Gel Patch Heals Wounds and Prevents Scars

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NTU Singapore researchers display samples of the gel patch. (Source: NTU Singapore)

Typical anti-scarring medication shuts off the pathway for collagen production, but completely turning off its production impedes wound repair. Now researchers have discovered a specific protein, Angiopoietin-like 4 (ANGPTL4), reduces inflammation in the early phase of wound healing, promotes formation of new blood vessels and cell growth, and lastly reduces scarring.

Scientists from Nanyang Technological University, Singapore (NTU Singapore) developed a gel patch enriched with ANGPTL4 that can both heal skin wounds and minimize scar formation.

In experiments involving mice with diabetic wounds, a wound was shown to heal stronger and three times as fast with the application of ANGPTL4.

The active protein ingredient can be harvested from discarded fatty tissues from hospital patients in hospitals. The researchers suggest that a surgeon can use a patient's fat and turn it into a healing agent on the spot to speed wound recovery after an operation. The ANGPTL4 protein could be useful for other fibrotic diseases such as keloids, a type of raised scar larger than the wound that caused the scar, and with no known treatment or prevention.

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