
CRITICAL CARE STANDARD: 4.020
Passy-Muir Tracheostomy Speaking Valve

September 2007

Replaces: October 2001

Chair
Critical Care Standards of Practice

Chief Nurse Executive

Medical Director
Respiratory Care Services

Chairman
Department of Rehabilitation

**Pertinent
Information**

The Passy-Muir Tracheostomy Speaking Valve (PMTSV) is a one-way valve designed for alert patients with a tracheostomy or ventilator with a tracheostomy. The purpose of the Passy-Muir valve is to improve communication, facilitate secretion management, improve swallowing and to assist with weaning from the ventilator. Various studies have shown that when the Passy-Muir valve is utilized, patients are more motivated and cooperative, thus greatly improving patient outcomes.

Policy

The PMSV treatment plan is carried out by subsequent visits with the speech pathologist. If the patient is on a ventilator, the respiratory therapist must participate with treatment sessions.

**Benefits and
Contraindications**

- A. Benefits of the PMSV
 1. Improves patient communication.
 2. Improves swallowing, decreased risk for aspiration.
 3. Improves secretion management.
 4. Improves sense of smell and taste.
 5. Decreases risk for respiratory infection.
 6. Facilitates ventilator weaning.
 7. Facilitates more timely decannulation.

- B. Contraindications of the PMSV
 1. Unresponsive and/or comatose patients.

- 2. Inflated tracheostomy tube cuff.
- 3. Foam-filled (self inflating) cuffed tracheotomy tube.
- 4. Severe airway obstruction which may prevent sufficient exhalation.
- 5. Thick and copious secretions.
- 6. Severely reduced lung compliance that may cause air trapping.

Equipment

Passy-Muir Tracheostomy Speaking Valve (PMTSV).
Tracheostomy obturator.
Extra tracheostomy tube.
Suction equipment.
Ambu bag with mask.
Pulse oximetry.

Procedure

- A. Obtain physician order for Passy-Muir speaking valve evaluation.
 - 1. Order is sent to department of Rehabilitation/Speech Pathology.
 - 2. Identify patient using two forms of ID, according to Red Rules.
 - 3. Chart is reviewed by speech pathology to determine patient's candidacy for PMSV placement.
- B. Evaluation criteria for PMSV (evaluation by speech pathologist)
 - 1. The patient will be at least 3 days post new tracheostomy.
 - 2. The patient will be at least one hour post tracheostomy change or trach downsizing.
 - 3. The patient will be awake and alert.
 - 4. The patient will have cognitive function at or above Rancho Los Amigos Scale level IV.
 - 5. The patient will be able to tolerate cuff deflation.
 - 6. The patient's secretions will be manageable secretions (not copious).
- C. Patient Evaluation (speech pathologist, respiratory therapist and nurse)
 - 1. Educate patient and family on the procedure and the speaking valve.

2. Obtain baseline physiologic measurements (heart rate, respiratory rate and SpO₂).
3. Observe universal precautions.
4. Suction tracheostomy tube and oral secretions (refer to suctioning standard in the Nursing Practice Manual).
5. Deflate the cuff on tracheostomy tube using a 10 mL syringe.
6. Remove syringe from the pilot balloon after cuff deflation.
7. Position patient upright, at least at 45 degree angle.
8. Determine that patient is able to tolerate cuff deflation (refer to baseline physiologic measurements).
9. The respiratory therapist, according to the patient's individual needs, adjusts ventilator settings and alarms.

D. Placement of PMSV

1. If patient on ventilator, insert PMSV between tracheostomy tube and ventilator circuit after adequate airflow around the tracheostomy tube has been determined.
2. The nurse will monitor heart rate, respiratory rate and SpO₂ continuously, and document every five minutes during the initial evaluation, then prn.
3. The speech pathologist will cue the patient to produce voicing with the PMSV (initial trial may last only one minute - duration of time wearing valve may gradually increase with subsequent trials).

E. Removal of PMSV

1. PMSV is removed upon completion of the evaluation.
2. The cuff of the tracheostomy tube is reinflated with the accurate amount of air using a syringe (Respiratory Care Practitioner to measure cuff pressure).
3. Ventilator settings are returned to baseline settings, if necessary.
4. Tube feedings are resumed.

5. A treatment plan is developed following the evaluation and collaboration of speech pathology, respiratory therapy, and nurse.
6. Treatment plan is documented in the speech pathology notes in patient's chart and will include recommendations for further use of the valve and frequency of future trials.
7. A PMSV precaution sign will be posted above the patient's bed by the speech pathologist.
8. The PMSV kit, including manual and case, are kept at the bedside with patients' name and medical record number attached to it.
9. The warning sticker provided in the kit will be placed on pilot balloon, chart, and nursing bedside book.
10. The PMSV is cleaned after each use according to instructions in manual.

