REHAB GUIDELINE

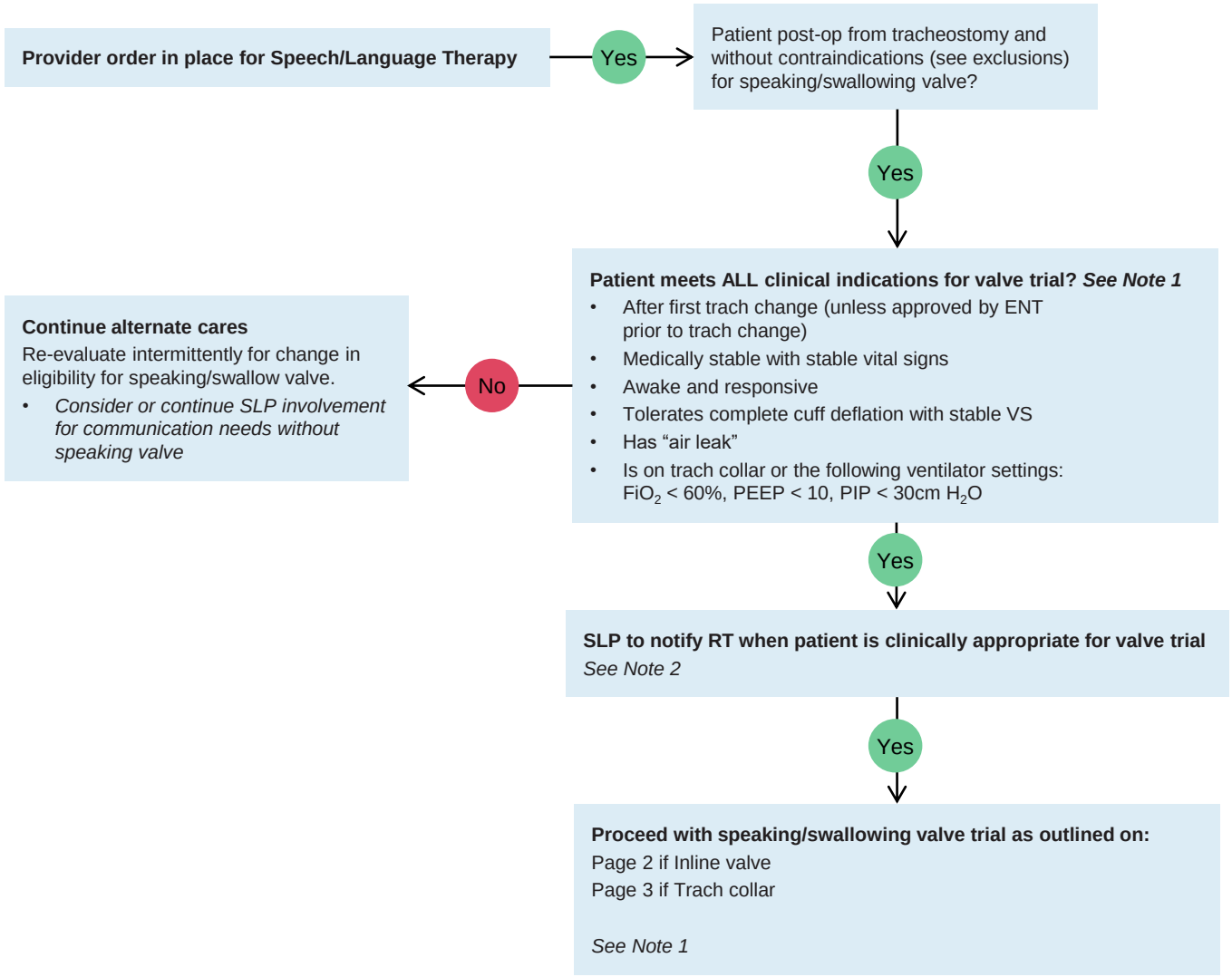
SPEAKING AND SWALLOWING VALVE (PASSY-MUIR)

< 25 years age

Children's MINNESOTA

Aim: To standardize process for speaking and swallowing valve rehabilitation.

DETERMINING ELIGIBILITY FOR VALVE TRIAL:



Exclusion guidelines:

Patients **excluded** from this guideline:

- Patient has a foam-cuffed tracheostomy tube
- Patient is unable to tolerate cuff deflation
- Severe upper airway obstruction or vocal fold paralysis in adducted position
- Significantly impaired swallow as determined by the treating SLP
- Patient is asleep or unable to maintain alert and engaged state
- Severe neurological impairment
- Use of any specialty gases (nitric, helium, nitrous, nitrogen, etc.)
- ENT or medical team determines patient not a candidate

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INLINE VALVE TRIAL:

Prepare for trial:
- SLP, RT should be present, RN if available. Caregiver/parent as applicable
- Position patient in developmentally appropriate and tolerable position

See Note 3

Inline PMV
- RN/RT suction patient and deflate the cuff slowly. Record deflation in EMR
- RT to adjust vent settings as appropriate
- RT, RN, SLP to evaluate for air leak after cuff deflation/prior to valve placement

Sufficient air leak?
40–50% drop in tidal volume and PIP. If PIP increases with each breath then leak is not sufficient.

