


<p>Name of Policy: Use and staffing of BiPAP, CPAP and NIV</p> <p>Policy Number: 3364-136-07-04</p> <p>Department: Pulmonary Services</p> <p>Approving Officer: Senior Hospital Administrator</p> <p>Responsible Agent: Director, Pulmonary Services</p> <p>Scope: The University of Toledo Medical Center Pulmonary Services Department</p>	 <p>Effective Date: August 22, 2023</p> <p>Initial Effective Date: December 7, 1979</p>
<p> <input type="checkbox"/> New policy proposal <input checked="" type="checkbox"/> Minor/technical revision of existing policy <input type="checkbox"/> Major revision of existing policy <input type="checkbox"/> Reaffirmation of existing policy </p>	

(A) Policy Statement

BiPAP, CPAP and NIV (non-invasive ventilation) support, also known as Positive Airway Pressure (PAP) therapy, has become standard treatment for patients with sleep disordered breathing. The use of these modalities has also been shown to help reduce rates of endotracheal intubation when applied prior to the onset of respiratory failure in selected populations of patients with transient compromise of ventilation due to congestive heart failure or COPD. These modalities are also used as a bridge after liberation from full ventilatory support.

All members of the Respiratory Care Department who are responsible for PAP therapy will adhere to the following procedure. A complete physician order to initiate therapy must be in the patient chart.

Mechanical changes of PAP settings may be made only by a Respiratory Care Practitioner (RCP). These changes will be made upon receipt of a complete written or verbal order from the appropriate physician.

(B) Purpose of Policy

To establish specific guidelines concerning the ordering, set-up, use and monitoring of PAP.

(C) Procedure

1. PAP machines from home will be safety tested and documented by the Biomedical Engineering Department. The RCP will contact Biomed at extension 4899 and document this in the EMR.
 - a. The physician must still write an order for the home PAP equipment. If the patient has a home unit, but is unable to bring it in, the hospital's device will be adjusted to reflect home unit settings.
 - b. An RCP will help the patient apply unit every night, or as ordered, if needed.
 - c. An RCP will check unit and document in the EMR of appropriate function.
2. When an order for PAP therapy is received and after checking the patient's chart for a complete order, the RCP will initiate the therapy. The therapist will make sure a patient card is initiated and documented on the tracking board in the Respiratory Care Department.
3. Documentation of the patient's response to the therapy will include:
 - a. The specific mode of therapy must be ordered by the physician (i.e., CPAP, BiPap, AVAPS), along with the pressure settings (i.e. IPAP, EPAP, CPAP) and oxygen flow with parameters set accordingly. Spontaneous rates and exhaled tidal volumes will also be documented. In some acute situations, pressures will need to be adjusted to obtain desired results. Physician order must be obtained after set-up.

- b. While connected to the patient, the PAP system will be inspected, and documented at least every four hours, after a parameter change, and after any power failure.
 - c. Respiratory Care treatments will be provided as ordered by a physician and provided in-line with the PAP device.
 - d. The patient breathing circuit and appropriate sized disposable mask should be changed in accordance with policy #3364-136-06-01 of this manual.
 - e. Pulse oximetry monitoring may be initiated if oxygenation issues are of concern.
4. The use of NIV via a mechanical ventilator should optimally be restricted to the ICUs, the ED and PACU. The reason for this is patient safety and to have the appropriate level of monitoring, with frequent assessment of ventilatory status, mental status and vital signs. Many of these patients are obtunded, receiving significant sedation and/or have significant respiratory compromise. The mask needed for NIV through the ventilator is different than a full face mask for PAP therapy and is kept separate from them in the Respiratory Care Department. As always, there must be a complete order for NIV.
 5. Regular assessment of skin integrity and pressure necrosis of facial structures is critical. Facial gel pads are available and should be used whenever full face masks are initiated.
 6. The use of a full face mask through a PAP machine necessitates a physician's order for the full face mask. The therapist must also regularly assess facial skin integrity and pressure necrosis. Documentation of the degree of skin integrity will be made in the EMR in the Respiratory section. Any level of skin integrity compromise identified as "redness without blanching" or worse, requires the RT to inform the patient's nurse. Wound Care nurses will then be notified and will assist in the wound management. At this point, the patient will be switched to a Total Face mask. These masks are to be used based on the criteria outlined in the guideline in (D) below. The decision to switch a patient from a full face mask to a total face mask is discussed in (E) below. Contraindications for the use of the total face mask are listed in (F) below.
 7. If oxygenation is inadequate as reflected in SpO₂ values or blood gas results, supplemental oxygen should be added to the circuit and titrated as needed.
 8. Mask Fitting: Carefully fit the nasal, full face or total face mask. Proper size mask fitting has been shown to be one of the crucial components to the success of non-invasive ventilation. It is important to note that a mask leak of ≤ 60 l/m is acceptable. The PAP unit is able to compensate for this leak and assures that the mask is not fit too tightly which would lead to facial pressure sores.
 9. Education of non-invasive ventilation should be thoroughly explained and documented. Patient understanding and acceptance is important to the success of this modality. It is important for the patient to be reasonably cooperative.
 10. Consult machine manuals for specific operating procedures and references.

