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ANTIMICROBIAL BANDAGES GLOW WHEN WOUNDS GET INFECTED



HEALTH & WELLBEING

By using nanosheets of fluorescent magnesium hydroxide, doctors can check healing progress without removing bandages

Spotted: Using nanosheets of fluorescent magnesium hydroxide, a team of researchers from the Royal Melbourne Institute of Technology (RMIT) have created a smart bandage that helps to heal wounds as well as alert doctors to the start of an infection. Magnesium hydroxide is a naturally antimicrobial and antifungal compound that is less expensive than silver, an element that is currently used in some medical supplies for its disinfecting abilities.

The nanosheets are attached to any bio fabric, such as the common cotton bandage, and glow under ultraviolet light when any alkalinity is detected on the skin. Healthy skin is acidic, so the presence of an alkaline indicates infection. This allows doctors to keep bandages on well-healing wounds and change dressings only when absolutely necessary. That in itself also helps prevent infection by reducing unnecessary exposure to a wound.

Tests indicate that the bandage's efficacy is up to seven days, an improvement of several days on most commonly used antimicrobial wound dressings. Furthermore, the abundance of magnesium hydroxide makes it a much less expensive option for smart bandages. The production process is also likely to be fairly simple, which further contributes to the dressing's affordability. In order to bring the product to market, the researchers are now seeking clinical teams for the next stage of trials.

Other medical advances being tested out that Springwise has spotted include a [double-sided tape](#) that binds tissues together after surgery and a new [biomaterial](#) that could be used in place of catheters and cartilage replacements.

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Explore more: [Computing and Tech](#)

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Takeaway:

From flexible casts to thread-like medical robots, materials science is changing healthcare in many different ways. As the use of bioproducts and fabrics increases, many aspects of healthcare are becoming gentler on both the human body and the environment, as well as smarter and more accessible. The dominance of plastics within the medical industry remains a significant challenge, however, and one that innovators are racing to overcome.