

COVID-19

Management of Hypoxemia with High Flow Nasal Cannula

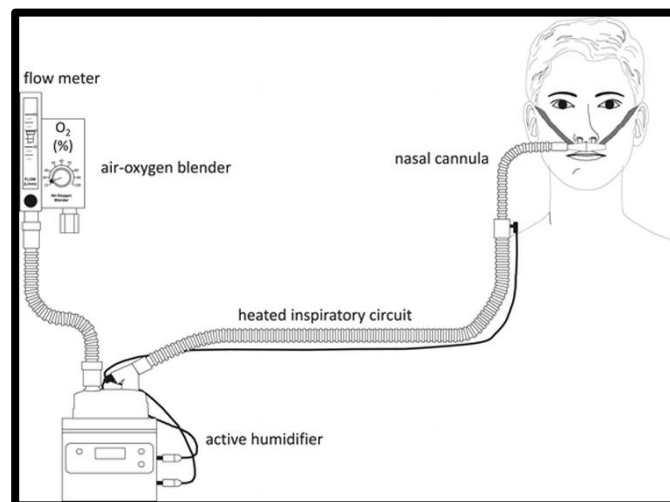
During the COVID-19 pandemic, High Flow Nasal Cannula (HFNC) will be utilized across MedStar Health to treat moderate to severe hypoxemia.

Please refer to StarPort COVID Page (or <https://medstarhealth.org/covid19resources> off network) for the complete and most current guidance as this information is rapidly changing and updated.

What is High Flow Nasal Cannula?

- HFNC oxygen therapy is very similar to traditional Nasal Cannula oxygen therapy in that two nasal prongs deliver a supply of oxygen to the patient. However, HFNC provides additional flow, warmth and humidification to enhance delivery to the patient.

What does High Flow Nasal Cannula Look Like?



Which patients will be receiving this therapy during the COVID-19 pandemic?

- Patients who are unable to maintain a resting SpO₂ >92% or RR <28 on Non-Rebreather Mask (NRB) with 100% FiO₂ and 10-15L of flow are considered to have moderate to severe hypoxemia and thus are candidates for HFNC therapy.

What are standards of safety for utilization of HFNC for COVID+ /PUI patients?

- Due to risk of aerosolization, HFNC should be administered in negative pressure rooms whenever possible with staff using N95 masks.
- The patient should wear either a surgical mask or a tight-fitted non-rebreather mask (with no oxygen flow moving through NRB) when using HFNC. This is intended to further minimize the aerosolization into the clinical environment.
 - If using a closed oxygen mask, the HFNC must be >5 LPM to prevent carbon dioxide from being rebreathed.
- The mouth, nose and the HFNC should not be obstructed by the pillow or mattress.

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How does the interdisciplinary team manage HFNC?

Physicians and Advanced Practice Providers:

- Provide orders for therapy which must contain a titration range of flow (in Liters) and FiO₂ (in %) as well as a goal SpO₂ which this therapy is intended to meet (i.e. titrate for SpO₂ > 92%).
- Providers must be made aware of any changes to the patient condition, especially in cases of worsening hypoxemia.

Respiratory Therapists:

- Provide expertise in assessment, set-up, and any modifications or titrations.
- Respiratory Therapists must also be made aware of and respond to any changes to the patient condition.

Registered Nurses:

- Consult your entity's policy with regard to the nurse's ability to change flow or FiO₂ settings per provider orders or in the event of emergency.
- Nurses evaluate efficacy of the prescribed therapy during full systems and focused respiratory assessments.
- If ordered, nurses monitor the **continuous** pulse oximetry of the patient receiving HFNC therapy.
- Nurses should enforce all patients with a Glasgow Coma Scale (GCS) of 15 to engage in incentive spirometry, 10 breaths every 2 hours, when awake. A provider order is required for this intervention, and nurses can remind our provider partners to include this intervention in the care plan during IMOC rounding.
- The following assessment findings indicate that HFNC is not effectively treating hypoxemia:
 - SpO₂ <88% despite HFNC Therapy
 - RR >40 despite HFNC Therapy
 - New or worsening altered mental status
 - Hemodynamic instability
 - Worsening acute kidney injury or oliguria
- **If you notice your patient experiencing these symptoms, call the patient's primary team immediately. Outside the ICU, do not hesitate to call a Rapid Response.**

What are other some considerations for patient education, when appropriate?

- Instruct the patient to cover the HFNC and the mouth with the mask.
- Cover the nose and mouth when coughing or sneezing with the device in place.
- Use an incentive spirometer ever two hours, when awake.
 - The patient should be asked to take 10 breaths each time.
 - The patient should continue to use it throughout the hospitalization to point of discharge.



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