

# Images from the Frontlines of the COVID-19 Pandemic

As the COVID-19 pandemic has emerged, anesthesiologists have taken leading roles on the frontlines in operating rooms, ICUs, and on emergency response and institutional leadership teams around the world. This crisis abruptly changed our everyday practices, chal-

lenging us to contribute in unique ways. This photo essay combines images submitted by anesthesiologists from around the world to help tell the COVID-19 story through images captured on the frontlines of the pandemic.

COVID-19



Caption/credit information is included on page 739.

Published online first on August 4, 2020.

Copyright © 2020, the American Society of Anesthesiologists, Inc. All Rights Reserved. Anesthesiology 2020; 133:724–39. DOI: 10.1097/ALN.0000000000003513



**PHOTO: Guillermo Gonzalez, M.D.** – Bellvitge University Hospital, Barcelona, Spain

Victor Cano, M.D., and Guillermo Puig, M.D., assist a COVID-19 patient after ICU admission at Bellvitge University Hospital, Barcelona, Spain.





**PHOTO: Yingwei Wang, M.D., Ph.D.** – Huashan Hospital, Shanghai, China

A team of anesthesiologists and nurse anesthetists transport critically ill patients with invasive mechanical ventilation to a designated hospital in March 2020 in Wuhan, China.



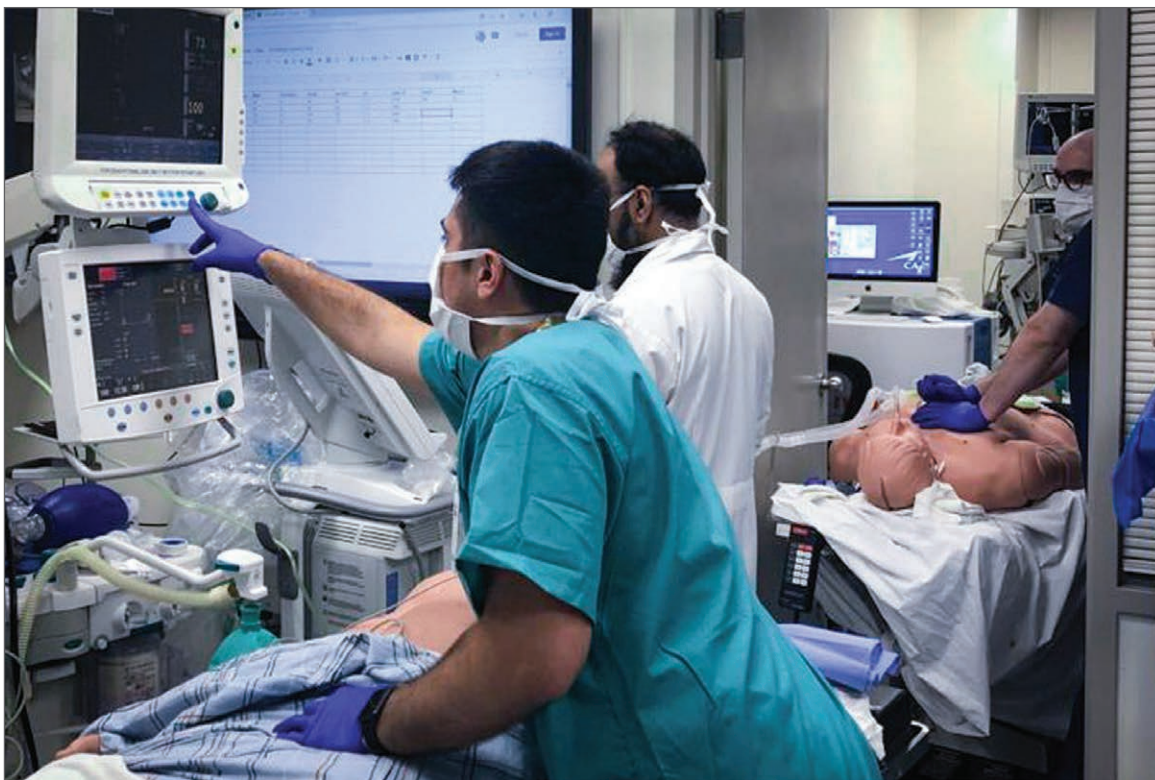
**PHOTO: Robin Utrecht**

Cornelis Slagt, M.D., Ph.D., Helicopter Emergency Medical Service, *left*, is assisted by Freek Coumou, Helicopter Emergency Medical Service nurse, *right*, in preparing a patient for transfer wearing thermal jackets provided by the Dutch Olympic Team.

