endoform®

EN

Antimicrobial
Dermal Template

endoform® Antimicrobial

All the benefits of a unique extracellular matrix (ECM) plus ionic silver which supports all phases of healing

- Broad spectrum antimicrobial activity for up to 7 days
- Prevents biofilm formation
- Non-cytotoxic to dermal cells

Every body has the power to heal

AROA

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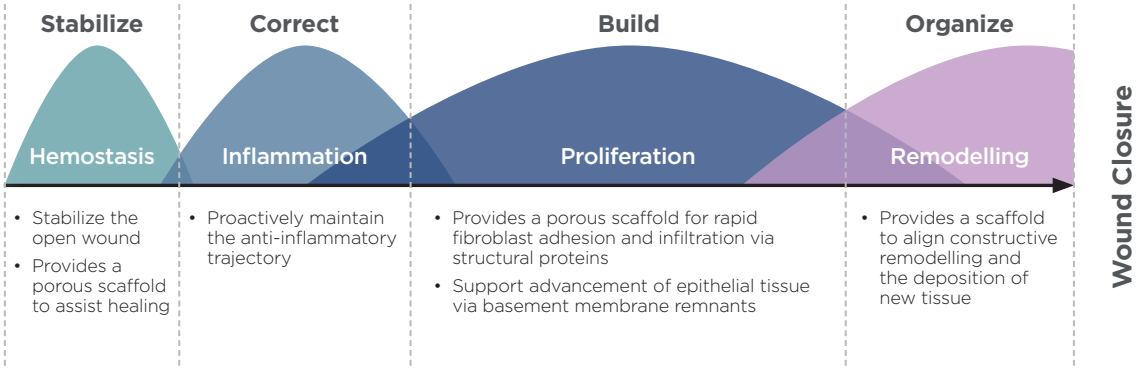
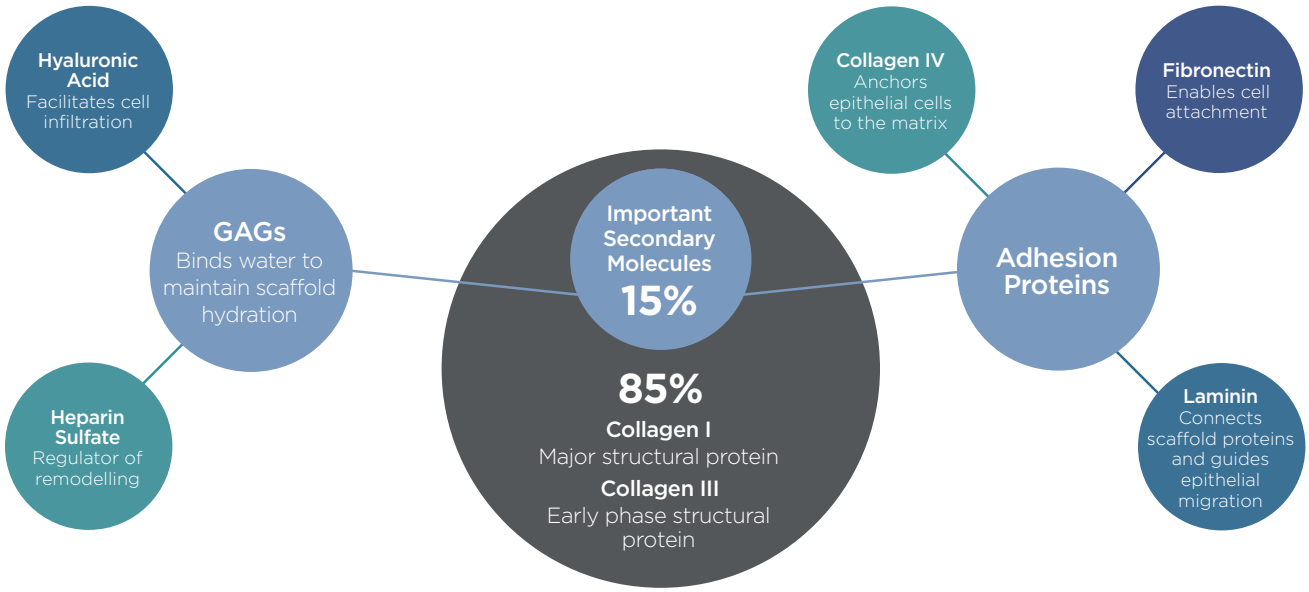
Endoform®'s unique ECM technology is designed for all phases of healing to stabilize, correct, build and organize tissue in acute and chronic wounds.[1]

