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IIT researchers design unique wound dressing and skin graft

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A group of researchers at the Indian Institute of Technology (IIT) Guwahati has developed bioactive wound dressings and bio-artificial skin by using silkworm silk fibroin as matrix and coating it with recombinant spider silk proteins.

While wound dressings reduced bacterial population by nearly fourfold and showed good anti-biofilm properties, the silk scaffolds seeded with human dermal and epidermal cells led to the development of bio-artificial skin.

If animal trials are also successful, the wound dressing might help in treating chronic and severe wounds such as diabetic foot ulcers, while skin graft might come handy for burn patients.

The group is currently performing follow up studies using various animal models to examine the efficacy of bioactive constructs, to understand the healing properties and study cell-material interactions.