Endoform 101

Endoform is an extracellular matrix (ECM) that supports all the phases of wound healing. Endoform is a collagen dressing that promotes healing in acute and chronic wounds and is widely accessible to wound care clinicians. This primer will introduce clinicians to the science behind Endoform and will provide information about its use to help clinicians determine whether this product can benefit their patients' healing outcomes.

Q1: What is an extracellular matrix (ECM) and what does it do?

An ECM is a network of biomolecules that provides structure for cells and gives tissues strength, elasticity and other physical properties. In some wounds, the ECM is damaged, meaning it is unable to support the healing process. In wounds that are stalled or healing slowly, protease activity destroys ECM at a rate that exceeds its ability to self-repair.[1]

Studies in regenerative medicine have shown that using a functional ECM to supplement the chronic wound environment is a key strategy for moving stalled wounds into the proliferative stage of healing.[1] Advanced ECM technology means it is now possible to replace a patient's ECM with a dressing that works as a provisional ECM to support and guide cells. Endoform is one such dressing that treats the pathology of wounds themselves rather than their symptoms.

Q2: What is Endoform?

Endoform is an ECM, derived from the stomach of sheep, that supports all phases of healing (Figure 1). Ovine cells are selectively removed while the composition and structure of the ECM is preserved. Endoform contains more than 150 unique matrix proteins, making its compositional complexity similar to native ECM.[2-3] Endoform's porous structure allows cells to adhere, migrate and proliferate naturally.

The composition of Endoform's ECM enables it to interact with patients' cells during the phases of healing. Endoform is 85% collagen and 15% secondary molecules (Figure 2). By utilizing a diverse array of secondary molecules, Endoform imitates functional tissue ECM and supports wound healing and tissue growth.

Q3: How can Endoform change practice?

Endoform is indicated for the management of partial- and full-thickness wounds, pressure injuries, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunneled/undermined wounds, surgical wounds, traumatic wounds and draining wounds.

By applying an ECM like Endoform, clinicians can see the wound moving through the various phases of wound healing. Using Endoform in the inflammatory phase helps prevent biofilm formation and guards against a broad range of organisms. In the chronic wound environment, wound proteases destroy ECM, leading to stalled status. Endoform is also damaged by elevated protease levels, a phenomenon that is visible, providing a simple, effective way to observe wound status (Figure 3).[4-6] Once inflammation is controlled, epithelial and fibroblast cells adhere to the

Figure 1. Endoform®'s Role in Wound Healing

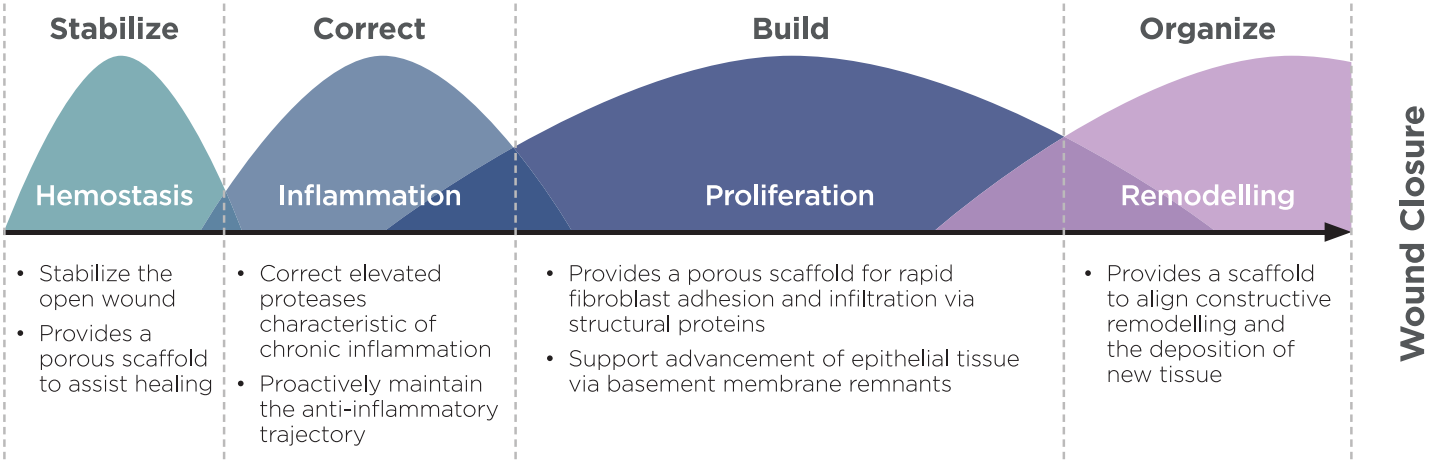
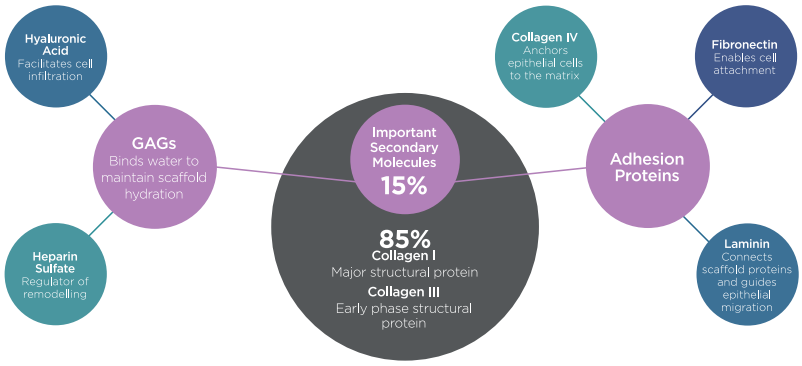


