



**St. James's Hospital
Tracheostomy Working Group.**

**Tracheostomy: Non-Verbal and Verbal Communication Standard Operating Procedure
SJH:N069.10 version 5.**

This Standard Operating Procedure (SOP) is effective from September 2020 onwards and is due for renewal in September 2023. It will be reviewed during this time as necessary to reflect any changes in best practice, law, and substantial organisational, professional or academic change. This SOP is supplementary to the [Tracheostomy Care and Management Guideline \(SJH:N069\)](#) and describes standards on Non-Verbal and Verbal Communication for patients with Tracheostomy.

1.0 Communication

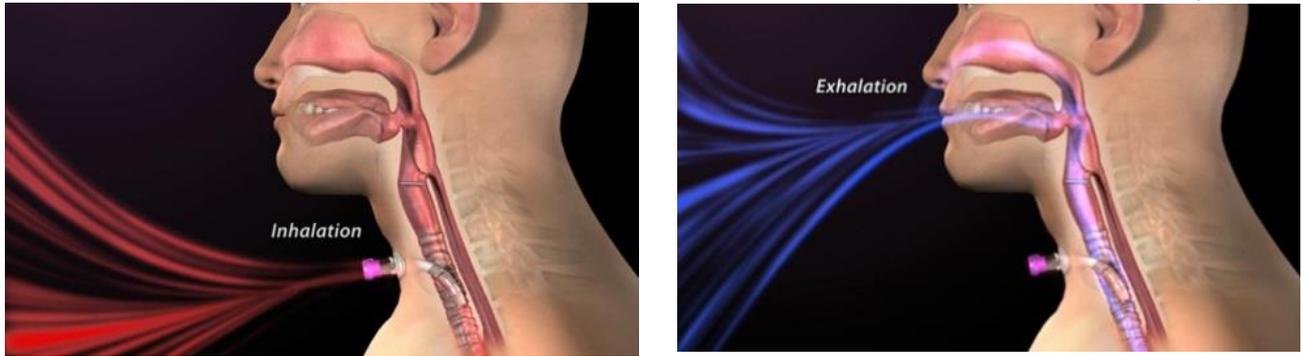
- Normally voice is produced by a steady stream of air that comes from the lungs and passes through the vocal cords. When a cuffed tracheostomy tube is inserted and the cuff is inflated, the air is exhaled through the tracheostomy tube, rather than through the vocal cords, and so the person is unable to vocalise.
- Where a person has a cuffless tube or a deflated cuff, some air may leak up around the tracheostomy tube up through the vocal cords producing 'leak' speech. Not all patients will have leak speech, and/or vocal quality may be weak and low volume, or sufficient only for very short utterances. A speaking valve may be used to facilitate air flow through the vocal cords to facilitate/enhance voice production.
- **All patients with a tracheostomy should be referred to a Speech and Language Therapist (SLT) via EPR to support and facilitate their communication needs.**

1.1 Nonverbal Communication

- Non-verbal communication should be encouraged, supported and facilitated for patients with a tracheostomy from the beginning. This includes encouraging patients to use some or all of the following where appropriate:
 - Mouthing/gesture.
 - "Yes/no" questions.
 - Pen & paper or a write on/wipe off white board.
 - Communication chart (pictures, alphabet chart).
 - Technical aids such as iPad, Lightwriter, Gotalk.
- Healthcare workers professionals should be aware that patients may have a co-occurring speech and/or language impairment (e.g. dysarthria, dysphasia), and collaborate with the SLT for further advice and support

1.2 Verbal Communication / Speaking Valves

- A speaking valve is a one-way valve that redirects expiratory airflow through the larynx, facilitating voice.



Images courtesy of Passy-Muir, Inc. Irvine, CA.

- Passy Muir (PMV) speaking valves are primarily used in SJH. However on occasion Alternative valves may be required to facilitate voice for a small number of patients.
- Passy Muir (PMV) speaking valves can be worn by both ventilated (aqua valve and connector) and non-ventilated (aqua or clear valves - shown below) patients.