F. Procedure for Treatment

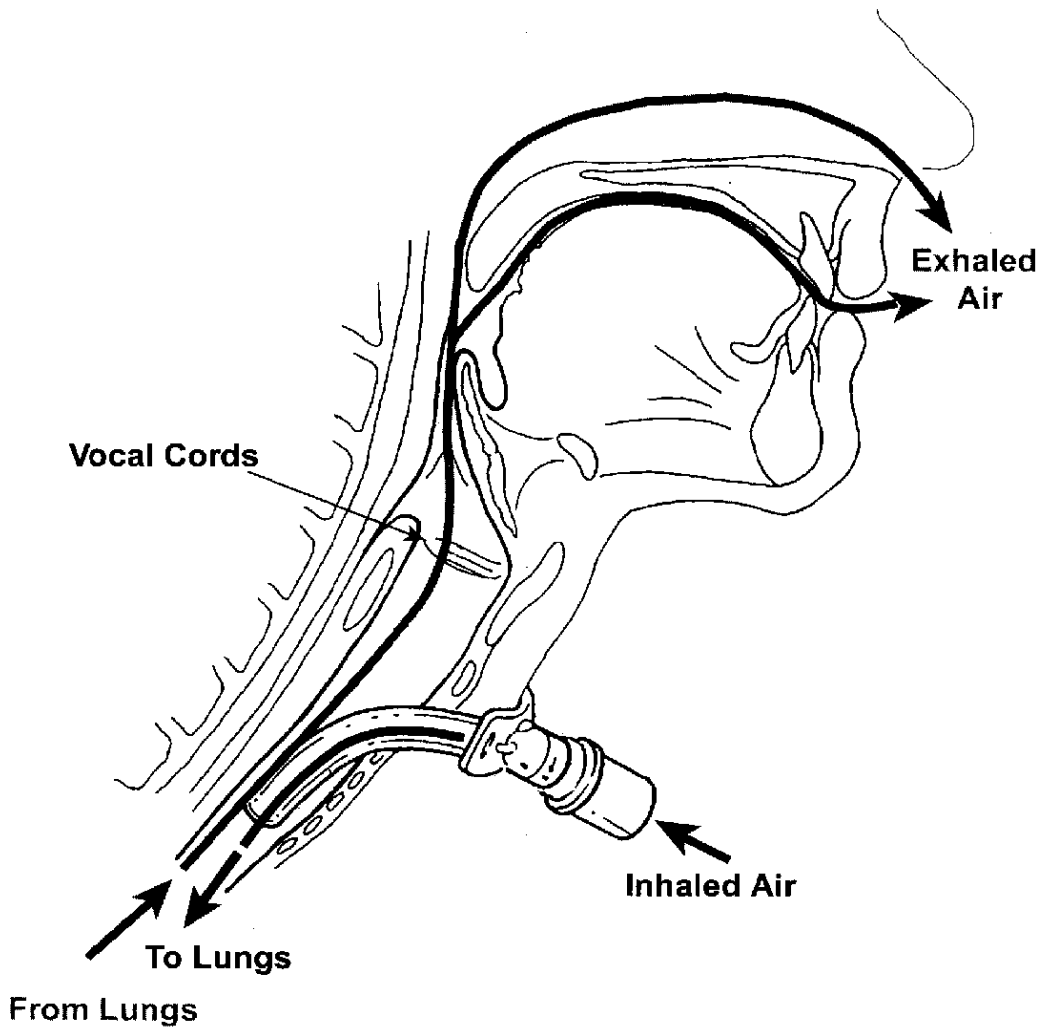
1. If the patient is not on a ventilator, the speech pathologist may treat the patient with indirect support from respiratory therapy and nursing.
2. Procedures for suctioning, cuff deflation, placing valve, monitoring HR, RR, SpO₂, removing valve and reinflating cuff are followed for all treatment sessions, as with the initial evaluation (refer to Placement of PMSV #2).
3. Changes to treatment plan are updated on the PMSV precaution sign at the bedside, as well as in the progress note section in the medical chart.

Patient Education/ Discharge Instructions

1. Patient will receive hands-on training by healthcare professionals.
2. Patient will receive the PMSV patient care kit which will include the patient instruction booklet.
3. Upon Discharge to home - the Respiratory Care Educator will be contacted to reinforce PMSV teaching.

4. Upon transfer/discharge both within and outside IFH- the PMSV precaution sheet and the PMSV discharge form will accompany the patient.
5. Additional patient educational materials are available on INOVANET.

Airflow with Passy-Muir Valve in Place



WARNING!

- ✓ Cuff must be deflated prior to using the PMSV.
- ✓ If patient has any difficulty while wearing the PMSV, remove it immediately and contact the physician.

The following items must be at the bedside:

- * Obturator * Extra Trach * Suction * Ambu Bag
- * PMSV Precaution Sign must accompany patient upon transfer.

Name:			
Baseline VS:		HR _____	RR _____ O2 sat _____
PMSV			
Type:	___ PMV 005 (White)	___ PMV 2000 (Clear)	___ PMV 2001 (Purple)
	___ PMV 007 (Aqua)		
Tracheostomy Tube			
Name Brand:		Size:	
Cuff Specifications:	___ Cuffless	___ Cuffed	___ Fenestrated
Instructions for Use			
# Hours per day		During Meals?	Yes or No
Special Instructions:			
PMSV with Ventilator			
Note: Apply connector side of the PMSV directly to the hub of the trach tube. The PMSV can also be attached using a swivel adapter, Omniflex, or closed suction catheter.			
Baseline PIP Range		Amt of Air in Cuff	

Warning: Do not exceed pre-cuff deflation PIP of _____.