Endoform® can be used at all phases of wound management



Endoform® includes 148 secondary molecules that are important for healing

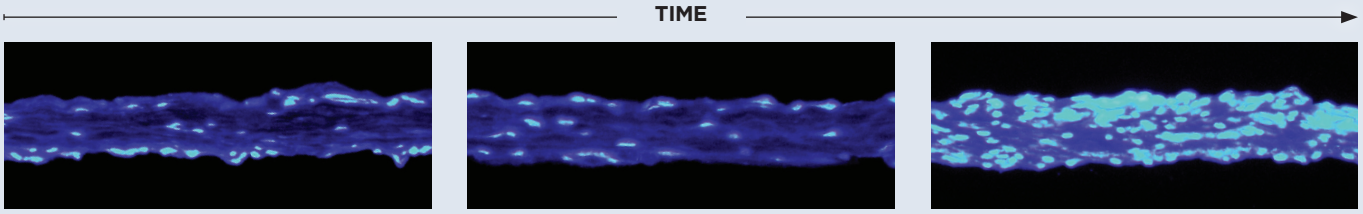
The composition of **Endoform®**'s ECM enables it to interact with patients' cells during the phases of healing. **Endoform®** is 85% collagen and 15% important secondary molecules including 148 structural and adhesion proteins, and glycosaminoglycans (GAGs)[2]. **Endoform®** only contains components that are found in tissue ECM.



Endoform® provides a biologically accurate ECM scaffold

Endoform® is minimally processed so the ECM is not damaged. It provides a biologically accurate, porous structure that supports rapid epithelial and fibroblast infiltration. Over time the scaffold is completely remodeled as new tissue is laid down.

Wound model demonstrating cell infiltration and adhesion (light blue) onto the Endoform® scaffold (dark blue) during healing[3]

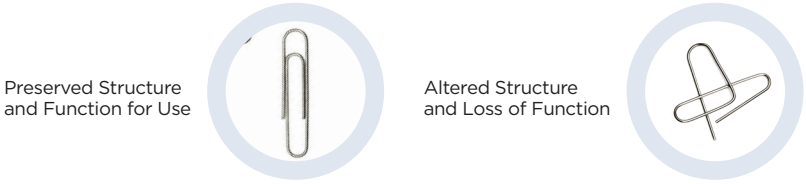


Images show DAPI (a florescent stain, diamidino phenylindole) stained Endoform® infiltrated with human fibroblasts cells after 0.5, 5 and 10 days. Images at 20x magnification.[3]

Natural molecular structure

Endoform® preserves the natural form of its molecular components.

The paperclip analogy demonstrates how loss of structure results in loss of functionality.

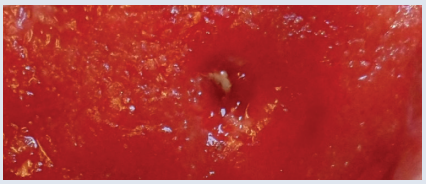


Endoform® can indicate wound protease levels and guide re-application rate to help escape the inflammatory phase earlier[4]

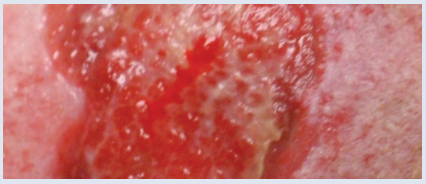
Endoform®'s unique ECM stays intact in the wound bed unless wound proteases are elevated.

When wound proteases are high, **Endoform®** is digested thereby indicating the wound is in the inflammatory phase.

More layers of **Endoform®** need to be applied.



When wound protease levels are balanced, residual **Endoform®** can be observed in the wound bed participating in healing. This indicates the wound is progressing into the proliferation phase. The number of layers applied can be repeated or reduced if there is a high level of residual **Endoform®** observed at the next dressing change. It is important to not debride the residual **Endoform®** as it contains ECM components that assist in wound healing. If **Endoform®** has overlapped into the periwound area, it may be gently removed if desired.



Reconstituted collagens do not have an intact, natural ECM. These products dissolve or gel within a day, regardless of wound protease levels and cannot indicate the balance of proteases.

Endoform® Antimicrobial provides broad spectrum antimicrobial activity for up to 7 days

Unlike some existing collagen silver dressings that have a limited duration of up to 3 days, **Endoform® Antimicrobial** provides sustained protection from microbial contaminants for up to 7 days, including drug resistant strains, yeasts and molds.[5]

