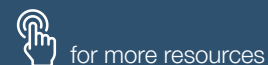


About this resource



With collaborators & support from multiple institutions, including:



USAID
FROM THE AMERICAN PEOPLE



UCSF

Center for Health Equity
in Surgery & Anesthesia
chsa.ucsf.edu



Open Critical Care

Last updated June 2021

Disclaimer

This document is intended to be educational in nature and is not a substitute for clinical decision making based on the medical condition presented.

This content is a collaborative effort by representatives of multiple institutions, and this document and the information herein are intended and designed for educational purposes only. You should not rely on this information to replace professional medical advice, diagnosis, and/or treatment, nor should this information ever be used as a substitute for either manufacturers' instructions and guidance or clinical decision-making based on the medical condition presented. It is the responsibility of the user to ensure that all information contained herein is current and accurate, and the creators and hosts of this content make no claims or warranties as to the currency, accuracy, or suitability of this information for any purpose. Any reference to specific equipment, pharmaceuticals, or other medical devices in this document is not meant as an endorsement of such items, and you should consult manufacturers' documentation prior using any such items that may be referenced here. The use of any information in this document is undertaken solely at your own risk, and the creators and hosts of this content shall not be liable for any damages, losses, or other injury caused by the use of any information in this document, nor for any reliance on the accuracy or reliability of such information.

How to Use This Document

This is a living document, created by created by nurses, physicians, respiratory therapists and other healthcare providers from multiple institutions and multiple countries via the OpenCriticalCare.org project.

The goal of this document is to provide tools that can be locally modified to help healthcare providers learning to provide respiratory care for hospitalized patients.

For qualified personnel, please **copy or download this file and then modify the document** to fit your needs, the most current data and local resources. For Google documents, this can be done by going to the "File Menu" at the top left of this window and selecting "File" → "Download" then select the format you prefer. Alternatively you can select "File" → "Make a Copy" then use a copy in Google Slides to make your edits. For pdf document please contact us below for an editable file.

To Print: select "Print" from the file menu at the top left. You may need to scale the size to fit your preferred paper size.

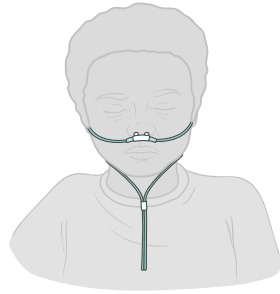
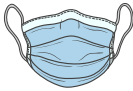
Please check back regularly for updates and send any questions or comments to us [here](#).

This work is licensed under a Creative Commons Attribution-NonCommercial-Sharealike 4.0 International License.



Pediatric oxygen therapy escalation algorithm

A medical mask should be placed over nasal cannula & HFNO for patients with suspected or confirmed highly infectious respiratory illness (e.g. COVID-19)



- Start oxygen at 1-5 L/min
- Use **nasal prongs**
- Assess response

FiO₂ 0.23 - 0.4

If continued distress or SpO₂ < 90%
(or <94% if pregnant or emergency signs)

- Use **face mask**
- Increase oxygen to 5-10 L/min
- Assess response

FiO₂ 0.3 - 0.5

If continued distress or SpO₂ < 90%
(or <94% if pregnant or emergency signs)

- Use **face mask with reservoir**
- Start oxygen at 10-15 L/min & titrate to ensure bag inflates

FiO₂ 0.5 - 0.85

If continued distress or SpO₂ < 90%
(or <94% if pregnant or emergency signs)

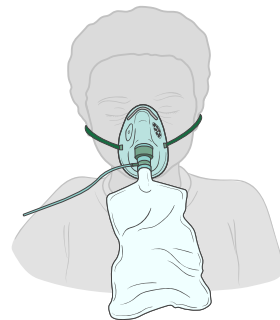
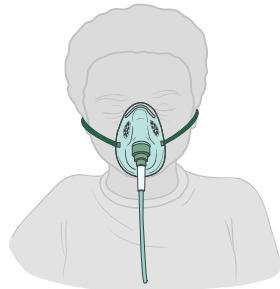
- Find higher level care & consider:

HFNO: 10-20kg 1L/kg/min
20-40kg 0.5-1L/kg/min (max 30)
>40kg 0.5-1L/kg/min (max 60)

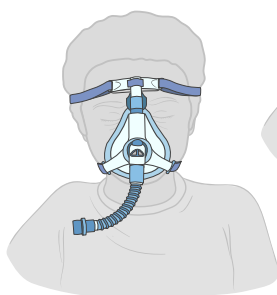
CPAP: 5-10 cmH₂O

BIPAP: PS (ΔP) 5-15/PEEP (EPAP) 5-15

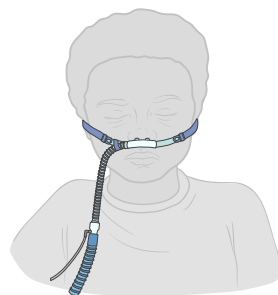
FiO₂ 0.21 - 1.0



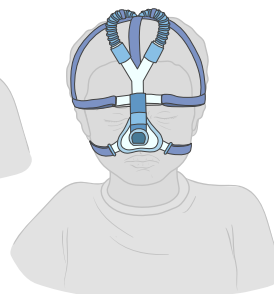
For HFNO, BIPAP, and CPAP, heated humidification should be used.



Oronasal BIPAP/CPAP



HFNO



Nasal BIPAP/CPAP

Wean O₂ flow and avoid SpO₂ 100% to avoid ill effects of hyperoxia & excess O₂ consumption. Optimal SpO₂ goal may vary with locally available resources.

CPAP - continuous positive airway pressure; BIPAP - bilevel positive airway pressure; HFNO - high flow nasal oxygen; LPM - liters per minute; Δ - delta; PS - pressure support; PEEP - positive end expiratory pressure; EPAP - expiratory positive airway pressure



USAID
FROM THE AMERICAN PEOPLE



oc₂ Open Critical Care.org

UCSF Center for Health Equity
in Surgery & Anesthesia
chesa.ucsf.edu

