



Open Critical Care.org



USAID
FROM THE AMERICAN PEOPLE



Anesthesia Division of
Global Health Equity
globalanesthesia.ucsf.edu

OPEN PEDIATRICS™



WFSA
WORLD FEDERATION OF SOCIETIES OF
ANAESTHESIOLOGISTS



Sustaining Technical and Analytic Resources (STAR) is a project of the Public Health Institute implemented in partnership with Johns Hopkins University and University California at San Francisco.

Tools & trainings

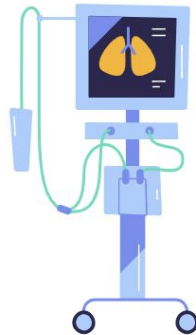
OpenCriticalCare.org

The hub for critical care education tools

This site (currently in beta) aims to help healthcare workers in resource-variable settings find open-access, high-quality critical care learning tools. We are starting with respiratory care & COVID!

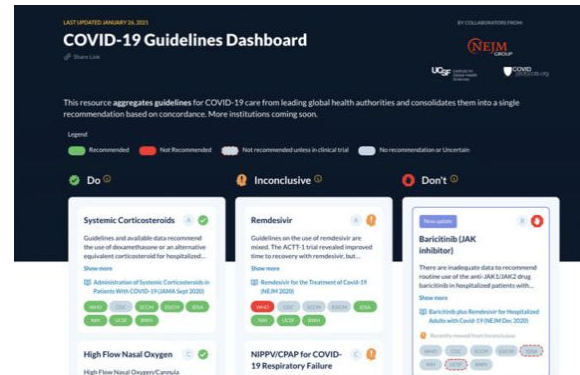
Visit our Resource Library

View our Suggested COVID Trainings



Guidelines

tableroCOVID19.org/
COVID19treatmentguidelines.org/



Clinical Protocols

COVIDprotocols.org

COVIDProtocols v2.0





- Edu portal to **disseminate select ventilator TA** to IPs & collaborators
- Content is **publicly available** via web from computers or mobile devices
- Curated resources are a combination of **original content, vetted material, resources from partnerships**
- Resources can be **tailored to address local needs and context** through input from USAID Implementing Partners and collaborators
- Long-term vision is to build an open access library of critical care tools with **utility beyond COVID**

**What technical resources are your
teams requesting?**

**What technical resources are your
teams using?**

**What your teams and collaborators can
find at  Open Critical Care.org**

Tool & trainings

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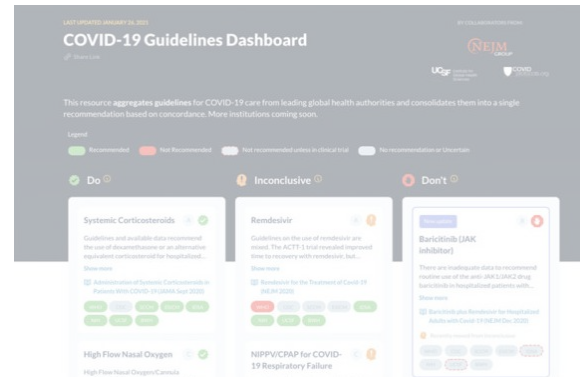
[Visit our Resource Library](#)

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Guidelines

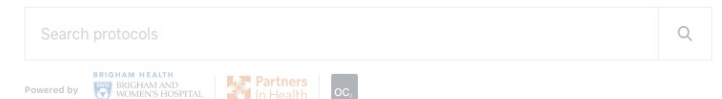
[tablerocovid19.org/
covid19treatmentguidelines.org/](https://tablerocovid19.org/covid19treatmentguidelines.org/)



Clinical Protocols

covidprotocols.org

COVIDProtocols v2.0





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[Visit our Resource Library](#)[View our Suggested COVID Trainings](#)

Welcome to OCC!

Sign up to receive updates on new content.

[Sign up](#)



Next Live Chat : : October 23, 12:00 - 14:00 UTC -4



Home

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COVID19

Ask an expert

- Information from experts:
 - **Via automated chatbot**
 - **Live chat weekly** (Time listed at the top)

Welcome to **OpenCriticalCare** chat. I can help you find answers to common questions.



Sound good?

Yes



Live chat available now



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Chat with Expert

Hi, welcome to the OpenCriticalCare **live chat**.

A member of our team of specialists is standing by to answer your questions about oxygen delivery and respiratory care.

This chat does not provide advice on clinical decision making which must always be done by local providers in accordance with local guidelines. Please do not ask urgent or patient-specific questions, and do not include patient/personal information in the chat.

At this time the chat is only available in **English**.

By clicking the button below to begin, you agree with our [terms of use](#).



I agree, and would like to ask a question

Made with **Landbot.io**

- Information from experts:
 - **Via automated chatbot**
 - **Live chat weekly** (Time listed at the top) or the button is green and says “Live Chat available now”

Is live chat useful for your teams?
If so, what times are best?



Open Critical Care.org

Featured Links

- Featured links from the homepage include:

- **Free subscriptions for UpToDate** for eligible healthcare workers
- **Oxygen supply and demand** calculator (to see how long your supply lasts or model a COVID19 ward scenario)
- **Ventilator Simulator**
- Ventilator Training Material



Estimate facility oxygen supply & demand

[Learn more →](#)

ARIADNE LABS
BETTER EVIDENCE



Check eligibility for free UpToDate Clinical Decision Tool

[Learn more →](#)



Links to Upcoming Webinars & Events

[Learn more →](#)



Online Ventilator Simulator by OPENPediatrics

[Learn more →](#)



Oxygen & Ventilator Frequently Asked Questions (FAQ)

[Learn more →](#)