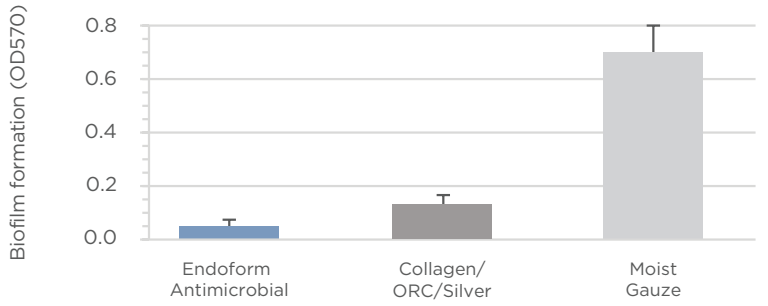
	Species	Day 7
Gram positive	**Methicillin Resistant *Staphylococcus aureus* (MRSA)**	~
	Staphylococcus epidermidis (coagulase negative)	~
	Streptococcus pyogenes (Group A, ß-hemolytic)	~
	Vancomycin Resistant *Enterococcus faecalis* (VRE)	~
Gram negative	*Pseudomonas aeruginosa*	~
	Escherichia coli	~
	Acinetobacter baumannii	~
Yeasts & molds	*Aspergillus brasiliensis (niger)*	~
	Candida albicans	~
	Candida glabrata	~
	Candida parapsilosis	~

~ no quantifiable organism

Endoform® Antimicrobial prevents biofilm formation

Biofilm formation is associated with delayed wound healing and an increased risk of infection for the patient.

Endoform® Antimicrobial has been shown to prevent the formation of biofilm.[5]



An *in vitro* model of polymicrobial biofilm prevention following 24 h exposure of the test sample

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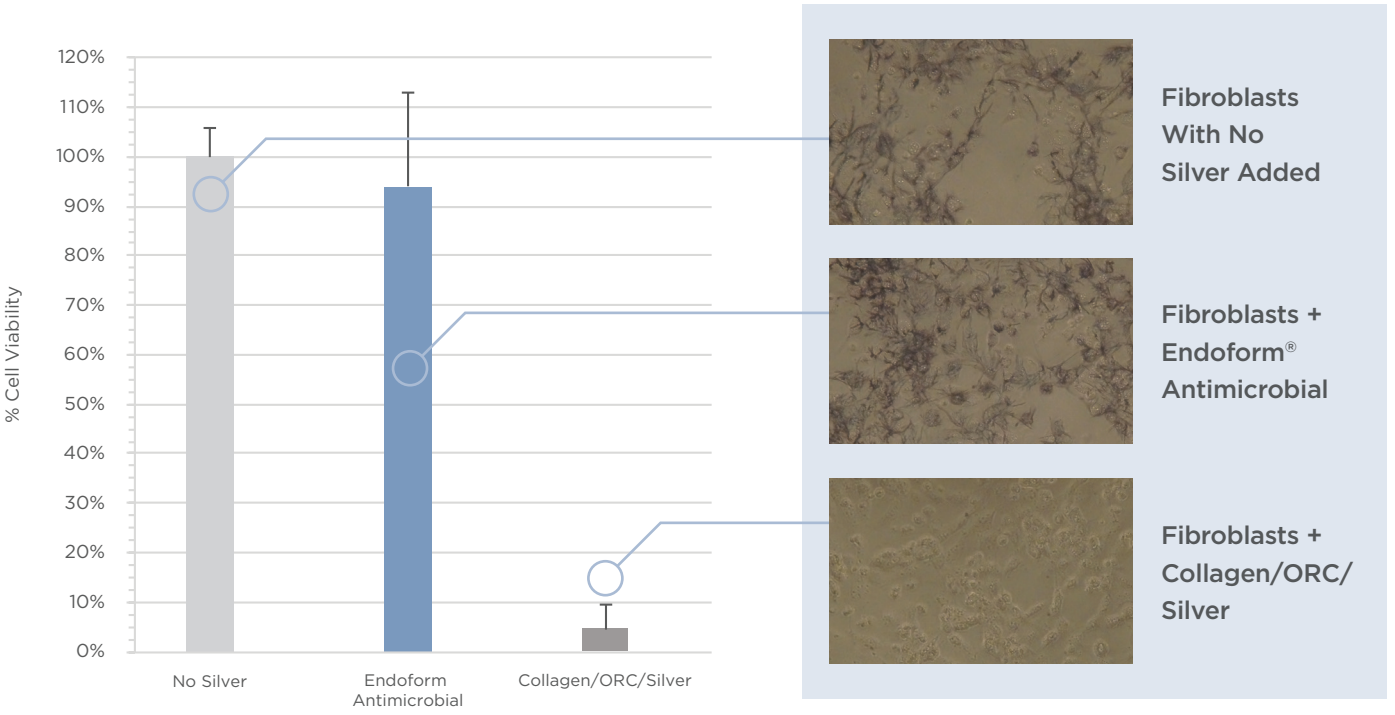
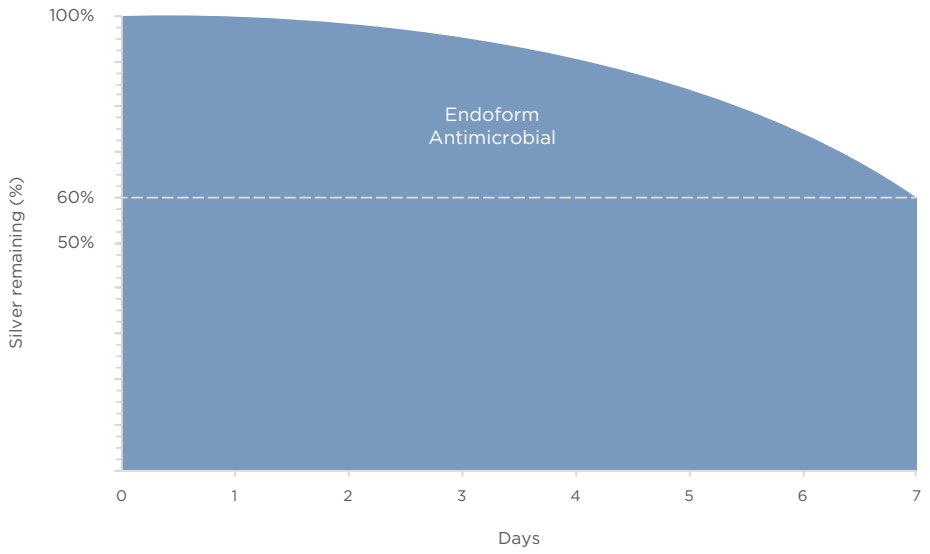
Endoform® Antimicrobial is non-toxic towards fibroblasts[5]



