

GENERAL GUIDELINES FOR NON-INVASIVE VENTILATION (ED/PICU)

NIV can help avoid intubation when a patient's WOB is increasing and flow rates for HHFNC are maxed out. For kids <20kg, liter flows can go up as high as to 2L/KG/MIN. As always, watch if they can tolerate such high liter flows. If you are reaching the maximum HHFNC, start discussing the need for NIV via Ram Cannula.

If patient does not demonstrate signs of improvement after being placed on NIV within the first hour, do not delay the discussion of endotracheal intubation or the next steps needing to be done. Make sure to huddle with your patient's RN and agree on the patient's status. A delay in proper action can lead to a worsening patient condition. Frequent assessment of whether the patient is improving is CRITICAL.

CIRCUITS

- If patient weighs less than 10kg, then use a NEO circuit with an 840/980 ventilator.
- If patient weighs 10kg or above, use an ADULT circuit.

VENT MANAGEMENT

After performing SST with the correct circuit, go to set up screen and select NIV for your mode.

Initial Settings: Mode: SIMV-PC, PC = 15-25cmH2O, RR= 30-40, TI = 0.5-0.7, PEEP = 5-6cmH2O

**** Always confirm your ventilator orders with a physician before placing patient on NIV****

Remember!! Peak Inspiratory Pressure (PIP) is your total pressure $PIP = PC + PEEP$

For example: 26/6= PC of 20 and PEEP of 6

Always clarify your PC and PEEP order for your combined PIP

****PC on the 840/980 vents is labeled as Pi for Inspiratory Pressure****

- DSens: Increase to 10. Some kids may need more depending on the patients leak.
980- Found in the initial setup screen or under the menu screen then under more settings.
840- The 4th tab at the bottom [LC/RM] then More Settings
- PS: Dial it to 1
- Vsens: Dial it to 3

- Alarms: Pressure alarms should be set 5cmH2O above and below the set peak pressure.

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| Author: Mehreen Khawaja BS, RRT-NPS & Riley Thomson BS, RRT-NPS | | Originating Department: Respiratory Care |

- Always set your humidifier at 37 degrees Celsius.

PATIENT CONSIDERATIONS

- Use Duoderm to protect the skin – cut into rectangles and place on cheeks, warming with placement. Then use Tegaderm on top to secure your cannula in place.
- Use Neoseal bumpers for smaller infants as a form for skin barrier to help prevent any skin breakdown or if you need more of a seal for a more effective respiratory support. Comes in two sizes.
- Cannula should occlude 80% the nares without blanching or pinching the septum.
- A larger cannula delivers lower resistance reaching optimum PEEP.

CHARTING

- Perform Q2 checks
- Chart your patient’s measured PIP, MAP, RR, and I:E ratio in addition to your settings and alarms.
- We do not need to chart MV and Expired Tidal volumes as those measured values are not accurate.
- An example of how to write it out on the card for report: NSIMV RR30, 20/6, IT 0.5, 50%

Also please be mindful on selecting the proper cannula size for your patient. Do not leave the sizes not selected in the patient’s room. These are now dirty and cannot be used. In addition, do not place extra of that size in the patient's room. If you need another, grab it at that time.

Once again, these are general guidelines to help you in the initiation of NIV. It may take some manipulation of settings to achieve a more comfortable patient.

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