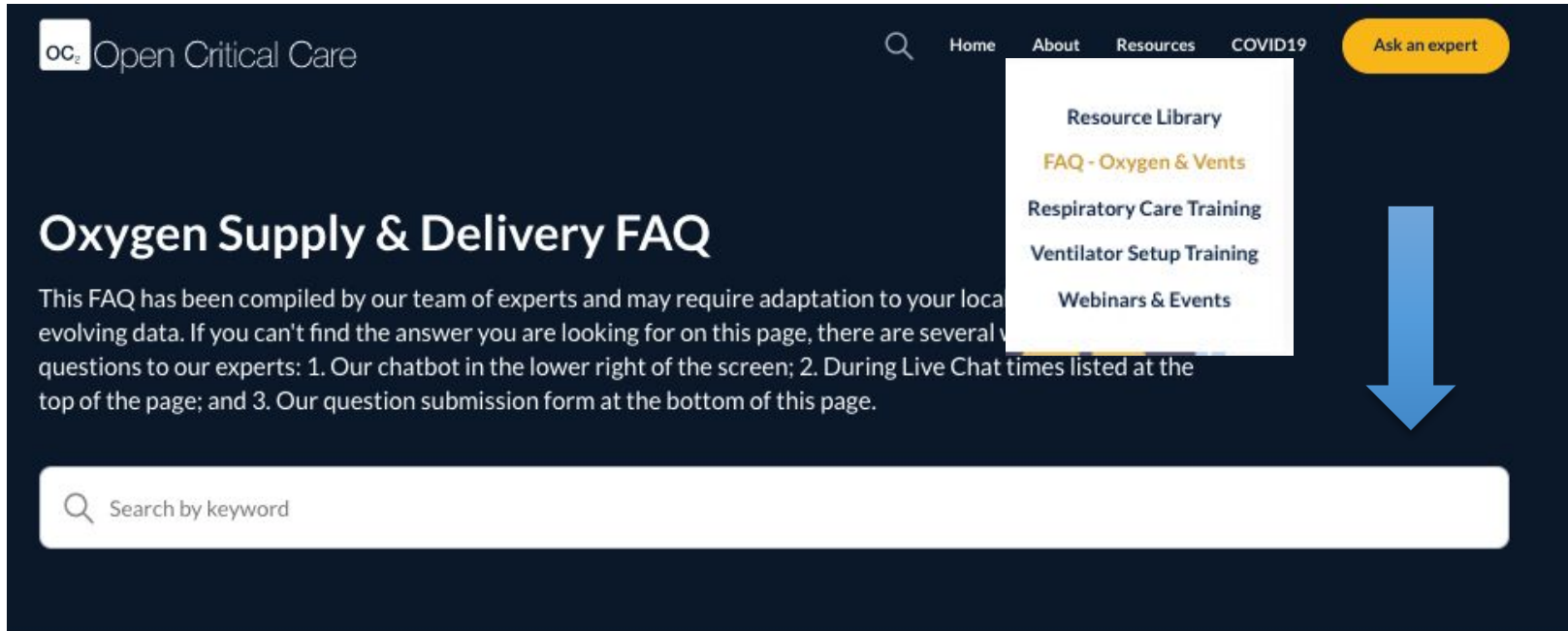
Ventilator Training Alliance



Learn to setup & operate ventilators

[Learn more →](#)

Opencriticalcare.org/oxygen-FAQ



- Information on oxygen supply and delivery:
 - Frequently asked questions, **answered by experts**
 - **Sorted by topic**
 - **Searchable**
 - Can be **easily shared**



Opencriticalcare.org/oxygen-FAQ



- Information on oxygen supply and delivery:
 - Frequently asked questions, **answered by experts**
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? Non-invasive ventilation (NIV)

 Copy link to share 

? Invasive mechanical ventilation

 Copy link to share 

? Oxygen Supply and Consumption

 Copy link to share 

? Respiratory Care Consumables

 Copy link to share 

? Maintenance for Respiratory Care Equipment

 Copy link to share 

? Miscellaneous

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You have additional questions?

[Submit a question](#)

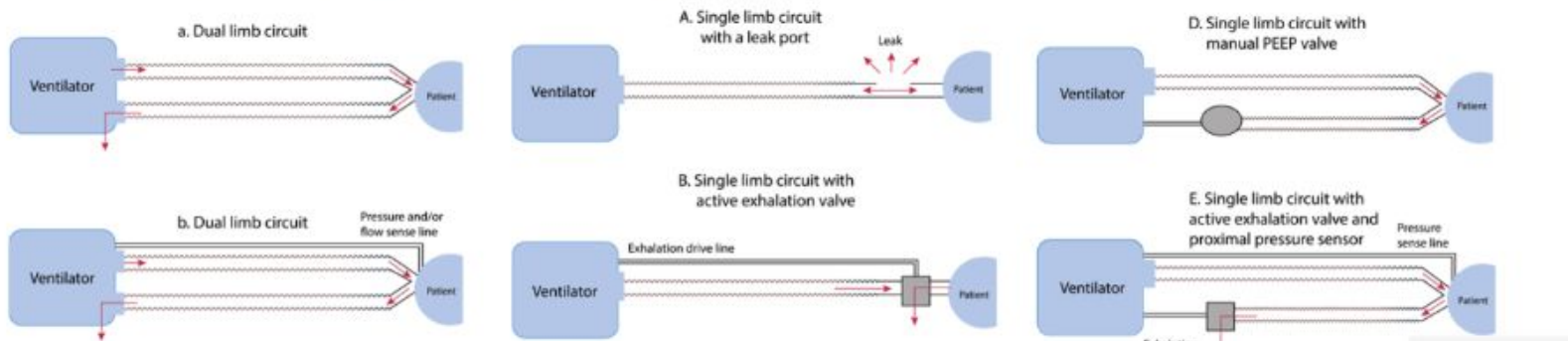


Opencriticalcare.org/oxygen-FAQ

What different types of ventilator circuit exist?



