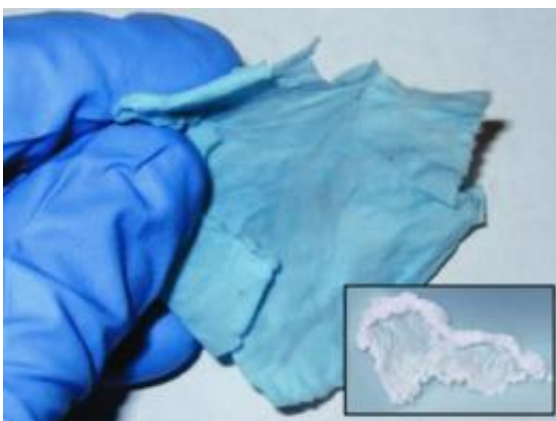


Nitric oxide-releasing wrap for donor organs and cloth for therapeutic socks

January 6 2010



Porous materials termed zeolites, incorporated into this cloth, point the way to therapeutic bandages and wraps that can deliver healing nitric oxide. Credit: American Chemical Society

Scientists in Texas are reporting development of a first-of-its-kind cloth that releases nitric oxide gas — an advance toward making therapeutic socks for people with diabetes and a wrap to help preserve organs harvested for transplantation. The study is in ACS' *Chemistry of Materials*.

Kenneth Balkus and Harvey Liu note in the new study that [nitric oxide](#) (NO) helps increase [blood flow](#) and regulates a range of other body functions. Scientists have tried for years to find practical ways to store and deliver NO for use in medicine. However, they have had difficulty

finding a suitable material that allows controlled delivery of NO. Recent studies suggested that zeolites could work. These porous materials soak up and store large amounts of gases like NO.

The scientists describe development of a new bandage composed of nitric oxide-absorbing zeolites embedded in a special water-repellant [polymer](#). In experiments with laboratory rats, the bandage slowly released nitric oxide and increased blood flow.

"The bandage could be used to wrap a donor organ ensuring intimate contact and direct delivery of nitric oxide," the report states.

"Additionally, these interwoven fabrics could also find applications in smart textiles such as NO-releasing socks for diabetic patients, who have been shown to produce less nitric oxide than healthy patients."

More information: "Novel Delivery System for the Bioregulatory Agent Nitric Oxide", [pubs.acs.org/stoken/presspac/p ...
11/10.1021/cm901358z](https://pubs.acs.org/stoken/presspac/p.../10.1021/cm901358z)

Provided by American Chemical Society

Citation: Nitric oxide-releasing wrap for donor organs and cloth for therapeutic socks (2010, January 6) retrieved 9 April 2024 from <https://phys.org/news/2010-01-nitric-oxide-releasing-donor-therapeutic-socks.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--