



# Device to deliver large volumes of oxygen intravenously

A device for infusing large volumes of oxygen directly into the bloodstream via an oxygenated and pressurized saline solution.

Technology No. 2021-159

**IP Status:** US Patent Pending; US Application No. 18/548,814

## Applications

- Rapid oxygenation of blood for medical emergencies
- Transforming medically relevant gasses into a pressurized solution to be delivered into the bloodstream

## Technology Overview

Researchers at the University of Minnesota have developed a novel medical device that is capable of rapidly infusing large volumes of oxygen directly into the bloodstream. The device utilizes a flow regulator and small catheter to create a mist of microscopic bubbles from a highly pressurized and oxygenated saline solution. The solution of bubbles is administered into the bloodstream and acts as a reservoir of oxygen to be taken up by the body. The creation of microscopic bubbles allows for the delivery of approximately twice as much oxygen compared to a typical saline solution as well as prohibits medical complications caused by larger oxygen bubbles.

## Phase of Development

**TRL: 3-4**

Researchers have demonstrated an in vitro proof of concept.

## Desired Partnerships

This technology is now available for:

- License
- Sponsored research

- Co-development

Please contact our office to share your business' needs and learn more.

## Researchers

- [Demetris Yannopoulos, MD](#) Professor of Medicine, Center for Resuscitation Medicine

<https://license.umn.edu/product/device-to-deliver-large-volumes-of-oxygen-intravenously>