- There are multiple configurations of dual and single limb circuits (outlined below).
- Note on humidification & circuit configuration: some dual and single limb circuits may contain a heated wire in the inspiratory limb to optimize heat & humidification delivery to the patient and to prevent excess condensation from accumulating when using an active heated humidification system. If an active heated humidification system is used in the absence of a heated wire inspiratory limb, a water trap is often needed. Some water traps may allow for emptying without circuit disconnect (an important consideration with COVID19).
- Dual limb circuit (Figure a, b and c) – used by most traditional critical care ventilators. Flow/pressure and PEEP are commonly measured/controlled in the machine, and thus no additional circuit transducer tubing is needed (a). Some circuits do use proximal flow/pressure sensors (b). These may include a heating element in the inspiratory limb and port for temperature monitoring (c).
- Standard single limb with built in leak (figure A) – mostly for non invasive devices
- Standard single limb circuit with active exhalation valve and internal PEEP – (figure B and C) – These circuits are made by multiple manufacturers and can work with multiple vent models.
- Standard single limb circuit with active exhalation valve and manual PEEP – (figure D)
- Standard single limb circuit with active exhalation valve, internal PEEP and proximal pressure sensor – (figure E) – this is one of the most common single limb circuit setups
- Standard single limb circuit with active exhalation valve, internal PEEP and two proximal pressure/flow sensors – (figure F) – this is usually a proprietary circuit type that is commonly encountered and allows measurement of exhaled tidal volume



- Information on oxygen supply and delivery:
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 - **Searchable**
 - Can be **easily shared** by clicking the blue link



Opencriticalcare.org/oxygen-FAQ

Non-invasive ventilation (NIV)

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Invasive mechanical ventilation

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Oxygen Supply and Consumption

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Respiratory Care Consumables

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+

Maintenance for Respiratory Care Equipment

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+

Miscellaneous

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+

You have additional questions?

Submit a question

- Information on oxygen supply and delivery:
 - Frequently asked questions, **answered by experts**
 - Sorted by topic**
 - Searchable**
 - Can be **easily shared**
- Submit new questions**



Opencriticalcare.org/ventilator-setup/

Next Live Chat :: October 23, 12:00 - 14:00 UTC -4

Ventilator Setup

This page contains resources for setting up and operating various mechanical ventilators. We have highlighted ventilators for which we have received frequent inquiries. Soon this page will be expanded to include instructional resources for the use of other oxygen delivery devices. Please [contact us](#) to suggest additional resources for inclusion on this page.

 Vent & Oxygen Chat →

 COVID FAQ by WHO →

 COVID Chat by WHO →

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Respiratory Care Training

Ventilator Setup Training

Webinars & Events



Learn to setup any ventilator

A complete list of ventilator training materials can be found by visiting the Ventilator Training Alliance on the web or via the Google Play or App Store.

[Learn more →](#)



Zoll - Z Vent & 731

User's Manual [English](#) | [Español](#)
Training Videos [English](#) | [Español](#)
Online Course Modules [English](#)
Cleaning Instructions [English](#)



Vyair - LTV2 2200

User's Manual [English](#) | [Español \(coming soon\)](#)
Training Course [English](#)
Training Videos via VTA [English](#) | [Español](#)
Training Videos via YouTube [English](#) | [Español \(subtitulos\)](#)
Filter Care [English](#)
Intro to unboxing, setup and operation [English](#) | [Español](#)

- Resources to help setup and operate most ventilators

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March 2021



10
WED

Mobilizing Civil Society for COVID Prevention and Vaccination

March 10 @ 8:00 am - 9:00 am New York

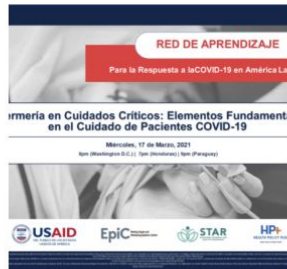
By LHSS

ENG

The Abt-led, USAID-funded Local Health System Sustainability Project (LHSS) has gained substantial experience helping national governments respond to COVID-19 while simultaneously strengthening health systems to increase countries' ability to adapt and respond to health emergencies. This is the second of three webinars to share LHSS's approaches and learning around COVID-19 pandemic response and health systems...

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17
WED

Enfermería en Cuidados Críticos: Elementos Fundamentales en el Cuidado de Pacientes COVID-19

March 17 @ 7:00 pm - 8:00 pm Honduras

By Health Policy Plus+

ENG

El proyecto EpiC, en colaboración con el proyecto STAR, ha desarrollado esta serie de seminarios web interactivos para presentar información práctica y actualizada que ayudará a los trabajadores sanitarios de primera línea a mejorar la prestación de servicios a pacientes diagnosticados con COVID-19 moderado/grave. La información médica está en constante evolución, y es necesario que todo el personal...

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22
MON

"High Flow Nasal Cannula, BiPAP and CPAP" – Session 8 Oxygen Therapy Series

March 22 @ 9:00 am - 10:30 am New York

By Assist International

ENG

ASSIST International, Stanford Anesthesia Division of Global Health Equity and Project ECHO developed this comprehensive webinar series to support all levels of learners—students, trainees, nurses and physicians—to increase preparedness of all providers caring for patients who require oxygen or critical care. The sessions take place online using the Project ECHO education model, and are live-streamed with all the...