Cell viability assay; 3T3 fibroblasts exposed to test samples for 24 hours

Why is Endoform® Antimicrobial non-cytotoxic and long acting?[5]

The ionic silver present in **Endoform® Antimicrobial** is bound to the matrix for up to seven days to provide sustained antimicrobial protection without cytotoxicity.



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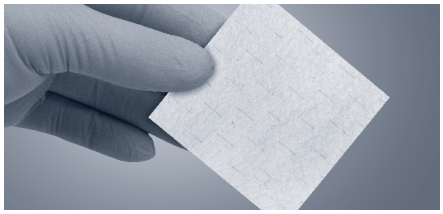
Ordering information

Endoform® Antimicrobial Dermal Template - Fenestrated		
Stock no.	**Product Size**	**Quantity/Box**
629312	2x2" (5cm x 5cm) fenestrated	10
629314	4x5" (10cm x 12.7cm) fenestrated	10



Indications For Use:

Endoform® Antimicrobial Dermal Template is indicated for the management of wounds including, partial and full thickness wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, tunneled/undermined wounds, surgical wounds (donor sites, grafts, post Moh's surgery, post laser surgery, podiatric, and wound dehiscence), traumatic wounds (abrasions, lacerations, first and second degree burns, and skin tears), and draining wounds.
Endoform® Antimicrobial, like other silver-containing products, may darken upon storage, after hydration in saline, when exposed to light, or when in contact with body fluids and tissues. This darkening does not affect product performance.

1. Bohn G. Proactive and early aggressive wound management: A shift in strategy developed by a consensus panel examining the current science, prevention and management of acute and chronic wounds. Wounds. 2017 Nov; 29(11):S37-S42.

2. Dempsey et al (2019). Functional insights from the proteomic inventory of ovine forestomach matrix. J. Proteome Res. DOI: 10.1021/acs.jproteome.8b00908

3. Lun, S., S. M. Irvine, K. D. Johnson, N. J. Fisher, E. W. Floden, L. Negron, S. G. Dempsey, R. J. McLaughlin, M. Vasudevamurthy, B. R. Ward and B. C. H. May (2010). "A functional extracellular matrix biomaterial derived from ovine forestomach." Biomaterials 31(16): 4517-4529.

4. Champion S, Bohn G (2015). "Dressing appearance at change can give insight into dressing effectiveness in the wound". Symposium on Advances in Skin & Wound Care - Spring, New Orleans, LA

5. Karnik et al (2019). 'Ionic silver functionalized ovine forestomach matrix - a non-cytotoxic antimicrobial biomaterial for tissue regeneration applications. Biomaterials Research 23:6; https://doi.org/10.1186/s40824-019-0155-0.

Rx Only. Prior to use, be sure to read the entire Instructions For Use package insert supplied with the product.

Endoform® can also be ordered from Stevens. Visit **www.stevens.ca** to contact your local Stevens distributor.

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AROA BIOSURGERY INC

2 Kingsford Smith Place, Airport Oaks
Auckland 2022, New Zealand
aroabio.com

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