

Standard operating procedure for CPAP ventilation in newborn

1. Preparation:

- a. Ensure that you have all the necessary equipment readily available, including a CPAP machine, nasal prongs or mask appropriate for the infant's size, oxygen source, and monitoring equipment (e.g., pulse oximeter, respiratory rate monitor).
- b. Check the functionality and calibration of the equipment before use.
- c. Prepare the necessary supplies, such as water for humidification and securing devices for stabilizing the prongs or mask.

2. Assessment:

- a. Assess the newborn's respiratory status and determine if CPAP is indicated.
- b. Calculate the appropriate CPAP pressure based on the infant's gestational age, weight, and clinical condition.

3. Set up:

- a. Connect the CPAP machine to an appropriate oxygen source, ensuring the oxygen concentration is appropriate for the infant's condition.
- b. Set the CPAP machine to the calculated pressure. Ensure that the pressure is accurate and within the desired range.
- c. Attach the humidifier to the CPAP machine and fill it with distilled water to maintain humidification of the inspired gases. Adjust the humidity level to the recommended range for newborns.

4. Application:

- a. Select the appropriate size of mask for the newborn, ensuring a proper fit and seal.
- b. Gently insert the mask into the infant's nostrils, or place the mask securely over the infant's nose and mouth, ensuring a snug fit without causing pressure points or discomfort.
- c. Secure the mask in place using appropriate securing devices to prevent accidental displacement.
- d. Turn on the CPAP machine and confirm the delivery of continuous positive airway pressure.
- e. Monitor the infant's respiratory status, heart rate, oxygen saturation, and other vital signs continuously during CPAP ventilation.

5. Monitoring and troubleshooting:

- a. Continuously monitor the infant's respiratory effort, heart rate, and oxygen saturation during CPAP ventilation.
- b. Ensure that the infant's nasal passages are clear and free from blockages or excessive mucus.
- c. Check the fit of the mask regularly and adjust as needed for optimal comfort and seal.
- d. Periodically assess the infant's response to CPAP therapy, including improvement or deterioration in respiratory status, and adjust the CPAP pressure if necessary.
- e. Continuously monitor the CPAP machine for any alarms, changes in air pressure, or equipment malfunctions.

6. Documentation:

- a. Document the indications for CPAP ventilation, the calculated CPAP pressure, and any adjustments made during the procedure.
- b. Record vital signs, oxygen saturation levels, and any complications or interventions during CPAP ventilation.