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[Resource Library](#)[FAQ - Oxygen & Vents](#)[Respiratory Care Training](#)[Ventilator Setup Training](#)[Webinars & Events](#)

- This page lists **upcoming TA events by OCC and some IPs**

Opencriticalcare.org/resources

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Multiple languages

Material tailored to training level

Filter by training level

L1 L2 L3

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Chinese

العربية



Only verified resources



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Health Worker Psychosocial Health

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Resource-Constrained Practice

4

Content presented through different mediums

Variety of topics related to critical care

Opencriticalcare.org/resources

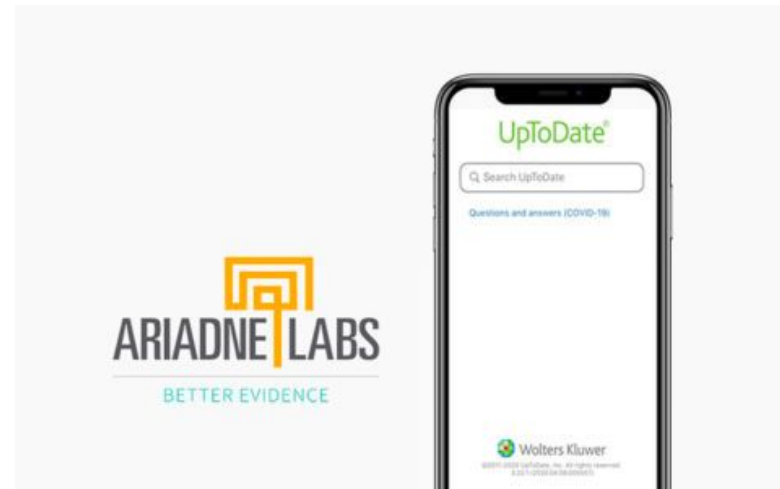
Examples of collaborators' content

Visit <https://opencriticalcare.org/resources/> and use the filters below to access these tools



AARC Harvard - Course

Level 2 → English → Courses → Respiratory Care



Free access to UpToDate

Level 1-3 → English → Guidelines → Apps



COVID PPE Infographic - Lifebox

Level 1 → Portuguese → Visual Aids → Infection Prevention Control

Opencriticalcare.org/resources

Examples of vetted content

Visit <https://opencriticalcare.org/resources/> and use the filters below to access these tools



Vent Sim - OpenPediatrics

Level 2 → English → Interactive
Tools → Respiratory Care



Ventilator Training App

Level 1 → English → Apps →
Respiratory Care



COVID-19 Course

Level 1+2 → Courses →
COVID19

Oxygen forecasting tool

Opencriticalcare.org/resources

Step 1. Select Oxygen Source (not sure?)

Select facility's most common source of oxygen

Oxygen Plant (PSA)

Step 2. Enter Total Supply

Enter the maximum volume of oxygen your generator can produce

145000litersper hour

Enter the average number of hours per day the generator can safely and reliably run

12hours/day

Select the most common way oxygen gets to the patients' bedside at your facility

Oxygen cylinders

Select the most common oxygen tank size at your facility

Size H Tank (1.5 meter; 6600L)

Enter the system leakage amount

0%

Consumption per Day (Liters)

891,360

Tanks per Day

135.1

Total Supply per 24h period (Liters)

1,740,000

Supply will last

hoursdays

2

Your Oxygen Plant (PSA) produces 1,740,000 L/day which is **adequate** and more than the 891,360 liters per day (L/d) oxygen required, and will last 2 days.

Disclaimer

Español

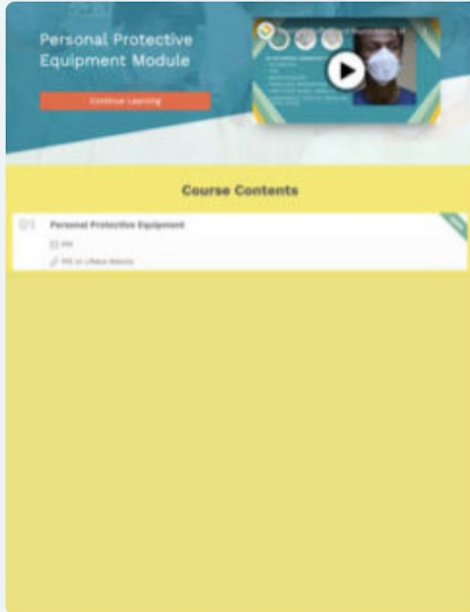


English



PPE Training Course

Opencriticalcare.org/resources



Personal Protective Equipment Online Training Course

 Copy link

| COVID-19 | Infection Prevention Control > Healthcare Provider IPC | Personal Protective Equipment (PPE) |

This free, comprehensive, interactive online training course was created by Lifebox to support healthcare worker training in personal protective equipment (PPE) use. The course was designed to have relevance to providers in all practice settings, including those where resources may be variable.



[Personal Protective Equipment Online Course by Lifebox \(1.5h\)](#)

By Lifebox

L1

L2

L3



English



COVID19 Respiratory Care Teaching Material

Opencriticalcare.org/resources



COVID-19 Case Series for Teachers

 Copy link

L2

L3



| Airway Assessment and Management | COVID-19 > Supplementary Resources | Respiratory Failure and Care >

Adult Respiratory Care | ARDS management | Mechanical Ventilation | Non-invasive oxygen delivery | Oxygen sources & supply

| Monitoring and Diagnostics | Resource-variable settings |

The series of teaching slides decks is intended to serve as a framework of content to be modified, updated and used by local instructors supporting healthcare workers caring for COVID19 patients.



COVID19 Case Series: Personal Protective Equipment



COVID19 Case Series: Intro to Bedside Care and Charting



COVID19 Case Series: Non-invasive oxygen delivery



COVID19 Case Series: Mechanical ventilation (part 1)



COVID19 Case Series: Mechanical ventilation (part 2)



