Regenerative healing with RES™

REGENERATIVE EPITHELIAL SUSPENSION

What is RES™?

Regenerative Epithelial Suspension - RES™ is an autologous suspension composed of the cells[1] and wound-healing factors necessary to regenerate natural healthy skin.

Avita Medical's unique regenerative technology enables clinicians to rapidly create and apply RES™ at the point of care in a simple 30-minute procedure.

The regenerative mechanism is within the suspension...

Activated

- Disaggregation of skin cells removes contact inhibition, inducing the "free edge" effect,[2] which initiates a cascade of wound healing cell signals.[14]
- Growth factors and cytokines are rapidly secreted by "free edge" keratinocytes and fibroblasts to orchestrate proliferation, migration, angiogenesis and matrix re-modelling processes which are essential for skin regeneration.[3-13]
- In preclinical experiments RES™ has been shown to exhibit the characteristics of cells in the "free edge" state. Investigators found that large numbers of viable cells from RES™ adhere to a wound bed almost instantly and displayed typical proliferative and migratory morphologies as early as day 1 post-harvest. Key proteins associated with activation were shown to increase and decrease, in accordance with the literature.[14]

Available

- RES™ is available within minutes at the point of care and delivers non-cultured disaggregated epithelial skin cells which trigger signaling across the surface of the wound, overcoming the usual limitations of the wound edge. (Figure 1).[1,15-19]

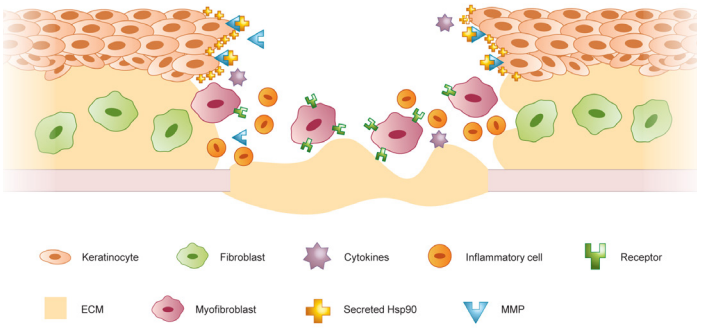
Autologous

- RES™ is safe, as it is produced from the patient's skin. In addition, there is no risk of graft failure due to rejection.[20]

Complete

- The multi-phenotype skin cells[1] contained in RES™ are essential in the normal cellular processes for effective wound healing and restoration of normal functionality (e.g. durability, pigmentation, minimal contracture).[21]
- Melanocytes contained in RES™ survive to localize to the epidermal side of the dermal-epidermal junction and evenly distribute melanin throughout the epidermis for pigmentation of the new skin.[22]
- Application of RES™ increases the number of resident fibroblasts in the wound to reduce migration and wound tension,[23-25] which reduces the incidence of contracture.

Normal wound healing



Wound healing with RES™

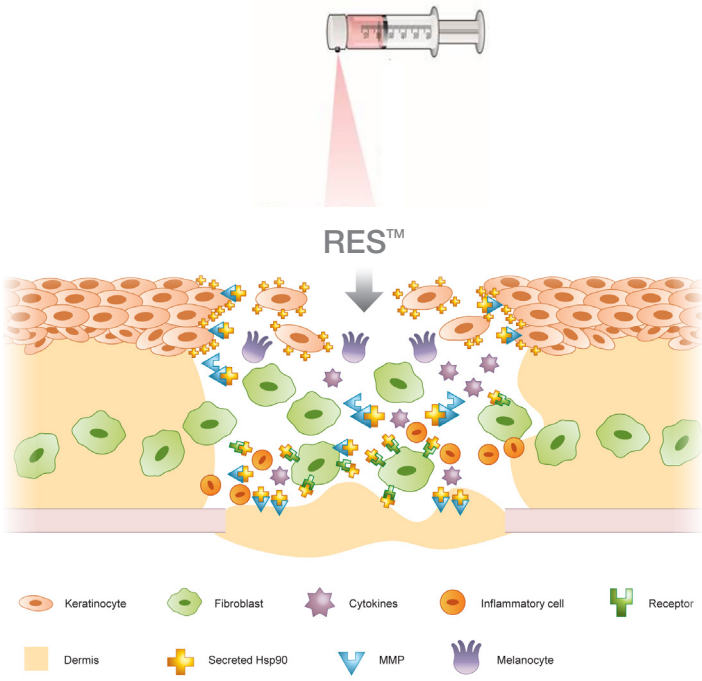


Figure 1

avita medical
transforming lives

Regenerative healing with RES™

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SUSPENSION

Preparation of RES™

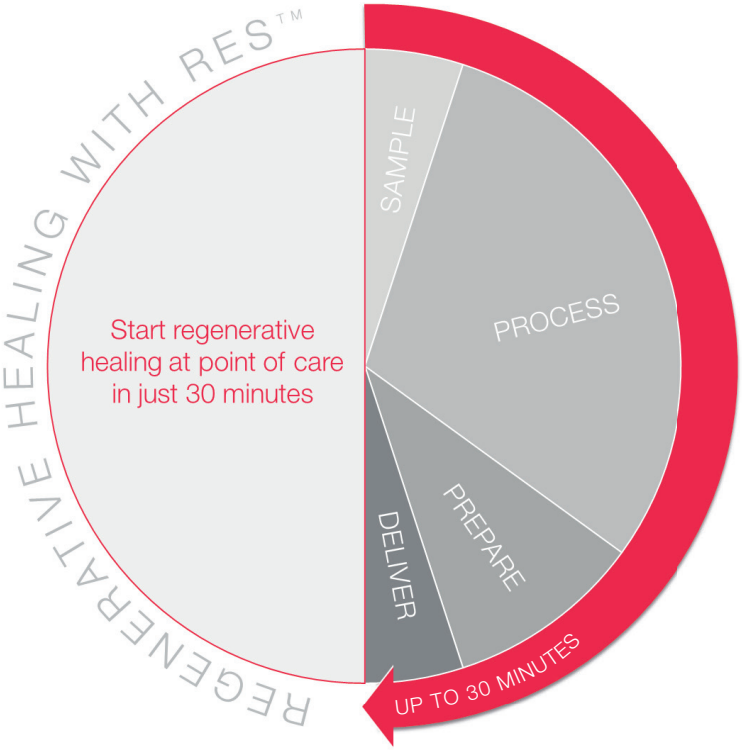

Figure 2

RES™ can be used to:

- **Restart** healing in unresponsive wounds, providing improved healing rates and time to wound closure.[26-31]
- **Repair** burns, achieving definitive closure with less donor skin and improved functional and aesthetic outcomes.[15,32,33]
- **Restore** pigmentation and improve the aesthetic appearance of damaged skin.[2,19,34-42]

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