

technology for living

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# Mouthpiece Ventilation (MPV)



## Mouthpiece Ventilation (MPV) Guide

Mouthpiece ventilation (MPV) is a form of non-invasive ventilation that uses a home ventilator and mouthpiece circuit. It is helpful for individuals requiring daytime support, often due to conditions such as neuromuscular diseases, spinal cord injury, or musculoskeletal conditions. Unlike traditional forms of ventilation that involve the use of a mask or an invasive tracheostomy procedure, MPV utilizes a specially designed support arm, circuit, and mouthpiece that the member holds in their mouth.

The main benefit is greater comfort and mobility since the member doesn't need to be connected to a stationary machine via a mask interface. This can lead to improved quality of life and easier communication for members. With some training, they can learn to breath stack, a technique to trigger and hold consecutive breaths to fully expand the lungs. This can lead to a better cough and secretion clearance.

However, mouthpiece ventilation is not suitable for everyone. Members must have sufficient strength and good range of head motion to grasp and grip the mouthpiece. In addition, they must be alert, cooperative, and able to communicate, as they need to be aware of their breathing needs and initiate their own breaths. When used properly, they will have full control of their breathing and allow for increased independence.

Overall, mouthpiece ventilation represents an alternative approach to supporting individuals with respiratory issues, focusing on maintaining comfort, communication, and potentially improving their overall well-being.





## Setup

1. The individual is assessed by a Respiriologist to be a good candidate to try MPV. Educate the member with the goals of therapy and limitations.
2. Circuit arm and mouthpiece should be mounted and positioned nearby for the member to grasp and hold onto. Ideally, it is mounted on a wheelchair and used as a mobile portable daytime device.
3. Modern home ventilators, like the Respiroics Trilogy and ResMed Astral, have dedicated mouthpiece ventilation modes. Settings are customized to the member's condition and needs. A qualified Respiratory Therapist should guide the setup. Typically, a volume control mode is used to allow breath stacking.
  - a. Setting example: Passive Circuit, Mode V A/C, Tidal Volume 750ml, Respiratory Rate 0, Inspiration Time 1.0-1.5s, Flow Pattern as per comfort, PEEP 0.
  - b. Alarms set with wide limits to allow breath stacking and on-demand ventilation. Member should be awake and communicating to use this mode of therapy.
4. Instruct the member to grip the mouthpiece and trigger a spontaneous breath. Observe the individual's response and coach technique as needed. They should receive a slightly larger than normal breath which will help with speech and lung expansion. Review any discomfort or concerns. They can keep triggering more breaths as desired or come off the mouthpiece to talk or to take a break.
5. To perform a breath stack to assist with cough and lung recruitment, trigger and hold 2 or 3 breaths until the lungs feel full. Exhale forcefully with the extra air. The member should not feel any dizziness or discomfort.

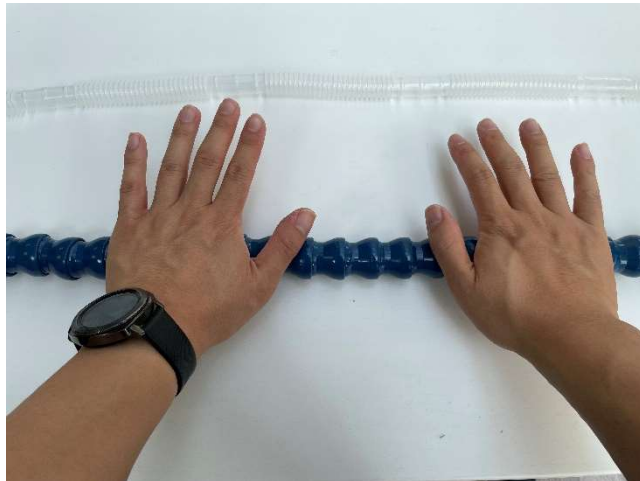
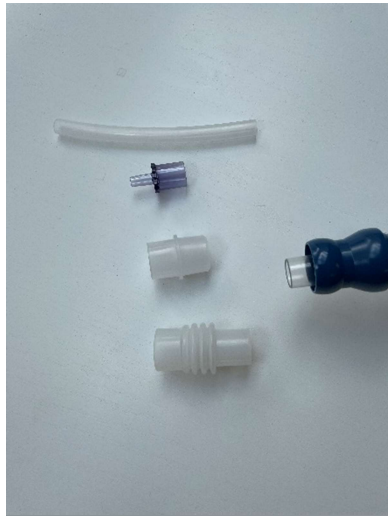
## Maintenance

1. The mouthpiece assembly should be washed regularly once a week with warm soapy water. Run the solution through the tubing and rinse.
2. To remove the hose, detach the mouthpiece and its associated connectors. Pull the hose gently to separate it from the support arm.
3. To insert the hose, make sure the support arm is flattened out and straight by rolling it out on a flat surface. It is a tight fit so any bends would make it difficult to insert. Push gently in a twisting motion until the hose appears on the other end. Reassemble the connectors and mouthpiece.
4. Refer to the specific ventilator cheat sheets for general operation and maintenance of the ventilator.

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