COVID19 Case Series: Therapeutics



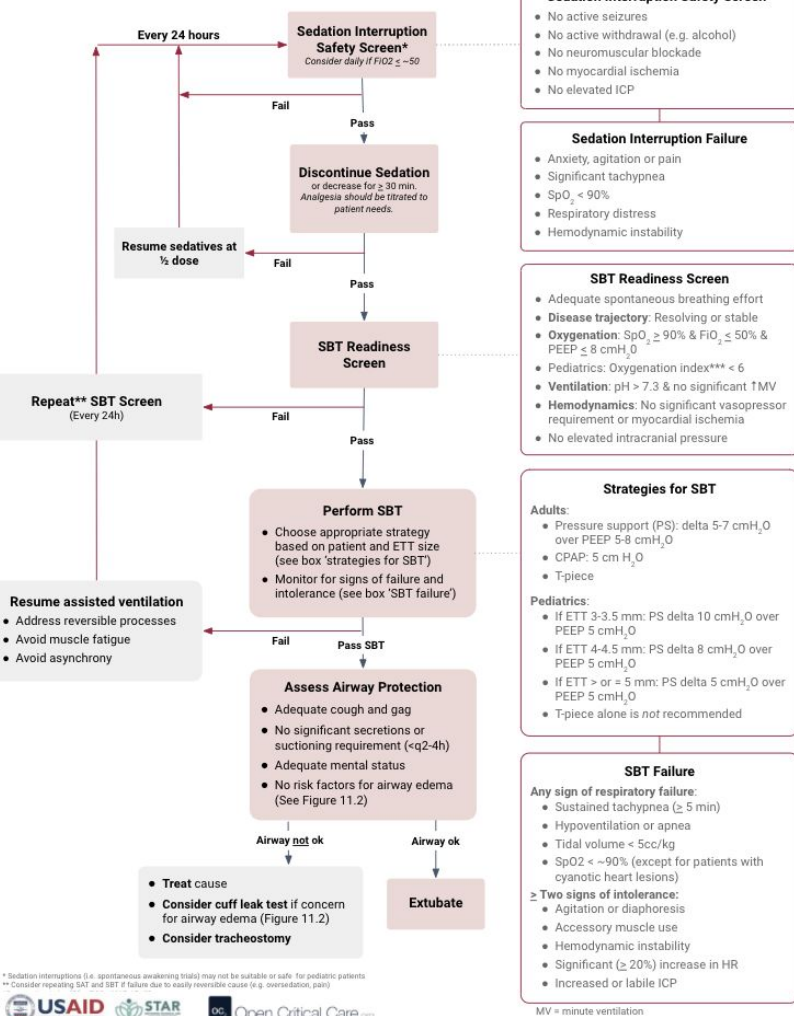
By OCC

English

COVID19 Respiratory Care Protocols

Opencriticalcare.org/resources

Spontaneous breathing and awakening trials protocol



Hospital Name/Logo

Oxygen Therapy Order Set v1.0

Surname/Family Name: _____ Name: _____ Attending/Team: _____

Today's Date: ____/____/____ Patient MRN/Registration Number: _____ Age: _____ Sex: _____ Predicted Weight (kg): _____ Height(cm): _____

CHOOSE A DELIVERY DEVICE

☐ Nasal Cannula: ☐ Titrate flow rate from 0-6 liters per minute to maintain oxygen saturation (SpO₂) by pulse oximeter to goal > _____ (Consider 90-94% for most patients) ☐ Set flow rate at: _____ liters per minute (Typical range 0-6) ☐ If flow > 4LPM, attach bubble humidification system & change sterile/distilled H₂O: [per protocol every] or [q _____ hours]

☐ Simple Facemask: ☐ Titrate flow rate from 0-10 liters per minute to maintain oxygen saturation (SpO₂) by pulse oximeter to goal > _____ (Consider 90-94% for most patients) ☐ Set flow rate at: _____ liters per minute (Typical range 5-10) ☐ If flow > 4LPM, attach bubble humidification system & change sterile/distilled H₂O: [per protocol every] or [q _____ hours]

☐ Nonrebreather Facemask: ☐ Titrate flow rate from 10-20 liters per minute to maintain oxygen saturation (SpO₂) by pulse oximeter to goal > _____ (Consider SpO₂ goal 90-94% for most patients) ☐ Set flow rate at: _____ liters per minute (Typical range 10-20) Attach bubble humidification system and change with sterile/distilled water: [per protocol every] or [q _____ hours]

☐ High Flow Nasal Cannula: ☐ Set flow rate: _____ liters per minute (typical range 40-60 LPM as tolerated by patient; titrate prn for work of breathing) and titrate FIO₂ (Typical range 0.40 - 1.0) to maintain oxygen saturation (SpO₂) by pulse oximeter to goal > _____ (Consider SpO₂ goal 90-94% for most patients); ☐ If patient trajectory is improving and tolerating ≤ _____ LPM flow (Typical 20 LPM) and ≤ _____ FIO₂ (Typical 0.40), then consider trial on standard nasal cannula ☐ Titrate flow rate from 10-60 liters per minute (of 1.0 FIO₂ oxygen) to maintain oxygen saturation (SpO₂) by pulse oximeter to goal > _____ (Consider SpO₂ goal 90-94% for most patients) (Mandatory) Attach active heat & humidification system & change with sterile/distilled water: [per protocol every] or [q _____ hours]

Pulse oximetry monitoring In addition to routine monitors, check oxygen saturation: ☐ Continuously ☐ Every _____ [hours] [minutes]

Date (time): _____ Name: _____ Signature: _____ Contact #: _____



TO PRINT MORE forms scan here

TO LEARN MORE on calculating oxygen consumption needs scan or click here



Hospital Name/Logo

Adult Ventilator (ARDS) Order Set v1.0

Surname/Family Name: _____ Name: _____ Attending/Team: _____

Today's Date: ____/____/____ Patient MRN/Registration Number: _____ Age: _____ Sex: _____ Predicted Weight (kg): _____ Height(cm): _____

Mode: ☐ AC-VC ☐ AC-PC ☐ PRVC ☐ _____

Tidal Volume: 1. Initiate at 6-8 mL/kg predicted body weight (PBW). Titrate down in 0.5-1 mL/kg steps Q 1-2hrs if needed to prevent acute acidosis. 2. If EIP > 30 cm H₂O, 1 VT to as low as 4 mL/kg. 3. pH < 7.15, 1 VT 1 mL/kg steps to 8 mL/kg regardless of EIP until pH = 7.20. 4. When severe asynchrony occurs and sedation cannot be increased, then TVT 1 mL/kg to upper limit of 8 mL/kg. 5. If EIP > 25 and VT > 6mL/kg, 1 VT to 6mL/kg. 6. When using AC-PC adjust PIP for VT=6mL/kg

Plateau Pressure: 1. 25-30 cm H₂O. 2. EIP > 30 cm H₂O allowed if PEEP ≥ 20 cm H₂O or pH < 7.20

Respiratory Rate: 1. Set Rate 6-35 (Typical starting rate 20, consider >25 if profound acidosis or markedly increased preintubation RR; consider lower if signs of obstructive pulmonary physiology) 2. Adjust RR to target Minute Ventilation (prior to intubation), though be cautious for possible air trapping if set too fast and/or too large of tidal volumes. (Typical minute ventilation requirements for adult ARDS ~7-11LPM, 100-150 mL/kg) 3. 1RR when pH < 7.30 (Max ~35) 4. 1 RR when pH > 7.45.

