



Tracheostomy Speaking Valve Alert



Situation

The **Passy Muir® Speaking Valve (PMSV)** is the most commonly used speaking valve in the world for adult and paediatric tracheostomy and ventilator-dependent patients. It is important to note that this is a **one-way valve** with a bias-closed position no-leak design.

The cuff of the tracheostomy tube must **NEVER** be inflated when the PMSV is connected. This will result in air being able to enter the lung with every breath and no ability to exhale, leading to breath stacking and hyperinflation of the chest, ultimately resulting in cardiac arrest.

Background

The PMSV is a one-way valve that connects to the hub of the tracheostomy tube. With inspiration, the one-way valve opens allowing air to enter the lungs. Upon expiration, the one-way valve closes thereby directing air around the deflated cuff and through the vocal cords creating speech. It also improves swallow and secretion management, and the sense of smell and taste.

More commonly, the speaking valve is connected to the side port of the closed suction catheter, as seen in the image below.



Note: The cuff of the tracheostomy tube must NEVER be inflated when the PMSV is connected.

Assessment

Remove the speaking valve immediately in the following situations:

- If the patient requires positive pressure ventilation.
- If the patient requires hand-ventilation (“hand-bagging”) during physiotherapy and/or during any respiratory emergency.
- If there is any sudden deterioration in the patient. For example, if the patient suddenly shows any signs of distress e.g. oxygen.
- Oxygen desaturation, a sudden increase in heart rate, excessive coughing, vomiting, shortness of breath, cyanosis, increased work of breathing or increasing fatigue, unconsciousness.
- When nebuliser treatments are required.

Clinical Recommendations

- Speaking valves must **NEVER** be used with the cuff inflated.
- The cuff must remain fully deflated whilst the speaking valve is connected.
- Ensure that the tracheostomy cuff is completely deflated.
- When removing the PMSV from the ventilator circuit, **DO NOT** inflate the tracheostomy tube cuff until ventilator settings have been returned to their previous levels/settings.
- Attach a warning tag to the tracheostomy balloon line indicating the need to remove the PMSV prior to cuff inflation.