Aqua Valve



Clear Valve

- 1.2.1** Generally, patients should be at least **48hours post tracheotomy**, prior to the initial placement of a speaking valve. Please discuss with anaesthetics/medical team/SLT if you wish to proceed with speaking valve placement prior to this.
- 1.2.2** The tube cuff, where present, must be fully deflated prior to placement of speaking valve.
- 1.2.3** Patients post head and neck surgery must have an initial assessment and valve placement undertaken by a Speech and Language Therapist as there is a high incidence of co-occurring speech deficits in this patient group.
- 1.2.4** Dysphonia may be present from an underlying condition, damage from intubation or myopathy. Vocal quality will be assessed by the SLT and onward referral to ENT may be necessary to assess further (IASLT 2017).
- 1.2.5 Contraindications to Speaking Valve Use-** The use of speaking valves is contraindicated in the following circumstances:
- Patient cannot tolerate full cuff deflation.
 - Patients immediately post head & neck surgery.
 - Upper airway obstruction/tracheal oedema or stenosis.
 - Medical instability including end-stage pulmonary disease.
 - Severe aspiration/copious tenacious secretions.
 - Anarthria/severe dysarthria.
 - Unconscious/comatosed patients.
 - Laryngectomy

- Patients still dependent on high levels of IPPV.

1.2.6 Benefits of Passy Muir Speaking Valves include the following:

- Improved vocalization.
- Less potential for infection when compared to finger occlusion.
- Positive effects on swallow and secretion management for some patients.
- Improved oxygenation and pulmonary function.
- Improved taste and smell.
- Improved cough.

1.2.7 Placement of speaking valve

1.2.7.1 Speaking valves may be placed by Speech and Language Therapists/nursing staff or patients who are independent in their use.

1.2.7.2 Place the speaking valve on the rim of the inner cannula of the tracheostomy tube by pushing it on gently.

1.2.7.3 Attach safety strap of speaking valve (if using a clear valve; aqua coloured valves do not have a strap) to neck strap of tracheostomy tube.

1.2.7.4 Refer to 1.2.11, 2.0 for protocols and full instructions on placing Passy Muir speaking valves for ventilated and non-ventilated patients.



1.2.8 Use/Care of the Speaking Valve

1.2.8.1 The speaking valve should be worn for short periods initially and time worn gradually increased as tolerated. Staff should liaise with the SLT for specific advice / guidance.

1.2.8.2 Remove the valve by twisting and pulling gently.

1.2.8.3 The speaking valve should be removed immediately in the event that the patient experiences breathing difficulties.

1.2.8.4 The safety strap on the clear Passy Muir valve (used with non-ventilated patients only) should be attached to the tracheostomy tube tie.

1.2.8.5 The speaking valve should be removed when the patient is sleeping, even if just taking a nap (unless otherwise instructed).

1.2.8.6 Remove the speaking valve if you are having difficulties breathing.

1.2.8.7 Remove the speaking valve if you need to do a strong cough.

1.2.8.8 The speaking valve should be worn for eating and drinking unless otherwise indicated by SLT.

1.2.8.9 The valve must be cleaned daily in mild soapy water, rinsed thoroughly in cool tepid water (not hot) and let air dry.

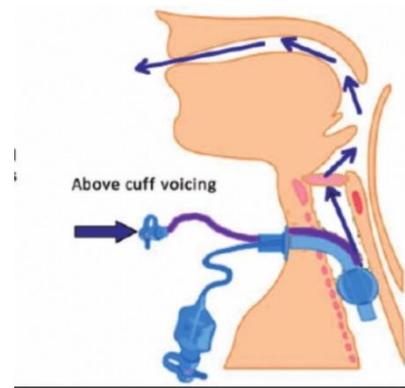
1.2.8.10 Staff should take care not to discard the speaking valve when changing the tracheostomy tube. A speaking valve should last for approximately 2 months.

1.2.8.11 Key points:

- ✓ PMVs should not be fitted until patient is at least 48 hours post tracheostomy.
- ✓ Check your patient does not have any contraindications for valve use.
- ✓ The cuff must be deflated prior to placing the valve or your patient will be unable to breathe out.