Inspiratory Time Target: 0.70-0.85 sec. Avoid Tinsp < 0.70. Upper I:E Limit of 1:1 (Tinsp of 0.85 @ RR of 35)

Peak Flow Rate Target: 60-75 L/min for comfort> Avoid PFR < 55 L/min

Arterial pH: 1. Target: 7.30-7.45 2. pH < 7.25 and PaCO₂ < 25: Consider Buffer Rx 3. pH < 7.15: Modify VT/EIP goals to achieve pH = 7.20. Buffer Rx indicated to maintain lung-protective ventilation.

Maintain PaO₂ of 55-80 mm Hg (SpO₂ 88-95%). Select one of the PEEP FIO₂ Tables below:

☐ ARDS Net ARMA Trial Low PEEP Table (Default for most patients)

PEEP	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
5	5	5-8	8-10	10	10-14	14	14-18	18-26

☐ ARDS Net Modified from ALVEOLI Trial High PEEP Table (May consider if PaO₂/FIO₂ is <100, high Pdr, or BMI > 40)

FIO ₂	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1
5-14	5-14	14-16	16-18	16-20	20-22	22	22-24	22-24

Free Form PEEP: Maintain PEEP at _____ cm H₂O and Titrate FIO₂ for Protocol PaO₂/SpO₂ range

Alternative Arterial Blood Gas Ranges: For patients concurrently managed on the traumatic brain injury protocols, or patients with/at risk for myocardial or gastrointestinal ischemia PaO₂ range: _____ PaCO₂ Range: _____ pH Range: _____

Arterial Blood Gas Checks: 1. Protocol initiation and/or immediately after intubation 2. Every day, first 7 days of protocol 3. Severe acidosis (pH < 7.15) after VT 1 to 7 and 8 mL/kg 4. Every PEEP 1 > 10 cm H₂O 5. Check SpO₂ at least Q4h and ≤ 30 min after adjustments in PEEP/FIO₂

VD/VT (deadspace): When volumetric capnography available (or by crude estimation with time based capnography (i.e. end tidal CO₂ - PaCO₂ by ABG), check on protocol initiation, after PEEP titrations and daily.

Routine Care: ☐ Head of bed 30 degrees ☐ Chlorhexidine gluconate 0.12% oral solution (15 mL) swish and suction orally q12h white intubated ☐ Oropharyngeal suctioning q12h ☐ Perform full status check ~q4h (PRR, Pylax, VT, FIO₂, RR)

Date (time): _____ Name: _____ Signature: _____ Contact #: _____

Footnote:

on calculating PBW and for lung protective ventilation scan or click here



TO PRINT MORE forms scan here

on calculating PBW and for lung protective ventilation scan or click here



COVID19 Respiratory Care Charting & Checklists

Opencriticalcare.org/resources

Hospital Name/Logo **Intensive Care Unit Flowsheet** (comprehensive)

Admit Date Surname/Family Name Name Allergies Attending/Team

Today's Date Length of Stay Diagnosis Patient Age Sex Weight (kg) Bed #
MRN/Registration

Time	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	0000	0100	0200	0300	0400	0500	0600
Vitals	Temp/Site																							
	Heart rate																							
	Pulse																							
	Regularity																							
	Cardiac Rhythm																							
	Respirations																							
	Pulse Oximetry																							
	Respirations																							
	Arterial SBP																							
	Arterial DBP																							
Pain	Arterial MAP																							
	Cuff BP																							
	CVP																							
Pain	Pain Score (0-10)																							
	Pain Location																							
	CPOT nonverbal pain assessment																							
CAM-ICU*	Delirium Assessment (+/-)																							
RASS	RASS Score																							
Intake	IV																							
	NG/FT/Oral																							
	Other																							
	Total In																							
output	Urine																							
	NG/Oral																							
	Emesis																							
	Stool																							
	Other																							
	Total Out																							
I/O	I/O net balance																							

*For details on RASS and CAM-ICU refer to "Resources for ICU Flowsheets"

ICU Daily Rounding Checklist			
Can sedation be reduced?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Can analgesia be reduced?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is delirium being assessed, addressed and prevented?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
<u>Spontaneous awakening trial</u> and/or <u>Spontaneous breathing trial</u> candidate?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Total fluid balance goal reviewed? And targeting: _____ (12h) (24)	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is the patient at <u>goals for lung protective ventilation</u> ?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Head of bed elevation (30 degrees)	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Skin breakdown assessment (<u>prevention</u>)	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is enteral nutrition at goal?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is blood glucose at goal?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Deep venous thrombosis prophylaxis?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Gastric ulcer prophylaxis? <small>If coagulopathy (INR>1.5, PTT>2x normal, Plt < 50k), mechanical ventilation > 48h, history of GI bleed/ulcer within past year, TBI, SCI or burn; or if ≥2 minor risk factors (sepsis, ICU stay >1 week, occult GI bleed > 6 days, glucocorticoid therapy, NSAID use, antiplatelet use)</small>	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Can Antibiotics be narrowed or discontinued?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Early mobility candidate and physical therapy consulted?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is foley catheter needed?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Is central venous/arterial catheter needed?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Has the family been updated?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No
Are the patient's goals of care and code status current?	<input type="checkbox"/> Yes	<input type="checkbox"/> NA	<input type="checkbox"/> No

