FORCE REPAIR

Scientific Approach

The FORCE REPAIR concept is based on a unique 3D printable hyaluronic acid-based self-healing hydrogel (HA-Ag-DH) with the placement of each component in a strategic location:

Special trajectory software of the 3D printed materials will help inducing contractile force withing the dressing to help wound closure.

Regulatory frameworks, health technological assessment and marketability studies of the dressing validated on wound animal models will be taken into account.

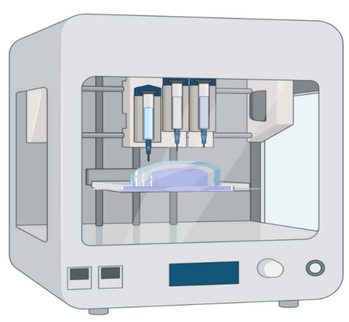
1 antibacterial and bioadhesive layer in contact with the wound

2 anti-inflammatory to recreate the environment of healthy tissue

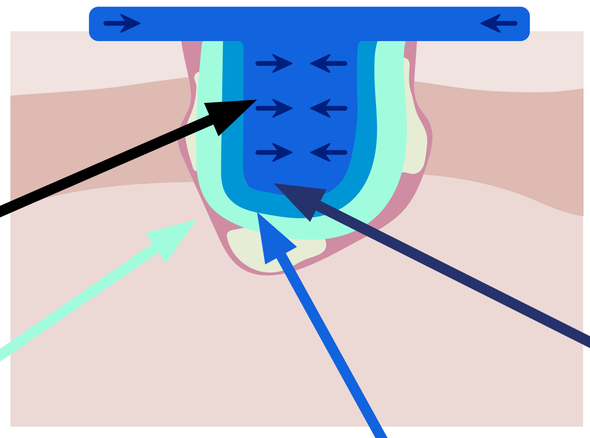
3 regenerative core to facilitate healing using elastin-like polypeptide (ELP) and Wharton Gel Complex® (WGC)

3D Trajectories & Gradients

UV curing



Customized 3D bioprinter for the production of HA-Ag-DH wound dressings

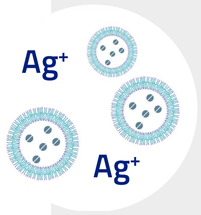


Relieving skin tension

ELP crosslinking with HA-Ag-SH

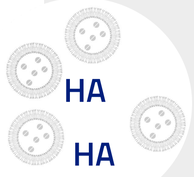
LCST 30-32 °C

Antibiotic effect



Ag^+ + Mupirocin nanocapsules

Inflammation control



Anti-inflammatory nanoemulsions + HA

Tissue regeneration

Innervation: Laminin peptide

Vascularization: HA and GAGs from WGC

FORCE REPAIR WOUNDS

www.forcerepair-wounds.eu

PARTNERS:

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