

Gel patch accelerates healing, reduces scarring

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Scientists from Nanyang Technological University in Singapore have developed a patch capable of speeding up the wound healing process and miming scarring in patients undergoing surgery or diabetic patients with ulcers.

The gel patch prototype, explained in [Scientific Reports](#), was developed by Andrew Tan and Cleo Choong. Researchers utilized the angiopoietin-like 4 (ANGPTL4) protein, which reduces inflammation in the early phase of wound healing, to accelerate healing and form new blood vessels. In its later phases of healing, the protein also reduces scarring of tissue.

"To reduce scars, all we had to do was to find a 'tuning knob' that controls the amount of collagen produced, instead of turning it off completely which is what typical anti-scarring medicine does, and which could interfere with the healing process," said Tan.

The ANGPTL4 enriched patch, when tested on diabetic wounds in mice, was able to speed up the healing process and heal stronger than conventional healing.

"The easy extraction of ANGPTL4 also could mean that in future, a surgeon can use the patient's fat and turn it into a healing agent on the spot, to promote faster recovery of the patient's wounds after an operation," said Choong. "In addition, we have developed ways to package ANGPTL4 into easy-to-use formulations such as gel patches, topical creams and injectable microcapsules. This will make it easy for doctors and even patients to use in future, should the product be made available to the market."
