SLEEP DISORDERS CENTER OF VIRGINIA

Say Goodnight Virginia

Policies & Procedures

BiLevel Pressure Titration CHILD

ALL Locations

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Patient Care

1. All patients coming in for a split night or PAP titration study will have had a brief introduction to PAP during his/her initial office visit but it is still helpful to review PAP with them before bedtime.
2. Show the PAP to the patient and remind them in simple terms how it works. Allow the patient to try several different masks, including nasal pillows. Help the patient to try on the mask without attached airflow. Encourage the parents/guardians to participate in this with you. Let the child know that they should tell you if their nose becomes stuffy during the night or if they have any other problems. Reassure them that most people adjust very well to the mask and to the pressure during the first night and that they adjust even much further during the first month.
3. Tell the patient that you may be waking them occasionally, especially during the early part of the night, to make adjustments to the mask fit if there is a leak.

Technical Information

- The patient's airflow should be recorded from the CPAP unit
- Placing a thermistor under the mask is not acceptable
- All studies should be performed with heated humdification.

BiLevel Pressure Titration for Hypoventilation

1. Titrate CPAP according to protocol.
2. If you have eliminated snoring and obstructive events and the baseline saturation is below 88% switch over to bilevel pressure.
3. To start this drop EPAP by 2 cm H_2O and raise IPAP by 2 cm H_2O. This gives you a starting gap of 4 cm H_2O.

- Increase IPAP and EPAP for the following:
  - At least 1 obstructive event
- Increase IPAP for the following:
  - At least 1 hypopnea

- At least 3 RERAs
- B. At least 1 minute of unambiguous snoring

4. Maximum IPAP = 20 cm H_2O
5. Minimum IPAP-EPAP difference should be 4 cm H_2O
6. Make sure that you see the patient in REM on the final pressure before awakening. If not, **let the patient sleep until they enter REM.**

Central Apneas

There are a number of reasons why central apneas occur. They may be seen in a diagnostic study in patients with Cheyne-Stokes Respiration associated with heart failure or stroke. Other individuals have Idiopathic Central Sleep Apnea. Most often, however they occur as a result of arousals from sleep. This is often the case in patients with obstructive sleep apnea during their CPAP titrations. CPAP can cause arousals and also slightly lowers the patient's carbon dioxide levels and this contributes to central apneas.

1. If central apneas with arousals are observed during CPAP titration, do not continue to increase the pressure. Hold the pressure constant or reduce it until the patient is in stable sleep without frequent arousals. If the centrals disappear then resume titrating.
2. If the centrals continue without arousals but snoring is noted then continue increasing CPAP pressure until snoring alleviated.
3. If the centrals continue with no snoring and, despite stable sleep with no arousals, then switch call the doctor to see if he/she wants the patient switched toASV.

BiLevel Pressure Titration for Poor Tolerance of CPAP

1. Titrate CPAP according to protocol.
2. BPAP may be used if patient is uncomfortable with CPAP at high pressures or if there are still respiratory events at 15
3. To start this drop EPAP by 2 cm H_2O and raise IPAP by 2 cm H_2O. This gives you a starting gap of 4 cm H2O from your current pressure. To continue titrating increase both the IPAP and EPAP by 2 cm H_2O. If the patient continues to arouse drop the EPAP by 2 cm H_2O and continue increasing the IPAP.

- Increase IPAP and EPAP for the following:
  - At least 1 obstructive event
- Increase IPAP for the following:
  - At least 1 hypopnea
  - At least 3 RERAs
  - B. At least 1 minute of unambiguous snoring

Titration of BPAP Full Night

- IPAP pressure should start at 8 cm H_2O and EPAP 4 cm H_2O unless a patient requests it to be higher for comfort.
- Maximum IPAP = 30 cm H_2O
- Minimum IPAP-EPAP difference should be 4 and maximum 10 cm H_2O
- Increase IPAP and EPAP for the following:
  - At least 1 obstructive event
- Increase IPAP for the following:
  - At least 1 hypopnea
  - At least 3 RERAs
  - C. At least 1 minute of unambiguous snoring
- Maximum IPAP = 20 cm H_2O

- Testing at a higher pressure to eliminate flow limitation is acceptable but should not exceed 5 cm H_2O over the effective pressure.
- Reduce pressure if the patient awakens

Acceptable Titrations – Anything less than an Optimal or Good Titration may need to be repeated.

Optimal Titration:
- RDI < 5 for at least 15 minutes and include supine REM without continuous arousals.

Good Titration
- RDI <10 or a 50% reduction in event frequency if starting RDI < 15. Should include supine REM sleep that is not continuously interrupted by arousals.

If you have not had a chance to see supine REM sleep at your optimal pressure it is okay to wake the patient and have them turn over.