



## **PRESS RELEASE**

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## **LSU Health Shreveport Among the First in U.S. to Offer Inhaled Nitric Oxide Clinical Trial for COVID-19 Patients**

Critical care and emergency medicine faculty at the LSU Health Shreveport Department of Medicine join the Department of Anesthesia at Massachusetts General Hospital (MGH) and the Division of Cardiology in the Department of Medicine at University of Alabama-Birmingham (UAB) as being among the first centers in the U.S. to enroll patients in an international study testing using inhaled nitric oxide to improve outcomes for COVID-19 patients with severely damaged lungs; using gas to effectively “kill” corona virus in the lungs and improve delivery of oxygen to injured tissues.

“Inhaled nitric oxide had previously been suggested to decrease original SARS-CoV infectivity over a decade ago but its effect on SARS-CoV2 remains unknown. Moreover, research from LSU Health Shreveport has shown that nitric oxide is a strong protector against tissue hypoxia, which occurs during severe COVID-19 infection,” said Dr. Chris Kevil, Vice Chancellor for Research at LSU Health Shreveport.

“This is a wonderful collaboration with two highly regarded institutions in the U.S. as well as the sites in Europe. We have tremendous confidence this therapy will alter the devastating effects of COVID-19 but we must test it. If results show promise, and since this gas is already FDA approved, widespread use could begin immediately,” shared Keith Scott, MD, MSc, FCCM, Principal Investigator for the nitric oxide clinical trial. “I am fortunate to have my esteemed colleague Steven Conrad, MD, PhD, MS, ME, MBA, MSST, MSC, working alongside me on this trial as he brings immense research experience and knowledge in working with critically ill patients.”

Nitric oxide has already been a miracle drug for newborns starved of oxygen by a heart defect due to the gas’s ability to relax blood vessels, which ultimately led to the resolution of erectile dysfunction as targeted by the drug Viagra. In 1992, the journal Science named nitric oxide “molecule of the year.” In addition, in 1998, UCLA pharmacologist [Louis J. Ignarro](#) shared a Nobel

Prize in medicine for uncovering nitric oxide's role as a "signaling molecule in the cardiovascular system."

Unlike nitrous oxide (known as laughing gas), nitric oxide has an even brighter future as the colorless, odorless gas, inhaled through a mask or potentially through a small "flute," is now being tested as an experimental treatment for COVID-19. It may also prove helpful in protecting healthcare workers on the front line of the pandemic from getting sick.

"In Italy during the COVID-19 outbreak the gas was used under less controlled study conditions; however the treatment appeared to dramatically boost oxygen levels in the blood of COVID-19 patients," said [Dr. Lorenzo Berra](#), the critical-care specialist at Massachusetts General Hospital who is leading the new trial. "However, it will take more rigorous testing to clarify how much nitric oxide helps," he said.

A proposed second trial, still under review by a research panel at Massachusetts General Hospital, would enroll healthcare workers who are routinely exposed to patients with COVID-19 and are themselves at high risk of infection. For 10 to 15 minutes at the start and end of every shift, doctors and nurses would tug on a handheld device and inhale a high dose of nitric oxide.

In humans, nitric oxide is naturally generated by blood vessels and by some brain cells as well. It helps to regulate blood pressure, engulfs invading toxins, and prevents platelets in the blood from forming clots that may be significantly compromised during times of stress including infection thus warranting the need for a supplemental supply.

When inflammation, emphysema or a disease like cystic fibrosis attacks the lungs, the large blood vessels and tiny capillaries that deliver oxygen constrict. Inhaled nitric oxide also relaxes those vessels, increasing the transfer of oxygen to the blood and easing the heart's workload.

Physicians who are interested in a patient accessing this clinical trial should send an email to [ino\\_trial@lsuhsc.edu](mailto:ino_trial@lsuhsc.edu) with pertinent patient details.

Additional COVID-19 clinical trials will be announced soon.

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#### **ABOUT LSU HEALTH SHREVEPORT**

LSU Health Shreveport is one of two Health Sciences Centers of the Louisiana State University System and one of only 154 in the nation. LSU Health Shreveport is home to the School of Medicine, School of Graduate Studies and School of Allied Health Professions, and a robust research enterprise. Almost 900 students are enrolled in the degree programs at any one time. Additionally, over 500 residents and fellows are trained each year. The primary mission of the LSU Health Sciences Center at Shreveport is to teach, heal, and discover, in order to advance the well-being of the region and beyond. At the heart of the LSU Health Shreveport is a strong faculty that includes a number of nationally and internationally acclaimed physicians and scientists. More than 600 strong, they lead our research efforts, educate our students and provide primary and specialty care to patients throughout the region. LSU Health Shreveport has strong community support, fostering a culture of diversity and inclusion that promotes mutual respect for all. For more information, visit [www.lsuhs.edu](http://www.lsuhs.edu).