**PHOTO: Robin Utrecht**

Cornelis Slagt, M.D., Ph.D., Helicopter Emergency Medical Service, assisted by Freek Coumou, Helicopter Emergency Medical Service nurse, preparing for departure to Germany from Radboud University Medical Center, Nijmegen, The Netherlands.





**PHOTO: Marc Sherwin, M.D.** – Icahn School of Medicine at Mount Sinai, New York, New York

Inside The Mount Sinai Hospital Department of Anesthesiology, Perioperative and Pain Medicine Simulation HELPS Center, Anjan Shah, M.D., *left*, and Garrett Burnett, M.D., *right*, test split ventilation in simulator models before successfully ventilating two patients in the COVID ICU using a device developed with 3D printed and locally bought parts. During the surge of new cases of COVID-19 patients being admitted to the hospital and an impending shortage of ventilators, these innovative techniques were developed to be used as a last resort.



**PHOTO: Xavier Linares** – Bellvitge University Hospital, Barcelona, Spain

Mar Gallardo, assistant at Bellvitge University Hospital, Barcelona, Spain, prepares her colleagues to enter a COVID-19 patient's room.



**PHOTO: Jennifer Denk, M.D.** – Northwestern Memorial Hospital, Chicago, Illinois  
Anesthesiology resident, Louise Hellen, M.D., at Northwestern Memorial Hospital in Chicago, transfers a patient to the operating room who is requiring extracorporeal membrane oxygenation due to COVID-19, with the assistance of an anesthesiology attending, Ryan Hood, M.D.





**PHOTO: James P. Rathmell, M.D.** – Brigham and Women's Hospital, Boston, Massachusetts

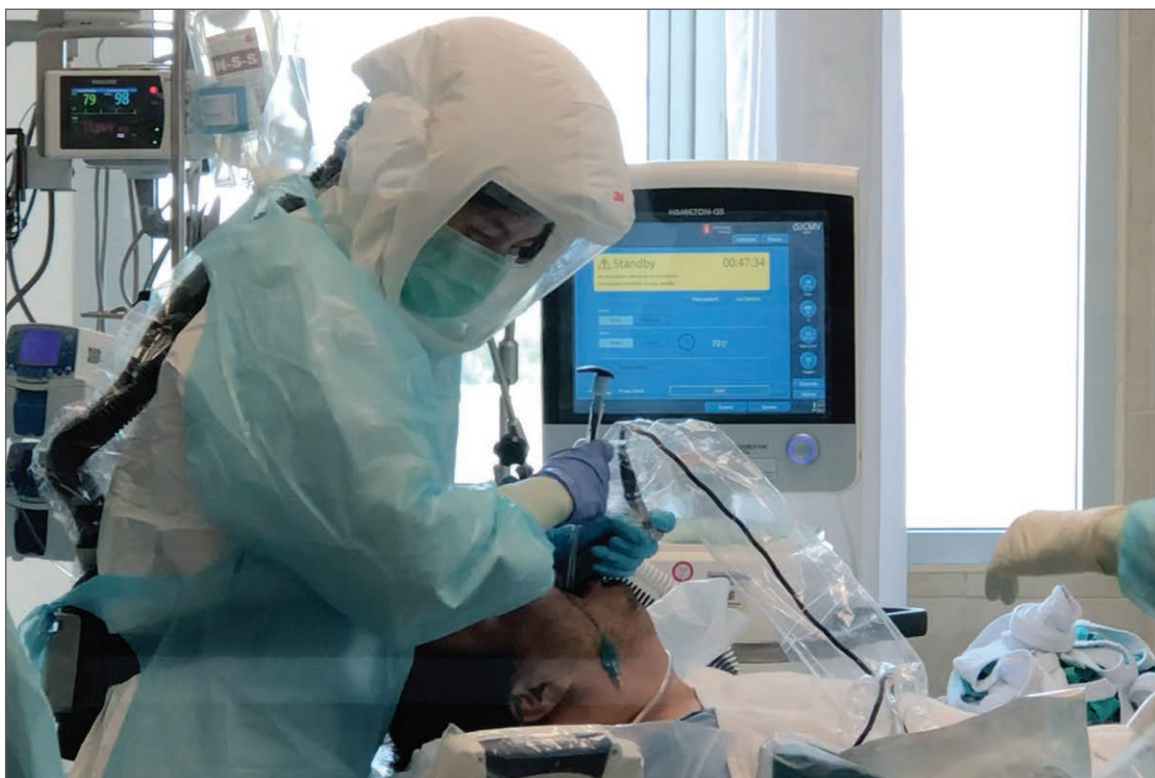
Liting Chen, M.D., a fellow in regional anesthesia and acute pain medicine at Brigham and Women's Hospital in Boston, dons full personal protective equipment including a Powered Air Purifying Respirator (PAPR) in preparation for endotracheal intubation of a patient with COVID-19 in respiratory failure.



