Access the webinar here:
https://attendee.gotowebinar.com/recording/9109707139001760272

Access speaker bios here:
https://files.asprtracie.hhs.gov/documents/healthcare-operations-speaker-series-bios--respiratory-therapists.pdf

Access the entire webinar series here:
https://files.asprtracie.hhs.gov/documents/aspr-tracie-healthcare-operations-during-covid-19-pandemic-webinar-series.pdf

TRACIE
HEALTHCARE EMERGENCY PREPAREDNESS INFORMATION GATEWAY

Healthcare Operations during the COVID-19 Pandemic- Speaker Series

May 2021

ASPR
ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE

American Association for Respiratory Care

The Role of the AARC in Pandemic Response

American Association for Respiratory Care

Irving, TX

Presenter

Douglas S. Laher MBA, CAE, RRT, FAARC
Chief Operating Officer
American Association for Respiratory Care

American Association for Respiratory Care

Objectives

- Who is the respiratory therapist (RT)?
- Education, credentialing, & licensure
- RT specialties
- Who is the AARC?
- Response of the AARC during the pandemic

American Association for Respiratory Care

Allied health professional that specialize in managing patients having ventilation and/or oxygenation disorders

- Clinical focus:
  - Diagnostic evaluation
  - Initial and subsequent evaluation of patient condition and response to plan of care
  - Patient education
  - Disease management
  - Disease prevention

American Association for Respiratory Care

Education, Credentialing & Licensure

Training

- Associate degree
- Bachelor's degree
- Master's degree

Credentialed

- National Board for Respiratory Care
  - Certified Respiratory Therapist (CRT)
  - Registered Respiratory Therapists (RRT)
  - Certified Pulmonary Function Technologist (CPFT)
  - Registered Pulmonary Function Technologist (RPFT)
  - Specialty credentials in adult acute care, neonatal/pediatrics, and sleep

Licensed in 49 states

American Association for Respiratory Care

RT Specialties

Adult Acute Care	Ambulatory & Post-Acute Care	Education	Leadership & Management
Neonatal-Pediatrics	Diagnostics	Sleep	Surface & Air Transport

American Association for Respiratory Care

Who is the AARC?

- Only national 501-c6 Association representing the Respiratory Therapist
- More than 40,000 members across the globe
- Membership from 44 different countries
  - 50 state affiliates in U.S.
  - 6 international affiliates
- AARC Mission Statement

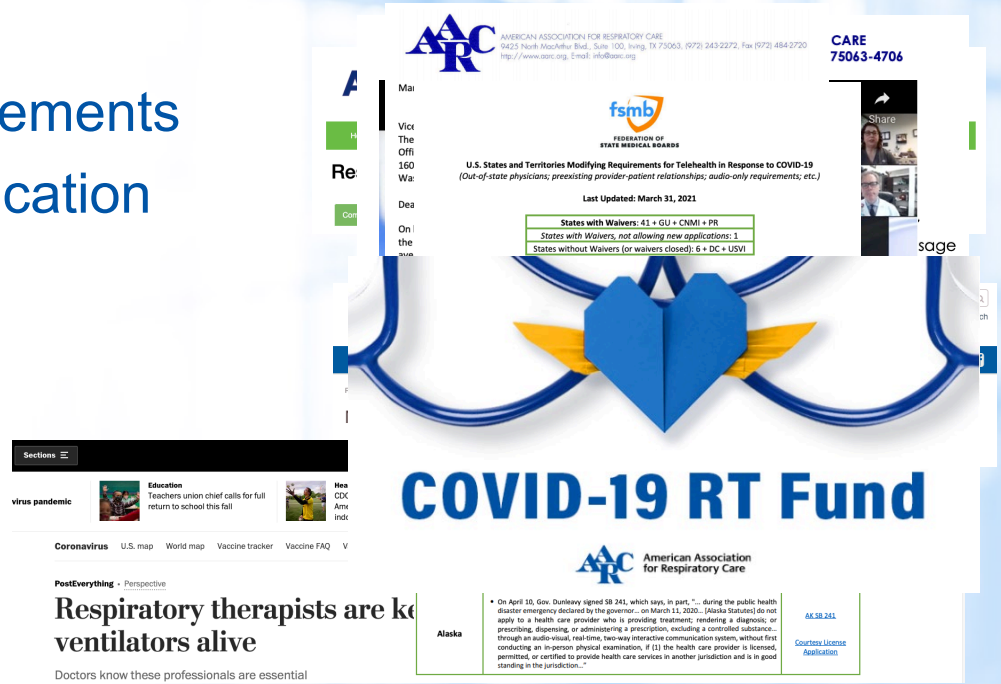
  "The AARC is the foremost professional association promoting respiratory therapists."
- AARC Vision Statement

  "The AARC advances professional excellence and science in the practice of respiratory therapy, serving the profession, patients, caregivers and the public."

