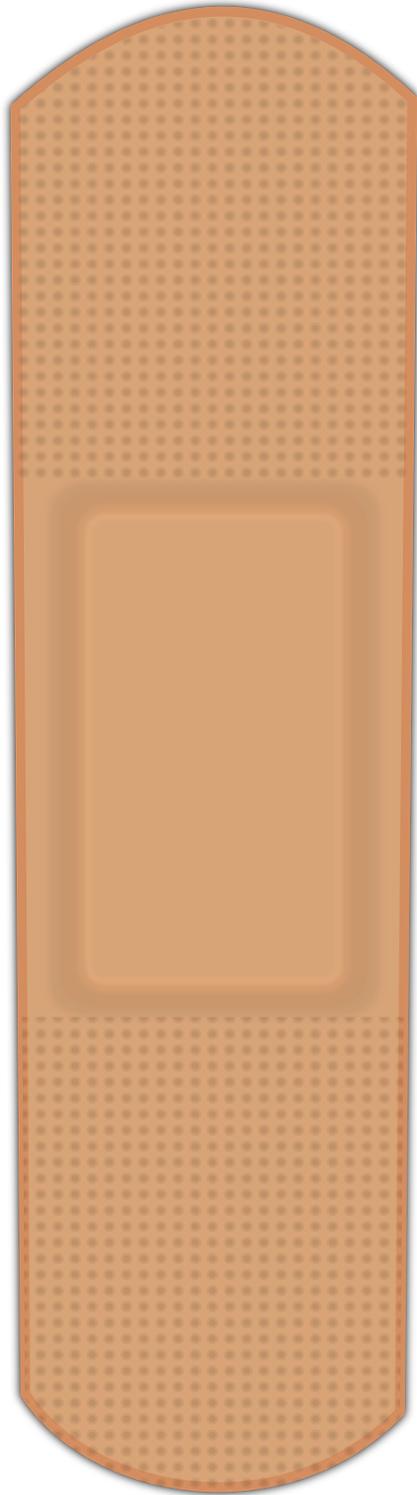


Smart bandage covering your wound and healing progress looks to 5G tech

April 18 2017, by Nancy Owano



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(Tech Xplore)—Some technology watchers this week are talking about "smart" bandages, and the question is, why are they smart, and what can they do?

The bandages in the news can detect how a wound is healing and then can send messages back to doctors treating the patient. The *Daily Mail* said that [tiny sensors](#) within the bandages would report back to medics about events such as detected infections and blood clotting.

Wouldn't the patient be able to tell if something is wrong? Not always. Wearing a dressing that is not transparent, and unaware of any trouble signs, problems could go undetected.

The work on the smart bandages is at Swansea University, namely by a team led by Swansea University's Institute of Life Science (ILS). The ILS site said it has become home to a growing cluster of [life science](#) and healthcare companies.

David Dulin, BBC News, said Sunday the bandages could be set for trials within the next 12 months.

5G technology is playing an important role here. The bandages would be reporting information back to a doctor via 5G wireless. Mark Real in *Android Headlines*: "The use of smart bandages is just one of the new use cases based on 5G networks. As 5G networks support lower latency and increased bandwidth compared to existing [solutions](#), more sensor-equipped devices can be connected to the Internet."

The smart [bandage](#) effort is part of a 5G test hub for digital innovation, said Dulin. BBC News talked to Prof. Marc Clement, chairman of the ILS, who said experts at the Welsh Wound Innovation Centre are also involved in the project.

Clement said 5G was presenting the opportunity to produce "resilient, robust bandwidth" for the purpose of healthcare.

"Sometimes we revere doctors so much that we tell them all is well," said Clement, "but all of the evidence is there before them in this 5G world, so the clinician and patient can work together to address the challenge."

The technology could (1) monitor what treatment is needed and (2) track the wearer's activity levels.

The bandages' nano-sensors would be used to track improvements in the injury.

Prof Clement talked about how that would work: "It would connect that wound to a 5G infrastructure and that [infrastructure](#) through your telephone will also know things about you - where you are, how active you are at any one time."

Interestingly, Clement recognizes this undertaking as a multi technology link where 3-D printing is involved in the manufacture of such dressings. You have biochemistry, nanotechnology, printing specialists, all interconnecting with the end result of health care for the wound patient, suggesting better outcomes, better quality of life and a cost effective infrastructure

Dulin in his report said, "Experts in nano-technology would develop the tiny sensors while 3-D printers at ILS would be used to produce the bandages which would bring down the cost."

Jim Norton in the *Daily Mail* made the observation that "Existing methods of detecting [infections](#) can take up to 48 hours to come through – as well as removing [wound dressings](#), which can be painful and distressing."

Sarah Knapton, science editor, *The Telegraph*, said that "Currently patients with [wounds](#) are advised to return to the doctor in a certain amount of time. But each case may need a longer time to heal, or may have become infected before the [visit](#)."

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