic Society Clinical Practice Guideline: Pediatric Chronic Home Invasive Ventilation. *American Journal of Respiratory and Critical Care Medicine* 2016; 193(8): e16-35

## Guideline Group and Reviewers

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### Acknowledgements for Participation in the Development of the LTV Pathway:

Kaitlin Ames, Karen Dryden-Palmer, Zelia Da Silva, Christina Sperling, Dr Evan Propst, Cindy Lott, Perihan Boyer, Jamil Lati, Dr Linh Ly, Judy Hawes, Michael Finelli, Ruta Niedra, Stephanie Dos Santos, Kathryn Schultz-Brown, Sally McMackin, Craig Campbell, Angela Lekavicus, Paul Gregoroff, Jessica Faust, Veronica Werhurst, Ashley Graham, Carly Mutch, Maggie Harkness, Cynthia Zhang, Krista Keilty, Stephanie Chu

### Attachments:

[Sick Kids LHIN Blank Medical Referral.pdf](#)


[LTV Caregiver Education Summary.doc](#)

[Winnipeg Tracheostomy Decision Guide.pdf](#)

[Evaluation of Care by Parent.docx](#)

[Criteria for Medical Stability.docx](#)

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[LTV Criteria.docx](#)

[final version july 2019.pdf](#)

[Connect Care Tracheostomy Care Teaching Pathway.pdf](#)

[LTV Multi-D Meeting Template.pdf](#)

[Readiness to Learn Criteria for LTV.docx](#)

[HFO Training Manual.pdf](#)

[Care By Parent Guidelines.doc](#)

[Learning Activities Log with commitment statement.docx](#)

[About Kids Health Information for Parents Caregivers.pdf](#)

[Multi-D Discharge Planning Team.docx](#)

[LTV Pathway Background Links to info and forms Feb 2.docx](#)

[LTV Inpatient Referral Form.doc](#)

[Care by Parent Contract.docx](#)

[Multi-D Team.docx](#)

[Transition Planning Multi-D Team.docx](#)

[LTV Information Sheet for Parents.docx](#)

[KIDS VENT Tool.doc](#)

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