American Association for Respiratory Care

AARC's Response to Pandemic

- Communication
- Guidance Documents/Joint Statements
- Peer-reviewed Publications Education
- Media Outreach
- Advocacy
- COVID-19 RT Heroes Fund



American Association for Respiratory Care

The Role of the Respiratory Therapist in Pandemic Response

Rush University Medical Center
Rush University
Chicago, Illinois

RUSH

Excellence is just the beginning.

Rush Respiratory Care

J. Brady Scott, PhD, RRT, RRT-ACCS, AE-C, FAARC, FCCP

Director of Clinical Education, Associate Professor

Department of Cardiopulmonary Sciences, Division of Respiratory Care, College of Health Sciences, Rush University

David L. Vines, PhD, MHS, RRT, FAARC, FCCP

Chairperson, Academic Program Director, Associate Professor

Department of Cardiopulmonary Sciences, Division of Respiratory Care, College of Health Sciences, Rush University

Objectives

- Describe the training and skillset of the Respiratory Therapist to be leveraged in disaster response
- Apply examples from the COVID-19 pandemic to the role of the Respiratory Therapist in disaster response

Respiratory Therapy in Pandemic Response – Pre-Pandemic Surge

- **Train Staff**
  - Help establish new ICU
  - Manual Prone Positioning
  - Mechanical Ventilator Protocols
  - Staff Safety
- **Inventory Equipment**
  - Mechanical Ventilators
  - High Flow Nasal Cannula Devices
  - Filters, Humidifiers, Airway Clearance Devices, etc.
- **Plan with Hospital Incident Command**
  - RT Role

Rapid Training

Respiratory Care Education Annual
Volume 27, Fall 2018, 3–15

Evaluation of a Training Method to Improve Knowledge and Confidence of Prone Positioning

Afrah Obaidan, MSc, RRT, RRT-NPS
J. Brady Scott, MSc, RRT, RRT- ACCS, AE-C, FAARC
Sara Hanif Mirza, MD, MS
Adel Aljoaid, MSc, RRT, RRT-ACCS
Rima Tailor, MSc, RRT, RRT-NPS
David L. Vines, MHS, RRT, FAARC

Conclusion

In institutions where these resources are available discussion, video demonstration, and simulation with standardized patients may increase ICU clinician knowledge and confidence with prone positioning.

Appendix C

Protocol for prone positioning

Objective

- To establish safety measures for prone positioning of mechanically ventilated patients

Policy

- Prone positioning may be used in the intensive care unit in an attempt to improve arterial oxygenation and pulmonary mechanics in patients with acute lung injury or acute respiratory distress syndrome (ARDS).
- Proning may be performed manually or with the Roto-Prone™ Therapy System bed, which may be ordered by an ICU physician.

Indications

Patients who meet the following criteria:

- Endotracheal intubation and mechanical ventilation for ARDS for less than 36 hours
- Severe ARDS defined as :

  I. PaO2:FIO2 ratio of <150 mm Hg

  II. FIO2 of ≥ 0.6

  III. PEEP of ≥10 cm H2O of water

Contraindications

I. Increased intracranial pressure (ICP) >30 mm Hg or cerebral perfusion pressure <60 mmHg (CPP = MAP-ICP)

II. Recent tracheal surgery or sternotomy

III. Recent facial trauma or surgery

IV. Spine instability

V. Deep venous thrombosis treated for less than 2 days

VI. Recent cardiac pacemaker insertion

VII. Unstable bone fractures

VIII. Hemodynamic instability; mean arterial pressure <65 mm Hg

IX. Pregnancy

X. Chest tube with air leaks (anterior)

XI. Patient weight > 350 lbs

Procedure

REQUIRES THE FOLLOWING STAFF:

a. Registered nurses (prepare the patient)

1) Securing the lines, tubes, and drains

2) Monitoring vital signs

3) Turning of the patient

4) Positioning of the patient

NOTE: An inflatable mattress or air bed is preferred, but not required, for the procedure.

b. Respiratory therapist

1) Suctioning

2) Ventilator manipulation

3) General assistance

c. Physician (Available if problems arise)

NOTE: Other staff may be needed depending on the size of the patient.

