

The Department of Vermont Health Access Clinical Criteria

Subject: Humidifiers and Heat and Moisture Exchangers Use in the Home Setting

Last Review: May 24, 2023*

Past Revisions: December 21, 2021, June 9, 2020, October 2, 2014, October 4, 2013, September 12, 2012, August 1, 2011, 2004

***Please note: Most current content changes will be highlighted in yellow.**

Description of Service or Procedure

A humidifiers durable medical equipment which provides extensive supplemental humidification that may be prescribed for use with intermittent positive pressure breathing (IPPB) treatments, oxygen delivery, or use with positive pressure devices (e.g., CPAP/Bi-PAP, mechanical ventilators). Humidifiers can provide heated or non-heated humidification.

A Heat and Moisture Exchanger (HME) is a filter that retains heat and moisture during expiration and delivers it the incoming gases during the next inspiration. HME is exclusively used someone with an artificial airway such as a tracheostomy and needs additional humidification. This is ordered as a supply item.

*A humidifier and HME should never be used together. It is not recommended for large amounts of thick, copious secretions. Excessive secretions or liquids can clog the filter. Family/Caregiver should be appropriately trained to use this device.

Disclaimer

Coverage is limited to that outlined in Medicaid Rule or Health Care Administrative Rules that pertains to the beneficiary's aid category. Prior Authorization (PA) is only valid if the beneficiary is eligible for the applicable item or service on the date of service.

Medicaid Rule

Medicaid and Health Care Administrative Rules can be found at <https://humanservices.vermont.gov/rules-policies/health-care-rules/health-care-administrative-rules-hcar/adopted-rules>

- 7102.2 Prior Authorization Determination
- 4.101 Medical Necessity for Covered Services
- 4.104 Medicaid Non-Covered Services
- 4.209 Durable Medical Equipment



Coverage Position

A humidifier/HME may be covered for beneficiaries:

- When the humidifier or HME is prescribed by a licensed medical provider, enrolled in the Vermont Medicaid program, operating within their scope of practice as described on the Vermont's Office of Professional Regulation's website*, who is knowledgeable in the use of humidifiers and HMEs and who provides medical care to the beneficiary AND
- When the clinical guidelines below are met.

* Vermont's Office of Professional Regulation's website: <https://sos.vermont.gov/opr/>

Coverage Criteria

A humidifier/HME may be covered for beneficiaries who:

- Is using a CPAP or Bi-PAP device under the guidelines for that device and has been determined to require humidification to prevent/minimize common oral/nasal symptoms such as nasal congestion or dry nose or throat **OR**
- Is using oxygen, with a flow greater than 4L/min via nasal cannula. **OR**
- Oxygen flow rate less than 4L via nasal cannula AND symptoms including epistaxis, nasal congestion, dry nose and/or throat **OR**
- Has an artificial airway, such as a tracheostomy and needs supplemental humidification via an HME. May be used for weaning periods off the mechanical ventilator. In-line HME is not recommended where detection and treatment may not be easily identified if filter fails.

Please note, since there are different types of humidifiers that are used for different purposes, depending on the type of equipment, a beneficiary may require more than one type of humidifier.

Integrated and non-integrated humidifiers for CPAP and BI-PAP are currently on the capped rental list. Rentals recognize a three-month trial period, and months four through ten require prior authorization for completion of the capped rental period once medical necessity has been determined. It is paid in 10 monthly installments and requires a PA for months 4-10.

Humidification is included in the rate for mechanical ventilators.

Early and Periodic Screening, Diagnostic and Treatment (EPSDT): Vermont Medicaid will provide comprehensive services and furnish all Medicaid coverable, appropriate, and medically necessary services needed to correct and ameliorate health conditions for Medicaid members under age 21.

Please note, Vermont Medicaid Clinical Criteria is reviewed based on available literature, evidence-based guidelines/standards, Medicaid rule and policy, and Medicare coverage determinations that may be appropriate to incorporate when applicable.

Clinical criteria for repeat service or procedure

Repeat service or procedure is limited to the guidelines as noted above. Equipment replacement is limited to loss, the need for repair of the device (if more than 50% of the price of a new device) or warranty limitations.

Type of service or procedure covered

A humidifier or HME which is deemed durable medical equipment which provides extensive supplemental humidification that is prescribed for use with intermittent positive pressure breathing (IPPB) treatments, oxygen delivery, or use with positive pressure devices (e.g., CPAP/Bi-PAP/Ventilator) and meets the coverage guideline noted above. Humidifiers can provide heated or non-heated humidification.

Type of service or procedure not covered (this list may not be all inclusive)

Humidifiers used for environmental control/enhancing the environment (e.g. central or room humidifiers), are not a covered service.

References

Centers for Medicare & Medicaid Services. (n.d.). *Early and periodic screening, diagnostic, and treatment*. Medicaid. Retrieved April 4, 2023, from <https://www.medicaid.gov/medicaid/benefits/epsdt/index.html>

Gillies, D., Todd, D. A., Foster, J. P., & Batuwitage, B. T. (2017). Heat and moisture exchangers versus heated humidifiers for mechanically ventilated adults and children. *Cochrane Database of Systematic Reviews*, 2018(12). <https://doi.org/10.1002/14651858.cd004711.pub3>

Kumar, A., Sinha, C., Kumar, A., Kumar, N., Kumar, A., Singh, K., & Singh, P. K. (2021). Inefficient humidification as the cause of noninvasive ventilation failure in COVID-19 patients. *Brazilian Journal of Anesthesiology (English Edition)*, 71(6), 671–672. <https://doi.org/10.1016/j.bjane.2021.07.021>

Ricard, J.-D., & Boyer, A. (2009). Humidification during oxygen therapy and non-invasive ventilation: Do we need some and how much? *Intensive Care Medicine*, 35(6), 963–965. <https://doi.org/10.1007/s00134-009-1457-9>

Schreiber, A. F., Ceriana, P., Ambrosino, N., Piran, M., Malovini, A., & Carlucci, A. (2019). Short-term effects of an active heat-and-moisture exchanger during invasive ventilation. *Respiratory Care*, 64(10), 1215–1221. <https://doi.org/10.4187/respcare.06799>

Soudorn, C., Muntham, D., Reutrakul, S., & Chirakalwasan, N. (2016). Effect of heated humidification on CPAP therapy adherence in subjects with obstructive sleep apnea with nasopharyngeal symptoms. *Respiratory Care*, 61(9), 1151–1159. <https://doi.org/10.4187/respcare.04536>

This document has been classified as public information.