Adult High Flow Nasal Cannula Protocol

Purpose: To provide guidance for safe and effective adjustments of adult high flow nasal cannula.

Exclusions:

Pediatric and Neonatal Patients

Special Considerations:

Chronic Obstructive Pulmonary Disease (COPD): can have increased ventilation perfusion mismatch when high concentrations of oxygen are given. In these patients an SPO2 of greater than 94% should be avoided. Please notify the provider if patient has a diagnosis of COPD and hypercarbia.

Procedure:

- Follow the algorithm on page 3
- FIO2 changes are made in increments of 5-10%. Allow at least 5 minutes between adjustments.
- Assess Pulse Oximetry, Respiratory Rate and Work of Breathing after every FIO2 adjustment
- Adjust flow in 1-5LPM increments. Allow at least 5 minutes between adjustments.
- Assess Pulse Oximetry, Respiratory Rate and Work of Breathing after every Flow adjustment
- Following wean if SPO2 falls below target, Respiratory Rate increases ≥ 25 or work of breathing increases, return to previous settings.
- For desaturations increase FIO2 to 60% and flow to max settings. Once RR, SPO2 and WOB improve begin wean according to guidelines.

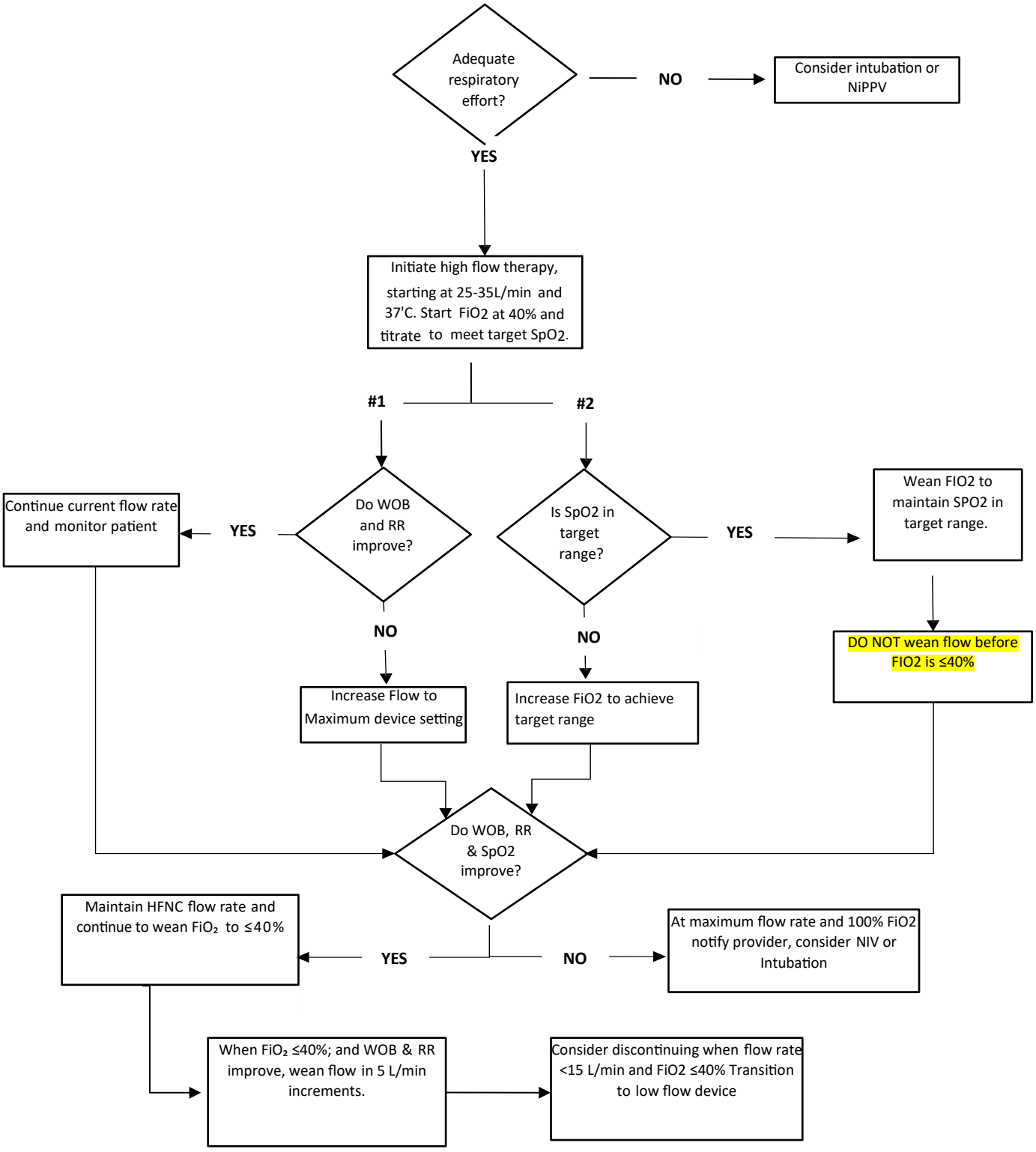
Provider Notification:

Notify provider for FIO2 ≥ 60% or a sustained increase in FIO2 ≥ 20%.
Notify provider for a sustained increase in flow ≥ 10 LPM.
Notify provider when maximal settings are achieved without meeting SPO2 goal.
Notify provider for Increasing oxygen or flow requirements over the course of the shift.

Document provider notification in the medical record.

References:

1. Doshi P et al. High-Velocity Nasal Insufflation in the Treatment of Respiratory Failure: A Randomized Clinical Trial. Ann Emerg Med 2018; 72: 73-83.e5.
2. Vapotherm Clinical Algorithm - MKT0542A


Adequate respiratory effort?
NO
Consider intubation or NiPPV
YES
Initiate high flow therapy, starting at 25-35L/min and 37'C. Start FiO2 at 40% and titrate to meet target SpO2.
#1
#2
Do WOB and RR improve?
Is SpO2 in target range?
YES
Continue current flow rate and monitor patient
YES
Wean FIO2 to maintain SPO2 in target range.
NO
NO
DO NOT wean flow before FIO2 is ≤40%
Increase Flow to Maximum device setting
Increase FiO2 to achieve target range
Do WOB, RR & SpO2 improve?
Maintain HFNC flow rate and continue to wean FiO₂ to ≤40%
YES
NO
At maximum flow rate and 100% FiO2 notify provider, consider NIV or Intubation
When FiO₂ ≤40%; and WOB & RR improve, wean flow in 5 L/min increments.
Consider discontinuing when flow rate <15 L/min and FiO2 ≤40% Transition to low flow device