Guidelines for the prone positioning:

1. People required: 3-4 (one person dedicated to the management of the head, endotracheal tube, and ventilator circuit).
2. The person at the head of the bed coordinates the steps of the procedure and secures the airway.
3. The other people stand on either side of the bed.
4. The decision for which direction for the rotation should give priority to the side of the central lines (central lines go upward rather than rolled on to).
5. Check that the length of the vascular lines and the ventilator circuit is appropriate in order to prevent tension during the turn.
6. Endotracheal and gastric tubes must be secured.
7. The patient is moved horizontally to the side opposite the direction of the rotation.
8. The patient is moved in the sagittal plane and kept there while the cardiac electrodes are moved to their back and a new bed sheet is set.
9. The patient is rotated to the full prone position and the upper limbs are placed alongside the body.
10. Place pillows for positioning under the patient's chest, pelvis, and lower legs.

Appendix D
Prone positioning checklist

	Turning
☐	People required: 3-4 (one person dedicated to the management of the head, endotracheal tube, and ventilator circuit).
☐	The person at the head of the bed coordinates the steps of the procedure.
☐	The other people stand on either side of the bed.
☐	The decision for which direction for the rotation gives priority to the side of the central lines (central lines go upward rather than rolled on to).
☐	Check that the vascular lines and ventilator circuit length are appropriate.
☐	Endotracheal and gastric tubes are secured.
☐	The patient is moved horizontally to the side opposite the direction of the rotation.
☐	The patient is moved in the sagittal plane and kept there while the cardiac electrodes are moved to their back and a new bed sheet is set.
☐	The patient is rotated to the full prone position and the upper limbs are placed alongside the body.
☐	Place pillows for positioning under the patient's chest, pelvis, and lower legs.
	Immediately after the turn
☐	Turn the head and neck of the patient alternately from left to right every 2 hours.
☐	Reverse Trendelenberg: slight degrees of reverse Trendelenberg (10 - 20 degrees) are often well tolerated and may be useful in certain patients during prone positioning.
☐	Leave the patient in prone position up to 16 hours, then 2-4 hours in the supine position.
☐	Reassess the security and patency of all tubes/lines.
☐	ETT distance Cuff leak Pressure points around ETT and securement device Check for any kinks in tubing Breath sounds, ventilator parameters Lifting team to assist RRT to establish airway patency. The head and shoulders may need to be lifted and supported in order for ventilator tubing to hang freely.
☐	Reassess SpO2, blood pressure, cardiac rhythm, and breath sounds.
☐	Reassess ETT/Trach leak. (May adjust cuff volume, head position, and delivered Vt to assure adequate ventilation.)
☐	Uncap/reattach capped off lines/NGT/NJT.

YouTube: https://youtu.be/IcBPaHQUvXY

Respiratory Therapy in Pandemic Response – Pandemic Surge

- **Increase Personnel**
  - Reassign Staff
  - Hire Agency Staff
  - Prepare RT Extenders
  - Create Prone Team
- **Assure Staff Safety**
  - PPE
  - Social Distance
  - Work from Home
- **Locate Ventilators and Other Supplies**
  - Use Transport and Noninvasive Devices
  - Rent/Borrow from Schools and Other Hospitals
  - Strategic National Stockpile
- **Identify Safe and Effective Practices**
  - Aerosol Generating Procedures
  - Prone Positioning

Interdisciplinary Prone Team

- Respiratory Therapists
- Nurses
- Physical & Occupational Therapists

Respiratory Care Students and COVID-19

Kimberly Villanueva, left, takes part in intubating a mannequin with other students during a class at Rush University Medical Center on July 31, 2020. (Antonio Perez / Chicago Tribune)

High Acuity Interventions for COVID-19

Mechanical Ventilation

- Focus on adequate oxygenation, ventilation, & lung protection
- Protocol utilization
- Monitor and prevent ETT occlusions