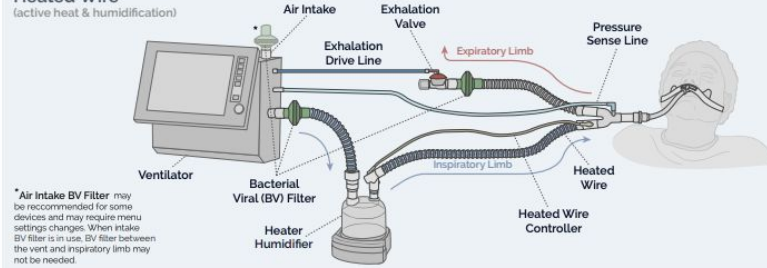
COVID19 Respiratory Care Visual Aids

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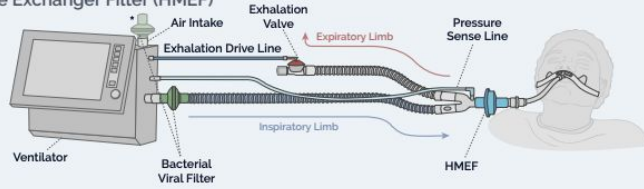
Filter Placement & Humidification Types

SINGLE LIMB CIRCUITS

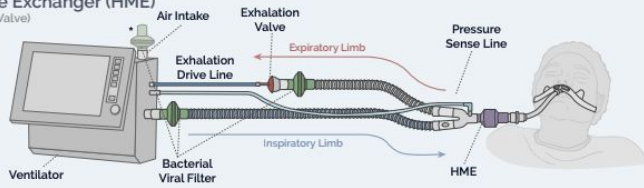
Heated Wire (active heat & humidification)



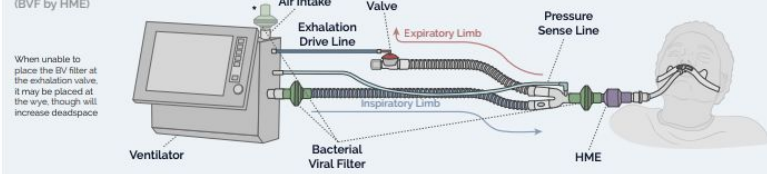
Heat Moisture Exchange Filter (HMEF)



Heat Moisture Exchange Filter (HMEF) (BVF by Exhalation Valve)



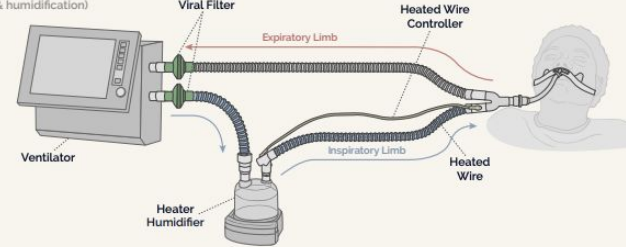
Heat Moisture Exchange (BVF by HME)



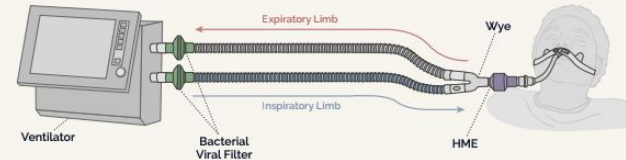
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DUAL LIMB CIRCUITS

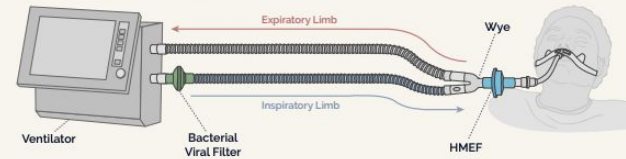
Heated Wire (active heat & humidification)



Heat Moisture Exchanger (HME)



Heat Moisture Exchange Filter (HMEF)

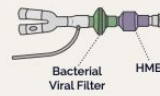


END TIDAL CO₂ PLACEMENT

Sidestream CO₂ Sampling HMEF with integrated sampling port



Sidestream CO₂ Sampling HME and Bacterial Viral Filter



Mainstream CO₂ Monitoring HME



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Suggested COVID19 Trainings

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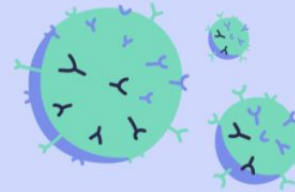
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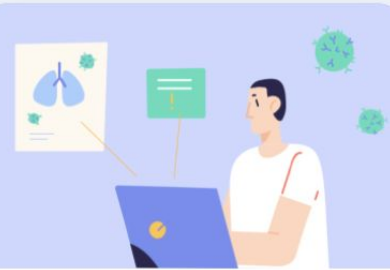
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BASIC FOR COVID COURSE

Designed for healthcare providers who will provide care for COVID19 patients requiring mechanical ventilation.
(By BASIC)

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BASIC LR FOR SARI COURSE

Training on Severe Acute Respiratory Infections (SARI) for providers in low-resource (LR) settings.
(By BASIC and MSF)

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LIFEBOX PPE COURSE

A new training module on personal protective equipment.
(By Lifebox)

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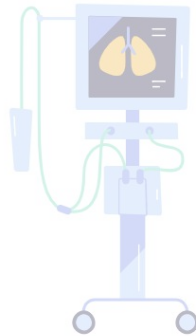
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The hub for critical care education tools

This site (currently in beta) aims to help healthcare workers in resource-variable settings find open-access, high-quality critical care learning tools. We are starting with respiratory care & COVID!