1.2.9 Above cuff voicing

1.2.9.1 In certain cases, when a patient cannot tolerate cuff deflation, above cuff voicing may be considered as a communication option. The SLT should be consulted where a patient is being considered for above cuff voicing.



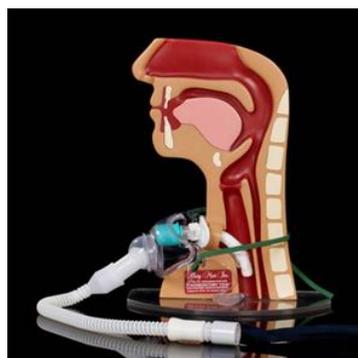
1.2.10 When using a speaking valve with the AIRVO 2 system (see picture below);

1.2.10.1 Make sure cuff is deflated.

1.2.10.2 Place speaking valve onto hub of tracheostomy.

1.2.10.3 Place tracheostomy mask over tracheostomy.

1.2.10.4 Attach AIRVO using the mask adaptor. Refer to [NSV Codes for Tracheostomy Tubes and Associated Consumables](#).



Pictures above show the PMV on self-ventilating patient using AIRVO mask adaptor.

1.2.11 Additional precautions for speaking valve placement during COVID-19 outbreak:

- 1.2.11.1** All patients should be risk assessed by the MDT prior to trials of cuff deflation/speaking valve placement.
- 1.2.11.2** It may be appropriate in some cases where the patient is COVID-19 positive or COVID-19 suspected to delay speaking valve trials and facilitate communication by alternative means.
- 1.2.11.3** See SJH COVID-19 Tracheostomy guidelines for appropriate PPE recommendations.
- 1.2.11.4** When placing the speaking valve in-line with the ventilator for ventilated patients, the ventilator should be placed in standby mode while the valve and adaptor are fitted in order to reduce aerosol generation.

2.0 Protocol for fitting passy muir speaking valves (pmv) with non-ventilated tracheostomy patients

2.1 Prior to fitting a Passy Muir speaking valve please ensure the following:

- 2.1.1** Patient is alert, sitting upright.
- 2.1.2** Tracheostomy tube was inserted at least 48 hours ago.
- 2.1.3** All contraindications have been ruled out (see 2.8).
- 2.1.4** The patient's respiratory status is stable.
- 2.1.5** If the patient has a cuffed tracheostomy tube, the cuff must be deflated.
- 2.1.6** If all of the above criteria cannot be met, do not fit a speaking valve at the present time.
- 2.1.7** If the above criteria are all met, you can proceed with caution. **If fitting the Passy Muir speaking valve for the first time, obtain clearance for a trial from medical/senior nursing staff.**

2.2 When fitting the speaking valve remember the following:

- 2.2.1** If fitting valve for the first time attach warning label to the pilot balloon if the patient has a cuffed tracheostomy tube.
- 2.2.2** Explain procedure to patient as you go along.
- 2.2.3** Ensure pre-oxygenation.
- 2.2.4** Suction orally as required.
- 2.2.5** Suction via tracheostomy tube. If the tube is a cuffed tube, the cuff must be deflated. This is a 2 person process. 1 person suctions while the other person simultaneously deflates the cuff using a 10ml syringe.
- 2.2.6** If patient is comfortable, fit Passy Muir speaking valve (either a clear or aqua valve) to the rim of the tracheostomy tube as per diagram overleaf.
- 2.2.7** Monitor patient comfort. Remove valve if patient is not tolerating it well (e.g. resp rate, oxygen saturation, discomfort).
- 2.2.8** If patient is wearing a clear valve the safety strap should be attached to the tracheostomy tube ties.