Yes

SLP places speaking/swallow valve
- Can use w/ inline suction if placed between the hub and the circuit wye with the suction adjacent
- Remove $ETCO_2$

RT modifies vent settings PRN (and place sign)
- Decrease PEEP with estimate adjustment of decreasing by half (approximate decrease of 5, PEEP on Trilogy can only decrease to 4)
- If volume control vent, the tidal volume should be increased to approach/reach but not exceed baseline PIP
- If vent begins to auto cycle, trigger sensitivity may need to be decreased
- If using pressure support, ensure that an appropriate pressure support breath time limit is set

No

Do not place valve
Re-evaluate for trial based on changes in vent settings, trach size, etc.
- *SLP to continue to follow for communication needs without speaking valve*

RN, RT, SLP Assess patient tolerance
- *SLP assess vocal ability and secretion management with valve in place*

Any of the following present?
- Decrease in O_2 sats beyond parameters as determined by primary med/surg team
- Increase in HR or RR beyond accepted parameters
- Breath holding
- Patient or family request removal
- Signs of fatigue (increased WOB, sweating, or readiness to fall asleep)

Yes

Unsuccessful trial, discontinue
- Remove valve
- RT or RN to inflate cuff and return ventilator to baseline settings as appropriate
- Discuss next steps with team

No

Successful trial
- Remove valve when appropriate
- RT to inflate cuff and return ventilator to baseline settings as appropriate
- SLP continue trials with RN and/or RT present until ready for trial outside of therapy when:

1. Tolerance of speaking valve for 30 minutes without desaturations or other signs of difficulty
2. Caregivers have demonstrated placement without therapist assistance at a minimum of 3 times
3. SLP posts valve wearing plan, including detailed instructions
4. RN includes valve wearing in daily plan of care
5. RN daily cleaning of valve

See Notes 3 & 4

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TRACH COLLAR (WITH OR WITHOUT CUFF) VALVE TRIAL:

Prepare for trial:
- SLP, RN and/or RT should be present. Caregiver/parent as applicable
- Position patient in developmentally appropriate and tolerable position\

See Note 3

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Trach Collar
- **Cuffed Trach:** RN/RT to suction trach and deflate the cuff slowly. Record deflation in EMR
- **Uncuffed Trach:** RN/RT to suction trach

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SLP places speaking/swallow valve

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RN, RT, SLP Assess patient tolerance
- *SLP assess vocal ability and secretion management with valve in place*

Any of the following present?
- Decrease in O_2 sats beyond parameters as determined by primary med/surg team
- Increase in HR/RR beyond accepted
- Breath holding
- Patient or family request removal
- Signs of fatigue (increased WOB, sweating, or readiness to fall asleep)

← Yes

Unsuccessful trial, discontinue
- Remove valve
- RT/RN reinflate cuff
- Discuss next steps with team

→ No

Successful trial
- SLP to continue trial with other necessary assessment/treatment (swallowing, communication goals)
- Remove valve as indicated
- RT or RN reinflate cuff
- Continue trials in therapy only until approved by SLP based on:

1. Tolerance of speaking valve for 30 minutes without desaturations or other signs of difficulty
2. Caregivers have demonstrated placement without therapist assistance at a minimum of 3 times
3. SLP posts valve wearing plan, including detailed instructions
4. RN includes valve wearing in daily plan of care
5. RN daily cleaning of valve

See Notes 3 & 4

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DETERMINING ELIGIBILITY FOR VALVE TRIAL

NOTE 1

Benefits of speaking/swallowing valve include:

- Restoration of the physiological PEEP
- Restoration of voice
- Improved sense of smell and taste
- Improved swallowing
- Improved secretion management
- Improved bonding with caregiver
- Improved overall development and quality of life
- Assists with weaning by getting used to air flow through the upper airway, therefore, facilitate more normal breathing and muscle training
- Demonstrated to expedite weaning from the ventilator and tracheostomy tube

NOTE 2

The speaking and swallowing valve will be stocked by respiratory therapy department.

WORKGROUP

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NOTE 3

Team roles and responsibilities:

- RN/RT to be present at onset and conclusion of all speaking valve trials to perform the following duties: inflate/deflate cuff, suction patient, make respiratory support changes and adjust alarm settings to ensure patient safety. Ensure that there is a functional disconnect alarm. Patient should be connected to appropriate alarm monitoring for minimal spO_2 and HR monitoring.
- RT: If vent settings are changed for the speaking valve, RT will place a sign on the vent when speaking valve is inline to remind all staff that settings are different due to valve use and settings must be returned if valve is removed.
- SLP: Once patient deemed appropriate for speaking valve use without SLP present, SLP to post wearing plan, including detailed instructions. Nursing to include length of wear times in daily plan of care as appropriate.
- RN/RT/SLP: If patient shows readiness to fall asleep at any time with speaking valve in place, the speaking valve will be removed to ensure patient safety.
- RN: Daily cleaning and maintenance of valve.
- SLP: Train caregivers/family members. Only those who demonstrate competence can place the speaking valve on the patient.
- Medical/surgical team to determine appropriate RN: patient staffing ratio (e.g. 1:2) to support valve when approved for use outside of speech therapy/trial phase (e.g. when valve is in regular use) depending on patient age, caregiver presence, and other factors (e.g., ability to independently remove speaking valve).

NOTE 4

Maintenance and cleaning of speaking valve

The speaking valve should be cleaned daily by RN/therapist/caregiver with mild soap and warm (not hot) water. Rinse thoroughly and allow the speaking valve to air dry and never put in container until fully dried. Do not clean with hot water, peroxide, bleach, vinegar, alcohol wipes, brushes, cotton swabs or microwave steam bags as it will damage the speaking valve. Cleaning sign will be posted in patient room. Do not use during aerosol/nebulized medication administration and/or any airway clearance modalities.