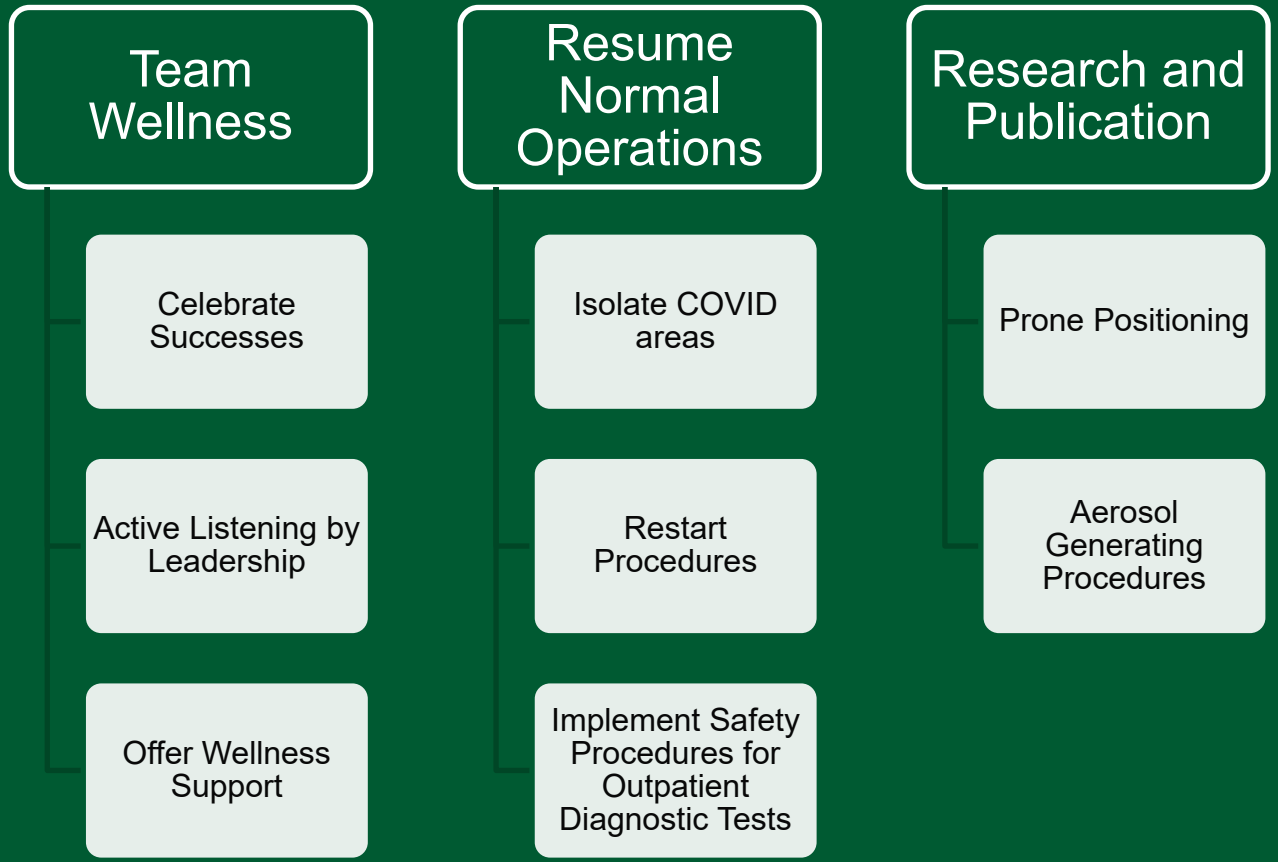
Prone Positioning

- Improve oxygenation & promote lung protective mechanical ventilation
- Awake patients on noninvasive support

Noninvasive Support (HFNC/NIV)

- Reduce the need for invasive mechanical ventilation
- Allows for care outside of full ICUs

Respiratory Therapy in Pandemic Response – Post-Pandemic Surge



BJA

British Journal of Anaesthesia, 126 (1): 48–55 (2021)

doi: 10.1016/j.bja.2020.09.042
Advance Access Publication Date: 10 October 2020
COVID-19 and the anaesthetist: a Special Series

Prone positioning for patients intubated for severe acute respiratory distress syndrome (ARDS) secondary to COVID-19: a retrospective observational cohort study

Tyler T. Weiss[1], Flor Cerda[2], J. Brady Scott[1,3], Ramandeep Kaur[1], Sarah Sungurlu[4], Sara H. Mirza[1,4], Amnah A. Alolaiwat[3], Ramandeep Kaur[3], Ashley E. Augustynovich[3] and Jie Li[1,3,*]

[1]Department of Respiratory Care, Rush University Medical Center, Chicago, IL, USA, [2]Department of Nursing, Medical Intensive Care Unit, Rush University Medical Center, Chicago, IL, USA, [3]Department of Cardiopulmonary Sciences, Division of Respiratory Care, Rush University, Chicago, IL, USA and [4]Department of Pulmonary and Critical Care, Rush University Medical Center, Chicago, IL, USA

*Corresponding author. E-mail: Jie_Li@rush.edu

In summary, prone positioning improved oxygenation for patients with COVID-19 ARDS who required invasive mechanical ventilation. Serial assessment of the Pao_2/Fio_2 ratio may help guide decisions for earlier escalation of treatment, including ECMO.