- 2.2.9 If patient cannot produce intelligible, audible speech, contact SLT.
 - 2.2.10 Patients vary in their ability to tolerate the speaking valve, and may tolerate the valve for only 5-10 minutes initially.
 - 2.2.11 When the patient tires, remove the valve by twisting off gently.
 - 2.2.12 If patient has a cuffed tube, reinflate the cuff if necessary.
- 2.3 Fit the valve frequently, for short periods initially. Gradually increase patient's tolerance of the speaking valve.
 - 2.4 Remove the speaking valve for nebulizer treatments.
 - 2.5 The valve should not be worn while the patient is sleeping unless indicated by medical/senior nursing staff/SLT.
 - 2.6 To care for the valve: wash in warm, mildly soapy water and allow to air dry. Provide a mirror for the patient if they are competent/confident with placing/removing their own speaking valve.
 - 2.7 Patients wearing speaking valves must have access to a call bell.
- 2.8 Contraindications for using passy muir speaking valve;
 - Unconscious and/or comatose patients (may be used in exceptional cases for weaning)
 - Inflated tracheostomy tube cuff
 - Severe airway obstruction (trauma, stenosis, granulation etc)
 - Very thick and tenacious secretions
 - Severely reduced lung elasticity
 - Severe aspiration
 - Not for use with endotracheal tubes
 - Less than 48-72 hours post tracheostomy
 - Post laryngectomy
 - Post head and neck surgery (please refer directly to Speech and Language Therapy.)

3.0 Protocol for fitting Passy Muir Valves with Ventilated Tracheostomy patients

3.1 Prior to fitting a Passy Muir speaking valve please ensure the following:

- 3.1.1 Patient is alert.
- 3.1.2 Tracheostomy tube was inserted at least 48 hours ago.
- 3.1.3 All contraindications have been outruled (see 2.8).
- 3.1.4 The patient's respiratory status is stable and they are weaning well.. (Oxygen saturation > 92, respiratory rate < 30).
- 3.1.5 PEEP less than 6 and FiO2 less than 0.45.
- 3.1.6 Pressure support of 8 or less and weaning downwards. Valves are not to be used in volume support mode.
- 3.1.7 If all of the above criteria cannot be met, do not fit a speaking valve at the present time. Discuss further with anaesthetic team/senior nursing/SLT.
- 3.1.8 If the above criteria are all met you may proceed with caution. **If fitting the Passy Muir Valve for the first time, obtain clearance for a trial of cuff deflation/PMV from anaesthetic team/senior nursing staff.*Ensure referral sent to Speech and Language Therapy on EPR*.**
- 3.1.9 **REMEMBER EACH PATIENT IS DIFFERENT!**

3.2 When fitting the speaking valve remember the following:

- 3.2.1 If fitting valve for the first time attach warning label to the pilot balloon.
- 3.2.2 Explain procedure to patient as you go along.
- 3.2.3 Pre oxygenate prior to suction.
- 3.2.4 Suction orally first.
- 3.2.5 Deflate cuff slowly while suctioning via tracheostomy tube (2 people required).



- 3.2.6 Monitor patient comfort, resp rate and oxygen saturation levels. Coughing is not unusual but should settle quickly. (If patient does not tolerate deflation well, reinflate cuff).
- 3.2.7 Assess for an air leak indicating that air can pass around the tracheostomy tube.
- 3.2.8 If patient is comfortable, fit Passy Muir valve and connector as per diagram overleaf.
- 3.2.9 Continue to monitor patient comfort. Remove valve if patient is not tolerating it well (e.g. resp rate, oxygen saturation, discomfort).
- 3.2.10 If patient cannot produce intelligible, audible speech, contact SLT.
- 3.2.11 Patients vary in their ability to tolerate the PMV, and may tolerate the valve for only 5-10 minutes initially. Some may not tolerate PMV at all.
- 3.2.12 When the patient tires, remove the valve and then reinflate the cuff.
- 3.2.13 Fit the valve frequently, for short periods initially. Gradually increase patients tolerance of the Passy Muir valve.
- 3.2.14 The valve should not be worn while the patient is sleeping unless indicated by medical/senior nursing staff/SLT.

3.3 Placement of Passy Muir valve and connector

3.3.1 Key points:

- ✓ PMVs should not be fitted until patient is at least 48 hours post tracheostomy.
- ✓ Check your patient does not have any contraindications for valve use.
- ✓ The cuff must be deflated prior to placing the valve or your patient will be unable to breathe out.

Links to related PPPGs:

- [Tracheostomy Care and Management Guideline \(SJH:N069\)](#)

- [Tracheostomy Care and Management Guideline: Associated Documents](#)