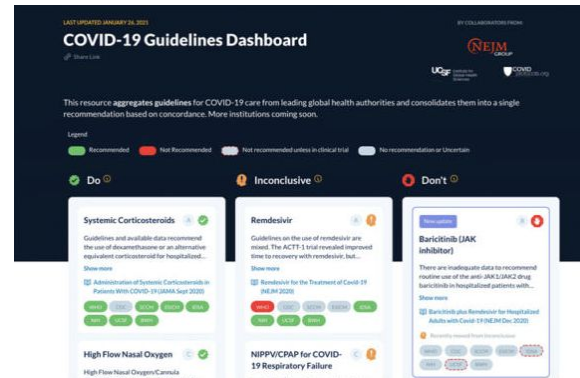
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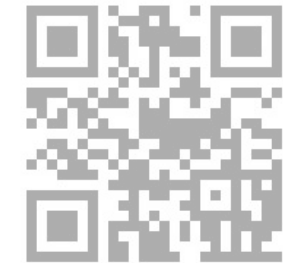
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Do ⓘ



Inconclusive ⓘ



Don't ⓘ

High Flow Nasal Oxygen



High Flow Nasal Oxygen/Cannula (HFNO/HFNC) may be used to maintain SpO₂ >90-94% in patients with hypoxemic...

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HFNC in Acute Hypoxemic Respiratory Failure (NEJM 2015)



Prone Positioning (Non-Intubated Patients)



Data for proning patients non-intubated patients is evolving, although case series and limited pre-COVID studies suggest...

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Prone Positioning in Awake, Nonintubated Patients With COVID-19



Prone Positioning (Intubated Patients)



For mechanically ventilated patients with moderate to severe ARDS (P:F<150) despite...

New update



IL-6 Inhibitors (e.g. Tocilizumab)

Multiple clinical trials of IL-6 inhibitors for treatment of COVID-19 have now been published or released as preprint...

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Tocilizumab in Patients Hospitalized with Covid-19 Pneumonia (NEJM Jan 2021)

Recently moved from Don't



New update



Enhanced mask protection in crowded areas, also known as "double-masking"

Combined with other measures, masking is an important tool to decrease community transmission of the SARS-CoV2 virus....

[Show more](#)

Maximizing Fit for Cloth & Medical Procedure Masks to Reduce SARS-CoV-2 Transmission & Exposure (CDC Feb 2021)



New update



Therapeutic anticoagulation in ICU patients with critical COVID-19

Interim analysis of 3 large, international randomized controlled trials investigating therapeutic (or "full-dose") anticoagulation...

[Show more](#)

Association of Treatment Dose Anticoagulation With In-Hospital Survival Among Hospitalized Patients With COVID-19 (JACC July 2020)



New update



Ivermectin

Data on the use of the anti-parasitic agent ivermectin for anti-viral treatment of patients with COVID-19 are inadequate....

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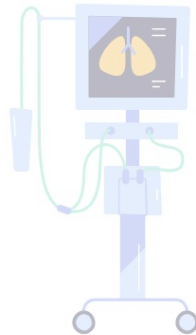
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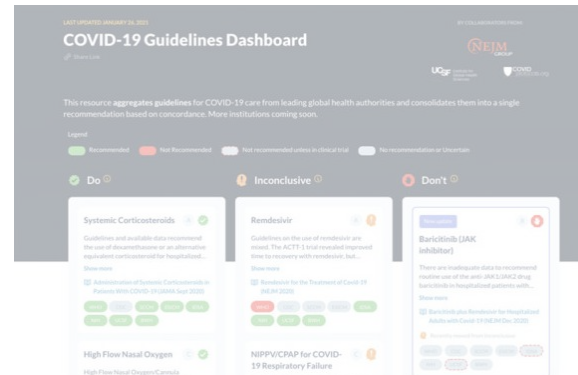
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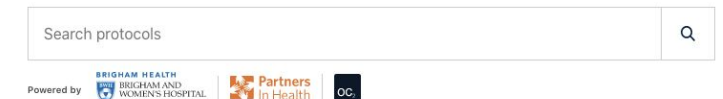
[tablerocovid19.org/
covid19treatmentguidelines.org/](https://tablerocovid19.org/covid19treatmentguidelines.org/)



Clinical Protocols

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COVIDProtocols v2.0



Check out the COVID-19 Guidelines [Dashboard!](#) (New Updates Weekly!) A color-coded visual summary of major guideline recommendations for all kinds of therapeutics and practices on a single page! (Permanent link on the top bar)

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2. COVID TESTING



3. INFECTION PREVENTION AND CONTROL



4. PERSONAL PROTECTIVE EQUIPMENT



5. PATIENT ASSESSMENT



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Anaesthesia Tutorial of the Week

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Published July 7, 2020

Vasopressin

Vasopressin is an endogenous hormone with important roles in fluid and blood pressure homeostasis. It has a number of clinical uses because of its broad range of physiological roles including those on the cardiovascular system, fluid balance and haemostasis. Its use in catecholamine-resistant septic shock...

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The diagram illustrates the physiological effects of Vasopressin. It starts with 'Hypothalamus' leading to 'Posterior Pituitary', which releases 'Vasopressin'. Vasopressin acts on 'V1 receptors (blood vessels)' leading to 'Vasoconstriction' and 'Increased systemic vascular resistance'. It also acts on 'V2 receptors (kidney)' leading to 'Increased reabsorption of water' and 'Increased circulating volume'. Both pathways lead to 'Increased Blood Pressure'. A feedback loop shows 'Increased Blood Pressure' leading to 'Hypothalamic Baroreceptor firing', which then leads to 'Hypothalamus'.



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October 13, 2020

Basics of Face Masks and Respirators

ATOTW 434

In the face of an unprecedented pandemic, facemasks became part of our daily lives, and yet we know little about this seemingly low-tech piece of device. This tutorial reviews the construction of a facemask, the essential properties that offer

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Please enter a question below about ventilators, oxygen delivery or respiratory care that you would like to see in the FAQ (link to FAQ page), and we will respond in the coming days or as soon as possible

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Questions or comments to: michael.lipnick@ucsf.edu

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