


<p>Name of Policy: <u>Clinical guidelines for manual titration of continuous positive airway pressure</u></p> <p>Policy Number: 3364-171-07-06</p> <p>Department: Sleep Disorders</p> <p>Approving Officer: Senior Hospital Administrator</p> <p>Responsible Agent: Director, Sleep Disorders</p> <p>Scope: The University of Toledo Medical Center Pulmonary Department</p>	 <p>Effective Date: 3/17/2023 Initial Effective Date: 3/17/2023</p>				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><input checked="" type="checkbox"/> New policy proposal</td> <td style="width: 50%; border: none;"><input type="checkbox"/> Minor/technical revision of existing policy</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Major revision of existing policy</td> <td style="border: none;"><input type="checkbox"/> Reaffirmation of existing policy</td> </tr> </table>		<input checked="" type="checkbox"/> New policy proposal	<input type="checkbox"/> Minor/technical revision of existing policy	<input type="checkbox"/> Major revision of existing policy	<input type="checkbox"/> Reaffirmation of existing policy
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All qualified and trained Polysomnographic Technologists will be able to set-up and titrate patients using Continuous Positive Airway Pressure (CPAP). All individuals who record sleep studies must follow best practices for CPAP titrations in order to attain the ideal pressure setting for their patients. Too low of pressures may cause patients to either be sub-optimally treated or to wake up in a panic. Too much pressure may cause the patient to experience bloating or mask leakage. Determining the appropriate pressure setting for each patient will lead to improved adherence and outcome. CPAP titrations are not an exact science, and it is understood that technologists may need to make minor changes for individual patients. The procedure below is meant as a guideline.

(B) Purpose of Policy

In order to provide the highest quality care for our patients, our sleep disorders facility adheres to the *AASM Standards for Accreditation*. The accompanying policy and procedure on CPAP titrations follows the spirit of the *Clinical Guidelines for the Manual Titration of Positive Airway Pressure in Patients with Obstructive Sleep Apnea*. We recognize that the guidelines from this 2008 consensus paper are non-binding, and that there may be some minor deviations found in our policy.

(C) Procedure

When a patient is diagnosed with OSA, after receiving an order, the Sleep Lab staff will schedule a Polysomnogram (PSG) to be performed using CPAP. Pressures will be adjusted throughout the PSG to determine the optimal pressure for maintaining upper airway patency. Whenever a sleep study recording is less than 6 hours in length, the sleep study will be billed using a modifier 52 (reduced charge).

The CPAP procedure is comprised of three major components, patient education, CPAP training, and the actual titration process. Each is extremely important for accomplishing effective treatment with CPAP.

American Academy of Sleep Medicine (AASM) definitions for optimal, good, adequate, and unacceptable titration:

1. Optimal titration reduces the Apnea Hypopnea Index (AHI) < 5 for at least 15 minutes duration and should include supine Rapid Eye Movement (REM) sleep at the selected pressure that is not continually interrupted by spontaneous arousals or awakenings.
2. A good titration reduces the AHI < 10 or by 50% if the baseline AHI is < 15 and should include supine REM that is not continually interrupted by spontaneous arousals or awakenings at the selected pressure.

3. An adequate titration does not reduce the AHI ≤ 10 but reduces the AHI by 75% from baseline (especially in severe OSA patients) or one in which the titration grading criteria for optimal or good are met with the exception that Supine REM did not occur at the selected pressure.
4. An unacceptable titration is one that does not meet any of the above definitions.

Workflow

1. Explain test/expectations to the patient.
2. Fit the patient with an interface and headgear.
3. Allow patient to test/feel pressure prior to starting hook-up.
4. Refer to the attached algorithm, AASM CPAP titration for patients greater than or equal to 12 years of age.
 - a. **NOTE:** time on pressure may be 20-30 minutes as needed to assess the tolerance and effectiveness of pressures.
 - Recommended minimum starting CPAP should be 4 centimeters of water pressure (cm/H₂O)
 - If CPAP of 15 cm H₂O is achieved and obstructive events still persist, switch to Bilevel. See policy Clinical Guidelines for Manual Titration of Positive Airway Pressure using Bilevel for starting pressures and further guidance
 - Recommended maximum CPAP 20 cm/H₂O
5. If oxygen saturation levels are still low despite CPAP therapy:
 - a. If the room air baseline SpO₂ is $\leq 88\%$ for a cumulative 10 minutes **in the absence of sleep disordered breathing events (including snoring)** increase CPAP pressure by 1 cm H₂O every ≥ 5 minutes until SpO₂ $\geq 90\%$ is achieved. Pressure increases to improve baseline SpO₂ levels may be performed twice during the titration process and should be guided by the technician's assessment of the patient's ability to tolerate the increased pressure.
 - b. If PAP pressure increase of 1 or 2 cm H₂O does not sufficiently improve the baseline SpO₂ level, switch to BPAP before adding oxygen. Refer to the Sleep Lab policy titled Clinical Guidelines for Manual Titration of Positive Airway Pressure using Bilevel.
6. If the patient complains that the pressure is too high, reduce the pressure, choosing a pressure that will allow the patient to fall back asleep.

