

Tracheostomy Attachments

A tracheostomy tube provides direct and uncompromised access to a child's airway, however, it is often not sufficient on its own to sustain breathing indefinitely and other attachments or machines are required.

The most common function among these attachments is humidification of the airway. When we breathe through our noses and mouths, air is naturally warmed, moistened and filtered. These mechanisms are bypassed for children with trachs. Without humidification, secretions thicken, potentially leading to mucus plug. For this reason, it is essential to provide adequate humidification to keep secretions thin. The attachments shown below, whatever their primary function, all maintain humidity of the airway.

In other cases, a child will require mechanical assistance, such as continuous positive airway pressure (CPAP), bilevel positive airway pressure (BiPAP), and mechanical ventilation. The use of these machines is not confined to trached patients, but they are commonly seen in trached patients. Some of the attachments are shown below.

A child using a **humid-vent mini humidity moisture exchanger (HME)**, also called the **Swedish noise** or artificial nose. Placement of an HME over the open trach allows air to stay warm, moist and clean.



A child wearing a **Portex Thermovent T HME**. This HME has a cavity in front of the trach so that a child can cough secretion into the HME.



A child wearing a **Passy-Muir speaking valve**, which leads to increased vocalization. The one-way valve only allows air inflow and can be used to train children to breathe through their mouth and nose.



An infant wearing a **trach mask** to direct a fine mist of moisture to the trach. This is used while an infant is sleeping or during waking hours when mucus is dry. The fine mist is delivered by an air compressor either with or without heat.



A child with a **mechanical ventilator**, a machine that generates a controlled flow of gas into the airway, allowing for proper pressure and air exchanges.



A child, without a trach, wearing a **nose mask connected to a CPAP/BiPAP machine**. The CPAP/BiPAP machine provides positive air pressure to help keep open the airways of patients suffering from sleep apnea.