**PHOTO: Yingwei Wang, M.D., Ph.D.** – Huashan Hospital, Shanghai, China

A national medical team intubates a patient admitted to the Guanggu Campus of Tongji Hospital affiliated with the Huazhong University of Science and Technology in Wuhan on February 10, 2020.





**PHOTO:** Ramathibodi Hospital, Mahidol University, Thailand

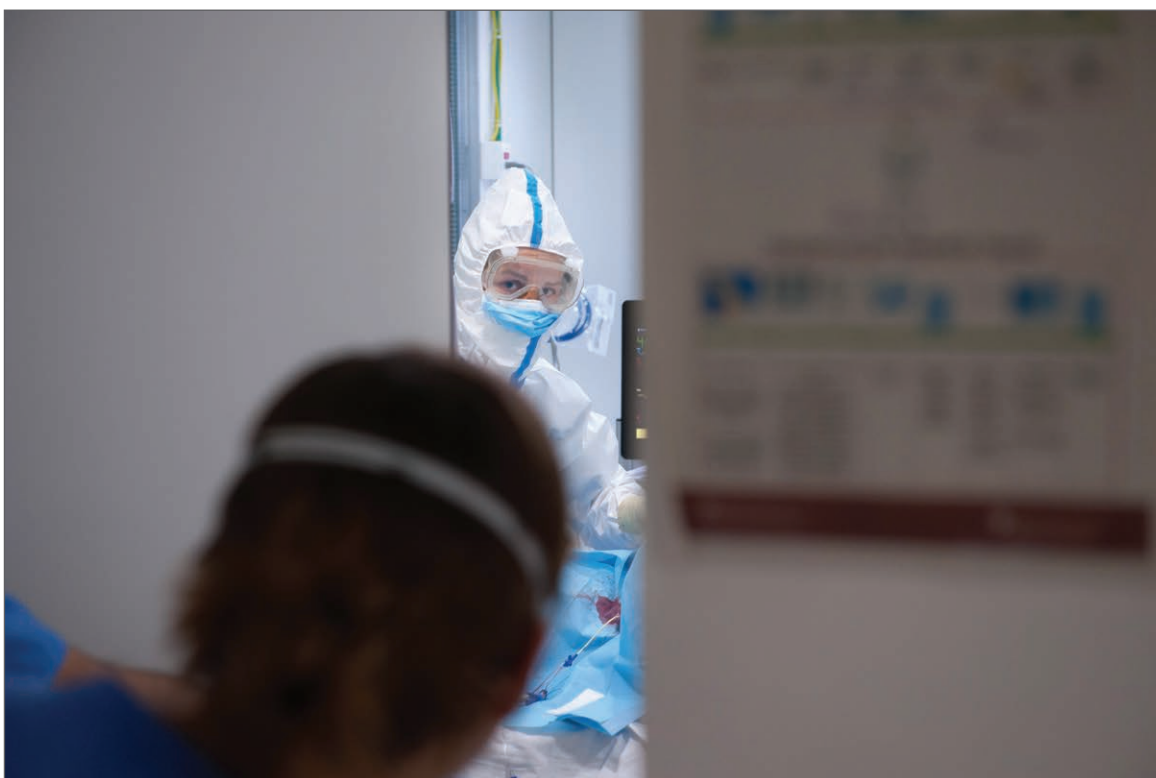
Arpa Chutipongtanate, M.D., performing endotracheal intubation in a confirmed COVID-19 patient at Chakri Naruebodindra Medical Institute, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand, on April 8, 2020.