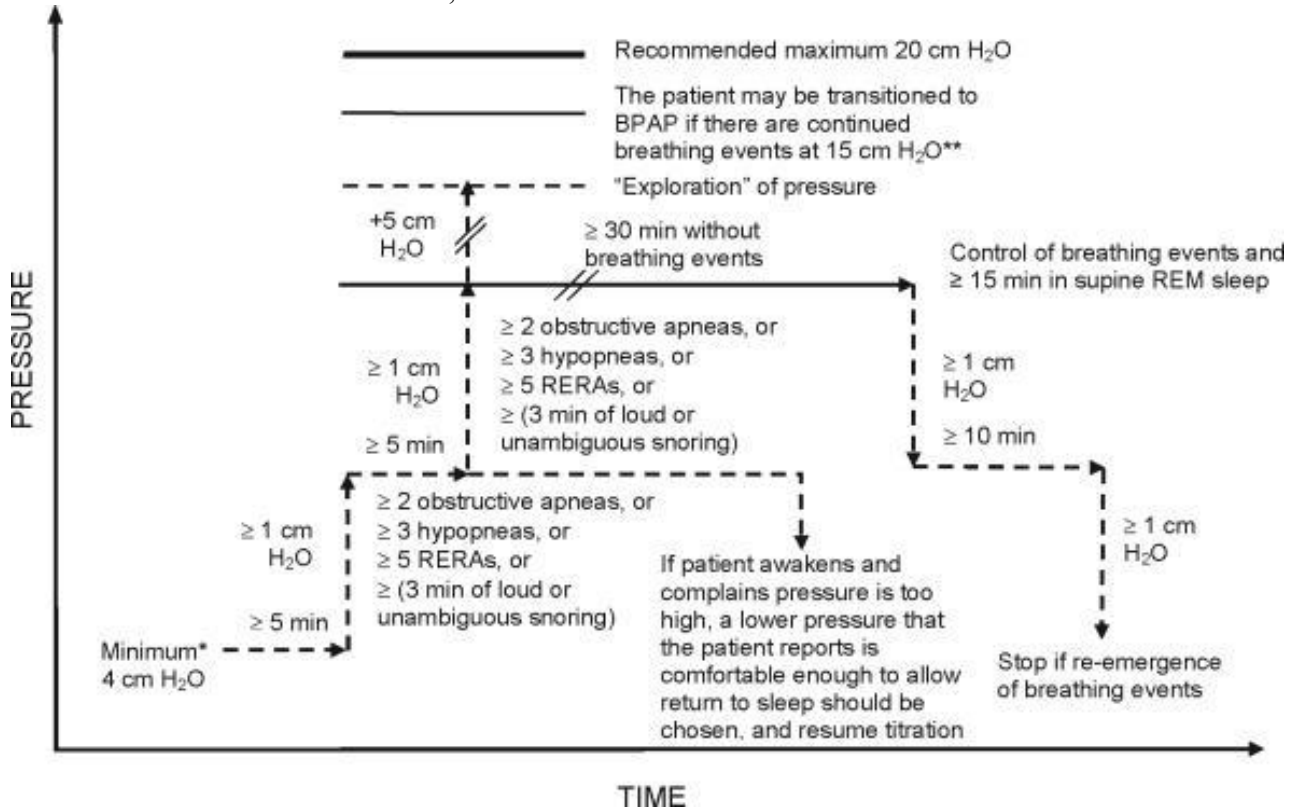
Components:

1. Patient education
2. Patient hook-up
3. Patient hook-up
 - a. International 10-20 hook-up
 - b. Chin Electromyograph (EMG)
 - c. Eye Electrooculogram (EOG)
 - d. Anterior Tibialis leads right and left
 - e. Chest Respiratory Inductance Plethysmography (RIP) belts
 - f. Abdomen RIP belt
 - g. Oximeter
 - h. Snore microphone
4. Patient to bed
5. Lights out
6. Impedance check
7. Machine calibration
8. Patient calibration
9. Machine calibration
10. Lights on

11. Disassemble PAP device and remove all electrodes and process each for disinfection or disposal per policy.

Reference:

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See Procedure Clinical Guidelines for the Manual Titration of Continuous Positive Airway Pressure

Approved by:		Review/Revision Date: 03/23
<u>/s/</u> Michael Taylor Director, Pulmonary Services	<u>3/20/2023</u> Date	
<u>/s/</u> Andre Aguilon, M.D. Medical Director	<u>3/19/2023</u> Date	
<u>/s/</u> Russell Smith Senior Hospital Administrator	<u>3/20/2023</u> Date	
<i>Review/Revision Completed By:</i> <i>Director, Sleep Disorders</i>		Next Review Date: 03/26
Policies Superseded by This Policy:		

It is the responsibility of the reader to verify with the responsible agent that this is the most current version of the policy.