Original Clinical Report

Critical Care Explorations

Effects of Inhaled Epoprostenol and Prone Positioning in Intubated Coronavirus Disease 2019 Patients With Refractory Hypoxemia

Jie Li, PhD, RRT, RRT-ACCS, RRT-NPS[1]; James B. Fink, PhD, RRT[1,2]; Ashley E. Augustynovich, MS, RRT[1]; Sara Mirza, MD, MS[1,3]; Richard H. Kallet, MS, RRT[4]; Rajiv Dhand, MD[5]

CONCLUSIONS

In mechanically ventilated patients with COVID-19 who had refractory hypoxemia, combined use of iEPO and PP improved oxygenation to a greater extent than with each treatment individually. Responders to combined modalities had lower mortality than nonresponders.

[Education and Clinical Practice Research Letters]

CHEST

Airborne Particulate Concentrations During and After Pulmonary Function Testing

To the Editor:

Pulmonary function tests (PFTs) are an integral component of the evaluation of patients with pulmonary diseases.[1] Due to concerns for virus transmission, multiple respiratory societies recommend to postpone or limit PFTs during the coronavirus disease 2019 pandemic.[2-6] Repeated forced breathing maneuvers during PFTs may generate bioaerosol by airway opening[7,8] or inducing cough.[1,7] However, the concentrations of particles that are generated and change over time during and after PFTs are unknown, leading to the current recommendation to close PFT laboratories for 20 minutes to 3 hours between tests.[2-4] Thus, we investigated aerosol particle generation and clearance during and after PFTs.

[159#4 **CHEST** APRIL 2021]

Although performing PFTs in negative-pressure rooms may be preferred, our data suggest that reductions of ambient particles can be achieved in rooms with less aggressive ventilation exchanges and that exposure to staff members during and after PFT procedures is, to some extent, independent of the particle clearance time. To avoid transmission of infection, PFT technologists should take high-level personal protective equipment precautions during testing of any patient during this pandemic. Alternative methods that include portable electronic spirometry and self-monitoring technologies might be considered.[11]

Kaur *et al. Critical Care* (2020) 24:571
https://doi.org/10.1186/s13054-020-03231-8

Critical Care

REVIEW Open Access

Practical strategies to reduce nosocomial transmission to healthcare professionals providing respiratory care to patients with COVID-19

Ramandeep Kaur[1], Tyler T. Weiss[1], Andrew Perez[1], James B. Fink[1], Rongchang Chen[2], Fengming Luo[3], Zongan Liang[3], Sara Mirza[1] and Jie Li[1*]

Conclusion

The frontline HCWs are at risk for contracting the COVID-19 disease when caring for patients and providing aerosol-generating procedures. Until further high-quality studies generate robust evidence, defining the precise nosocomial transmission risk associated with AGMPs, along with CDC's recommended PPE guidelines, we propose additional respiratory protective measures that could reduce the nosocomial transmission of COVID-19 diseases to HCWs providing respiratory interventions.

PULMONARY PERSPECTIVE

Coughs and Sneezes: Their Role in Transmission of Respiratory Viral Infections, Including SARS-CoV-2

Rajiv Dhand[1] and Jie Li[2]

[1]Division of Pulmonary and Critical Care Medicine, Department of Medicine, University of Tennessee Graduate School of Medicine, Knoxville, Tennessee; and [2]Division of Respiratory Care, Department of Cardiopulmonary Sciences, Rush University Medical Center, Chicago, Illinois

ORCID IDs: 0000-0002-3621-2422 (R.D.); 0000-0003-0121-1291 (J.L.).

