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China designs injectable, adhesive surgical gel to prevent scar tissue

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The compound proved compatible with human cells

Up to 90% of patients who undergo open abdominal or pelvic surgery develop postoperative adhesions, or scar tissue. Minimally invasive laparoscopic surgical approaches can reduce the severity of the adhesions, but the scar tissue still forms.

There may be a potential solution available soon, according to researchers from Southern Medical University in China. They have developed an injectable hydrogel that can plug up wounds without sticking to off target tissue, effectively preventing postoperative adhesions.

The researchers have formulated a hydrogel, dubbed HAD, with a photocurable twist. When injected, the side of the hydrogel not touching the wound was cured with an ultraviolet light for three to five seconds. Similar to its function in a gel manicure, the UV exposure dried the hydrogel and prevented it from sticking elsewhere.

The researchers plan to continue studying and verifying the clinical value of HAD hydrogels, with a specific focus on how the compound may help heal chronic wounds and prevent adhesions in a variety of diseases.