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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.

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

Technology ID
2021-159

Category
Life Sciences/Human Health
Life Sciences/Medical Devices

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