American Journal of Respiratory and Critical Care Medicine Volume 202 Number 5 | September 1 2020

Conclusions

Coughs and sneezes create respiratory droplets of variable size that spread respiratory viral infections. Because these droplets are forcefully expelled, they are dispersed in the environment and can be inhaled by a susceptible host. Whereas most respiratory droplets are filtered by the nose or deposit in the oropharynx, the smaller droplet nuclei become suspended in room air and individuals farther away from the patient could inhale them. These finer

Open access Protocol

BMJ Open

Awake prone positioning of hypoxaemic patients with COVID-19: protocol for a randomised controlled open-label superiority meta-trial

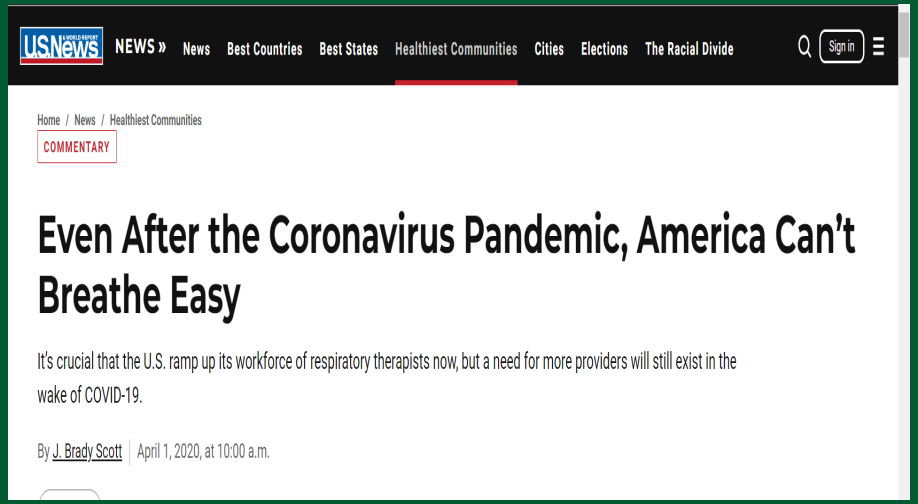
Elsa Tavernier ,[1,2] Bairbre McNicholas,[3,4] Ivan Pavlov,[5] Oriol Roca,[6,7] Yonatan Perez,[8] John Laffey,[3,4] Sara Mirza,[9] David Cosgrave,[3,4] David Vines,[9] Jean-Pierre Frat,[10] Stephan Ehrmann,[8] Jie Li [9]

Tavernier E, *et al. BMJ Open* 2020;**10**:e041520. doi:10.1136/bmjopen-2020-041520

Strengths and limitations of this study

- This pragmatic design will deal with the recruitment difficulties that could occur in the individual trials given the uncertainties of the international dynamics of the COVID-19 pandemic.
- The collaborative interim analysis plan at the level of the meta-trial will enable an earlier data analysis compared with the individual study level or to a retrospective meta-analysis.
- Besides synthesising the effect size estimates, it also considers the aspect of replication: results being consistent across trials is a strength in favour of a robust treatment effect over different conditions.
- The lack of blinding of trial participants, care providers and outcome assessors is an unavoidable limitation of the study design.

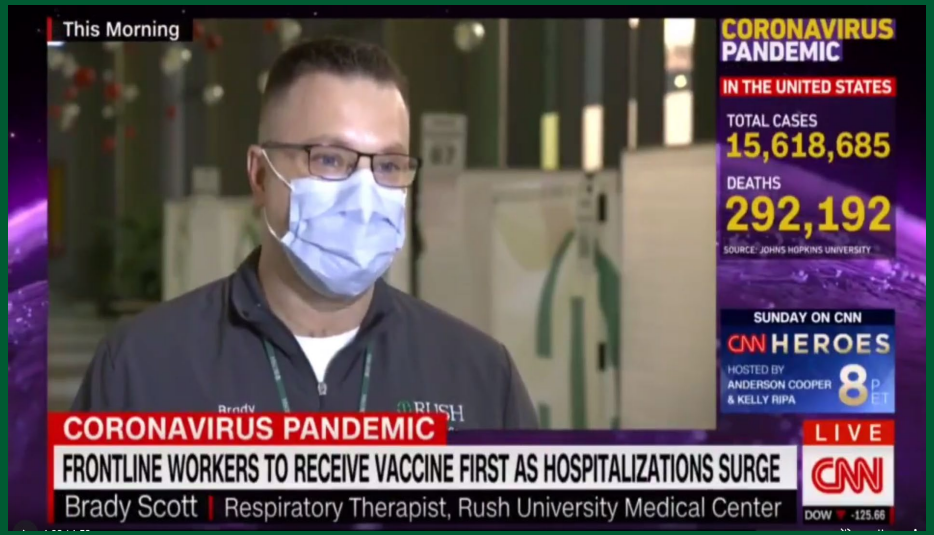
Media



Low Tech Way to Help Some Covid Patients: Flip Them Over New York Times
https://www.nytimes.com/2020/05/13/health/coronavirus-proning-lungs.html