Figure 2. Composition of Endoform®



scaffold and begin to build new granulation tissue. At this point, residual Endoform will be observed in the wound at the subsequent dressing changes. It is important that the residual Endoform not be debrided, as this will remove healed tissue; it can be left in place and rehydrated. Over time, Endoform is incorporated into the wound as new tissue is laid down.

Endoform acts as a visual indicator of wound healing. Wounds stalled in the inflammatory phase have high levels of proteases, which can't be seen. Seeing the presence or absence of residual Endoform is an important clinical tool.

Conclusion

ECM technologies such as Endoform have shifted modern wound care from managing the symptoms of chronic wounds to actively addressing their underlying pathology: missing or damaged ECM.

References

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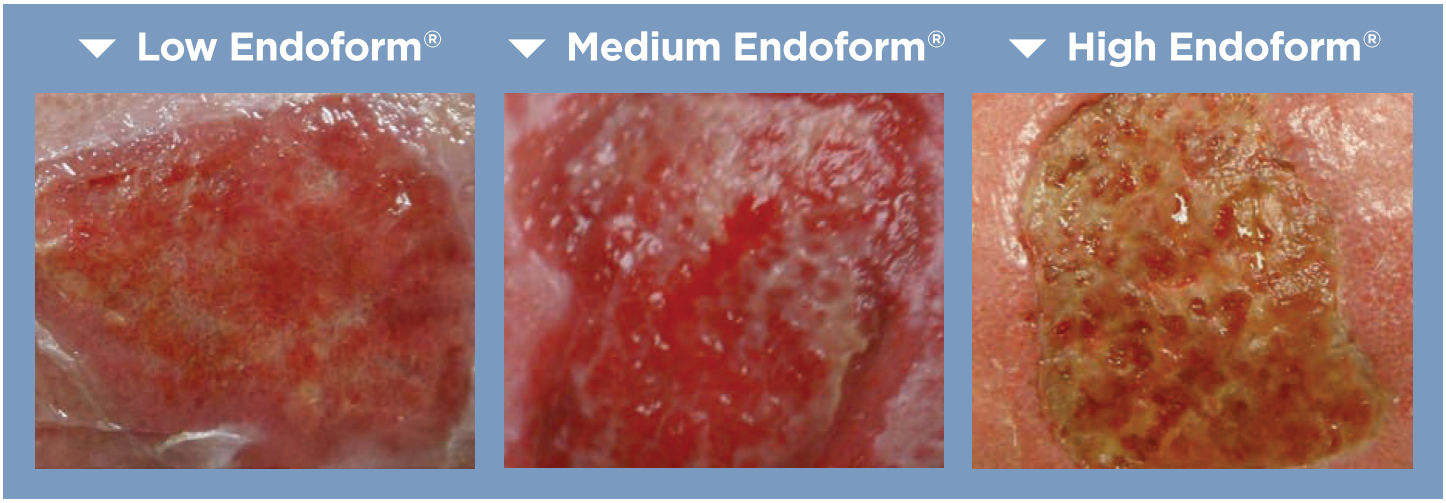
Figure 3. Endoform® Consumption in the Wound



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