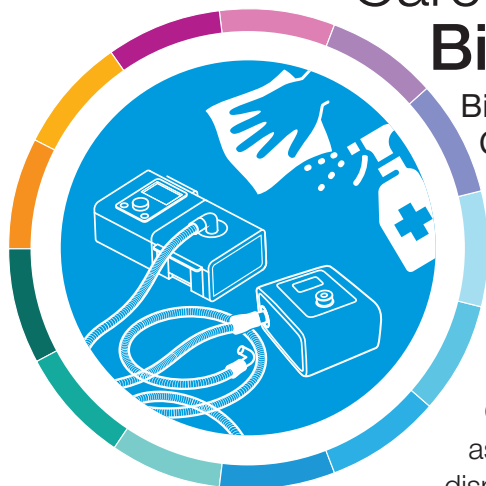


# Care, cleaning and disinfection of BiPAP/CPAP devices

Bilevel or two-level Positive Airway Pressure (BiPAP).  
Continuous Positive Airway Pressure (CPAP)



## During non-invasive ventilation and between patients

Always read and follow the instructions and recommendations of the manufacturer's manual

Consumables associated with oxygen delivery are generally intended as **single use devices**, should be treated as infectious material and disposed of accordingly. Dispose of patient interface and filters, for example, as per facility standard operating procedures for infectious/biohazardous waste management.

### DURING NON-INVASIVE VENTILATION (SAME PATIENT)

Before starting any hygiene tasks, please take preventative measures to ensure that: All electrical medical equipment are disconnected from power supply while tasks are being done; and, activities are performed away from the medical wards, preferably in biomedical workshops.

Task	Description
1. Humidifier must be washed, rinsed, and disinfected daily	<p>Oxygen bubble humidifier (non-heated bottle) must be washed, rinsed, and disinfected regularly when used for the same patient and after use between patients.</p> <p>Empty the water from the humidifier.</p> <p>Rinse the humidifier flask under running water.</p> <p>Fill in proper distilled water or <b>cold</b> boiled water within the scale between the top scale line and the lowest one.</p> <p>Do not use tap water (not-boiled), even if it is safe drinkable water.</p> <p>Do not use bottled water, even distilled, which <b>has been stored in warm conditions</b>. (These conditions allow bacterial growth in the water and increase the risk of patient infection).</p>
2. Check the air filter weekly and replace every 4 weeks	<p>Replace more often if there are any holes or blockages by dirt, dust, or other organic matter.</p>

### BETWEEN PATIENTS

After each patient use, the BiPAP/CPAP must be cleaned, disinfected, and stored appropriately in a clean environment before use on another patient

Task	Description
1. Perform risk assessment prior to entering the room	<p>Consider the patient care tasks that will need to be performed or additional risks during disconnection of the device.</p>
2. Perform hand hygiene	
3. Don appropriate personal protective equipment (PPE)	<p>PPE worn during disinfectant preparation should include surgical mask/respirator, goggles or face shield, long-sleeved fluid resistant gown or gown + apron, rubber gloves, and boots or closed work shoes.</p>
4. Disconnect the device.	<p>Turn off the device and disconnect from the patient, oxygen source and the power.</p>

Task	Description
<b>5. Dispose of single use tubing, interface and filters in designated waste containers</b>	If patient is being permanently disconnected from BiPAP/CPAP device, dispose of single use tubing, interface, and exhalation valve filters in designated infectious material/biohazardous waste container.
<b>6. Move the device to a well-ventilated area for cleaning</b>	Move the BiPAP/CPAP device away from patients and other equipment to a designated well-ventilated space where cleaning and disinfection of the device can be performed.
<b>7. Change gloves</b>	Discard gloves in appropriate waste container, perform hand hygiene, and don new gloves.
<b>8. Wash humidifier</b>	Wash the humidifier in warm water using a mild detergent. Rinse the humidifier thoroughly and allow to air dry completely.
<b>9. Wipe with detergent and clean water from top-to-bottom (Cleaning)</b>	Wipe the exterior of the device from top to bottom weekly and between patients with a damp cloth or disposable wipe soaked in detergent and clean water and then wipe off any remaining detergent residue with a dry lint-free cloth.  Use mechanical action (scrubbing) and brushing, if necessary, along the edges and joints to remove visible dirt deposits and calcifications.
<b>10. Prepare disinfectant solutions</b>	Should always be performed before use, in well-ventilated areas away from patients.
<b>11. Wipe with disinfectant</b>	Prepare a fresh cloth or disposable wipe soaked in a compatible disinfectant. Wipe the device from top to bottom, ensuring surfaces of sensors/cables are wiped while avoiding contact with electrical connectors.  <b>0.1% sodium hypochlorite (1000 ppm)</b> should only be used according to the manufacturer's instructions if device is known to withstand use of chlorine-based agents and no ammonia-based cleaning agents or acidic body fluids (e.g. urine) are present on the device.  Do not use different disinfectant formulations during the same disinfection step, this may produce toxic fumes.
<b>12. Remove PPE- wash hands</b>	Doff and discard PPE and perform hand hygiene.
<b>13. Store clean BiPAP /CPAP and disinfect before new use</b>	Ensure cleaned BiPAP/CPAP device is stored in an area where there is low risk of contamination between uses, and that at least 1 minute of contact time has elapsed after the application of the chosen disinfectant (or as specified by the manufacturer) before ventilator device is used on a patient.