Media


CORONAVIRUS PANDEMIC
U.S.
CONFIRMED
671,425
DEATHS
33,286
WORLD
CONFIRMED
2,172,031
DEATHS
146,291
SOURCE: WHO, CDC, ECDC, NHC, DXY
U.S. STATES CASES DEATHS
ILLINOIS 25,733 1,072
FLORIDA 23,340 668
LOUISIANA 22,532 1,156
DOW WATCH
24,044.30
▲ 506.62 2.15%
FOX NEWS channel
HEALTH CARE WORKERS TREATING COVID-19 PATIENTS SHARE THEIR STORIES WITH FOX NEWS
AMERICA'S NEWSROOM
AMERICA'S NEWSROOM
SEN KELLY LOEFFLER (R-GA)
10:30 AM ET


This Morning
CORONAVIRUS PANDEMIC
IN THE UNITED STATES
TOTAL CASES
15,618,685
DEATHS
292,192
SOURCE: JOHNS HOPKINS UNIVERSITY
SUNDAY ON CNN
CNN HEROES
HOSTED BY ANDERSON COOPER & KELLY RIPA
8P ET
CORONAVIRUS PANDEMIC
LIVE
FRONTLINE WORKERS TO RECEIVE VACCINE FIRST AS HOSPITALIZATIONS SURGE
Brady Scott | Respiratory Therapist, Rush University Medical Center
CNN
DOW -125.66

Respiratory Therapists and Faculty at RUMC

Special Acknowledgements:

Department of Cardiopulmonary Sciences, Division of Respiratory Care
Respiratory Care Services, RUMC

Steve Mosakowski, MBA, RRT, RRT ACCS, RRT NPS, CPFT, FAARC Director of Clinical Services, Assistant Professor

Ellen Becker, PhD, RRT, RRT NPS, RPFT, AE C, FAARC, Professor

Jie Li, PhD, RRT, RRT ACCS, RRT NPS, FAARC, Associate Professor

Ramandeep Kaur, PhD, RRT, RRT ACCS, AC E, Respiratory Therapist 3 / Research coordinator, Assistant Professor

Tyler Weiss, MSc, RRT, RRT ACCS, AC E Education Coordinator, Assistant Professor

Ankeet Patel, MSc, RRT, RRT ACCS Clinical Manager, Adult Care Section, Assistant professor

Andrew Klein, MSc, RRT, RRT ACCS, RRT NPS, AC E, Respiratory Therapist 3, Adult Clinical Specialist

Ahmad Elshafei, MSc, RRT, RRT ACCS, RRT NPS, AC E, Respiratory Therapist 3, Adult Clinical Specialist

Ashley Lachowicz, MSc, RRT, RRT-ACCS, RRT-NPS, AC-E, Respiratory Therapist 3, Adult Clinical Specialist

Lauren Harnois, MSc, RRT, RRT-ACCS,, Respiratory Therapist 3, Adult Clinical Specialist

Anne Geistkemper, MSc, RRT, RRT NPS, Clinical Manager, Neonatal Pediatric Section, Instructor

Sara Murphy, MBA, RRT, RRT NPS. RRT ACCS, AE C, Clinical Educator for Neonatal Pediatric Section, Instructor

Jacob Burd, MSc, RRT, RRT NPS., C NPT, Respiratory Therapist 3, Neonatal Pediatric Specialist

Katie Dugan, MSc, RRT, RRT NPS., Respiratory Therapist 3, Neonatal Pediatric Specialist

The entire Respiratory Care staff at Rush University Medical Center

Thank you.

Rush is a not-for-profit health care, education and research enterprise established in Chicago, Illinois in 1837.

Colleges of Medicine, Nursing, Health Sciences and Graduate College

RUSH UNIVERSITY

Contact ASPR TRACIE

asprtracie.hhs.gov

1-844-5-TRACIE

askasprtracie@hhs.gov