**PHOTO: James P. Rathmell, M.D.** – Brigham and Women's Hospital, Boston, Massachusetts

Erin Borland, BSN, RN, CCRN, caring for a patient during the peak of the COVID-19 pandemic on Shapiro 9 East at Brigham and Women's Hospital in Boston, Massachusetts.





**PHOTO: Xavier Linares** – Bellvitge University Hospital, Barcelona, Spain

Idoia Aparicio, M.D., at Bellvitge University Hospital, Barcelona, Spain, tries to improve a COVID-19 patient's breathing while a nurse from outside checks to see if she needs anything.



**PHOTO: Mario Ulibarri Vidales, M.D.** – National Institute of Medical Sciences, Mexico City, Mexico

Alejandra Garza, M.D., first-year resident at National Institute of Medical Sciences, Mexico City, Mexico, a hospital transformed to exclusively treat patients infected with COVID-19, is resting after a hard day with numerous intubations, May 2020.





**PHOTO: Javed Ahmed, M.D.** – Chandigarh, India

Staff nurse Natasha Singh sits on a bench outside a COVID-19 ward. She is nearing the end of her shift and is tired beyond words, and thus takes a moment to sit down and catch her breath. However, there is work to be done and she does the necessary documentation work before the end of her shift.



**PHOTO: Steve Yun, M.D.** – Dental AnesthesiaMD, Orange, California  
A self-portrait wearing personal protective equipment.

**Images selected by the ANESTHESIOLOGY Visual Arts Team:**

Annemarie Johnson – Vivo Visuals Studio  
 Meghan Lane-Fall, M.D. – University of Pennsylvania  
 James P. Rathmell, M.D. – Brigham and Women's Hospital,  
 Harvard University  
 Jon Wanderer, M.D. – Vanderbilt University

**Photo credits (page 724):** Top row, *left to right*: self-portrait of Carlos Borba, M.D., University of Pernambuco, Pernambuco, Brazil; self-portrait of Elizabeth Drum, M.D., Children's Hospital of Philadelphia/University of Pennsylvania, Philadelphia, Pennsylvania

Middle row, *left to right*: Jackie Boehme, M.D., Brigham and Woman's Hospital, Boston, Massachusetts (photo by James Rathmell, M.D., Brigham and Woman's Hospital, Boston, Massachusetts); self-portrait of Javier Ripollés-Melchor, M.D., Infanta Leonor University Hospital, Madrid, Spain; self-portrait of Sara Cheng, M.D., US Anesthesia Partners - Colorado; self-portrait of Indu Kapoor, M.D., All India Institute of Medical Science, New Delhi, India

Bottom row, *left to right*: Lohith Basavaraju, M.D., India (photo by Lohith Basavaraju, M.D., India); self-portrait of Steve Yun, M.D., Dental AnesthesiaMD, Orange, California; Ana Garduño, M.D., National Institute of Medical Sciences, Mexico City, Mexico (photo by Mario Ulibarri Vidales, M.D., National Institute of Medical Sciences, Mexico City, Mexico)