(D) Guidelines for use of Total Face Mask

1. Continuous PAP use
2. PAP wear time > 24 hours (pulmonary or cardiac pts)
3. Any skin breakdown or redness without blanching on face, under area of PAP mask when use is initiated
4. Consider use if patient has other pressure ulcers

(E) When to change from full face mask to total face mask

1. Any redness without blanching or higher level of pressure ulcer is identified under a PAP mask
2. Patient refused to wear full face mask and still has a need for NIV (claustrophobic, high level of discomfort/pain with full face mask)

(F) Do not use total face mask if any of the following are present:

1. History of glaucoma
2. Eye surgery in past 6 weeks
3. When NIV is used as a bridge to intubation – expect short term use
4. Expect short term use of PAP therapy
5. Night NIV therapy only

(G) Safety Concerns

When administering NIV, restraints should not be used to allow the patient the ability to remove the NIV mask in the event of vomiting. If restrained while wearing an NIV mask in the presence of vomit, there is a high likelihood that aspiration of the vomit can occur. If restraints must be used, the patient will be placed on a monitored bed and have either a sitter or direct line of sight.

If the patient is on a V60 NIV unit, they need to be placed on a monitored bed.

Document patient’s skin condition every 4 hours. Evaluate all areas where the NIV mask comes in contact with the patient’s face.

(H) Contraindications

- Contraindications for NIV therapy include:
- Respiratory arrest
 - Cardiovascular instability
 - Uncooperative patient
 - High aspiration risk

<p>Approved by:</p> <p style="text-align: right;">August 22, 2023</p> <hr style="width: 80%; margin-left: 0;"/> <p>/s/ Michael J. Taylor Director, Pulmonary Services</p> <p style="text-align: right;">August 22, 2023</p> <hr style="width: 80%; margin-left: 0;"/> <p>/s/ Russell Smith Senior Hospital Administrator</p> <p><i>Review/Revision Completed By: Director, Pulmonary Services</i></p>	<p>Review/Revision Date:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">05/27/1992</td> <td style="width: 50%;">03/22/2005</td> </tr> <tr> <td>05/10/1993</td> <td>03/04/2008</td> </tr> <tr> <td>09/16/1996</td> <td>03/09/2011</td> </tr> <tr> <td>09/17/1998</td> <td>08/14/2012</td> </tr> <tr> <td>10/04/1999</td> <td>12/01/2015</td> </tr> <tr> <td>03/13/2001</td> <td>05/05/2016</td> </tr> <tr> <td>03/15/2002</td> <td>08/01/2019</td> </tr> <tr> <td></td> <td>08/22/2023</td> </tr> </table> <p>Next Review Date: August 22,2026</p>	05/27/1992	03/22/2005	05/10/1993	03/04/2008	09/16/1996	03/09/2011	09/17/1998	08/14/2012	10/04/1999	12/01/2015	03/13/2001	05/05/2016	03/15/2002	08/01/2019		08/22/2023
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<p>Policies Superseded by This Policy:</p>																	

