EXCELLAGEN:

Find a New Wound Care Pathway

Investor Presentation

Surgical Debridement

Ex

Formulated Collagen

Advanced Wound Care for Diabetic Foot Ulcers

EXCELLAGEN

Formulated Bovine Collagen Topical Gel (2.6%) for Wound Care Management

Forward Looking Statements

This presentation may contain forward-looking statements, including comments concerning clinical trials and product development programs, evaluation of potential opportunities, the level of corporate expenditures, the assessment of Cardium's technology by potential corporate partners, capital market conditions, timing of events, cash consumption and other subjects. Actual results could differ materially from these forward-looking statements for many reasons, including the risks described under "Risk Factors" in the Company's Annual Report on Form 10-K and Quarterly Reports on Form 10-Q as filed with the Securities and Exchange Commission. No guarantee about future results, performance or achievements can be made. Neither Cardium nor its agents intend to update any of the forward-looking statements after the date of this presentation to conform them to actual results or to changes in expectations.

CARDIUM
MEDICAL OPPORTUNITIES PORTFOLIO

Excellagen: Product Overview

Excellagen is a new FDA-cleared professional use wound care product designed for the management of chronic diabetic foot ulcers and other dermal wounds following surgical debridement procedures. It is a highly-refined fibrillar flowable bovine collagen topical gel (2.6%) developed to support a favorable wound healing environment. Excellagen is intended for use at one- to two-week intervals following surgical debridement (with weekly outer dressing changes) and will initially be supplied in the form of a kit consisting of four sterile, pre-filled, ready to use single-use syringes, each containing 0.5 cc of Excellagen formulated collagen topical gel (2.6%), and four sterile flexible applicators to facilitate topical administration to the wound site over a course of up to four treatments. Based on the unique properties of Excellagen's highly purified, fibrillar collagen, it requires storage at standard refrigeration temperatures (2°C - 8°C).

EXCELLAGEN™
Formulated Bovine Collagen Topical Gel (2.6%)
for Wound Care Management

Diabetic Foot Ulcers: Continuing Unmet Medical Need

Looking for a
New Wound Care Pathway…

Diabetic patients with non-healing foot ulcers are frustrated and disappointed with treatment outcomes. Even with access to quality medical care and advanced wound treatment modalities, patients in Cardium's Matrix clinical study had unhealed foot ulcers averaging 69 weeks (1.3 years).

YouTube
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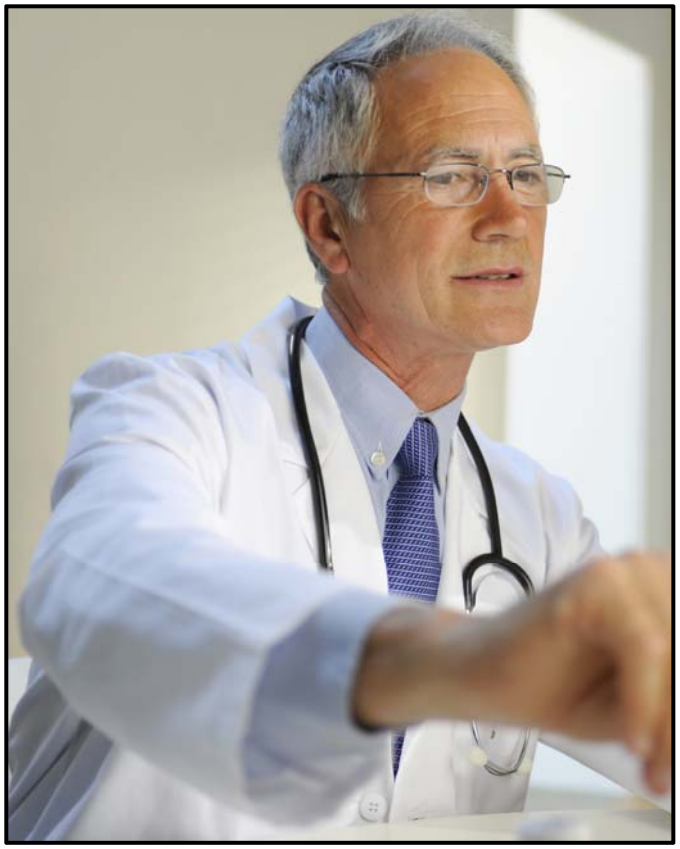
EXCELLAGEN™
Formulated Bovine Collagen Topical Gel (2.6%)
for Wound Care Management

Diabetic Foot Ulcers: Continuing Unmet Medical Need



Looking for a
New Wound Care Pathway…

Cardium's independent survey reports that 9 out of 10 of physicians indicate a need for additional treatments for diabetic foot ulcers, and seek advanced wound care products that are user friendly, require less manipulation and less frequent administration than current products.

YouTube
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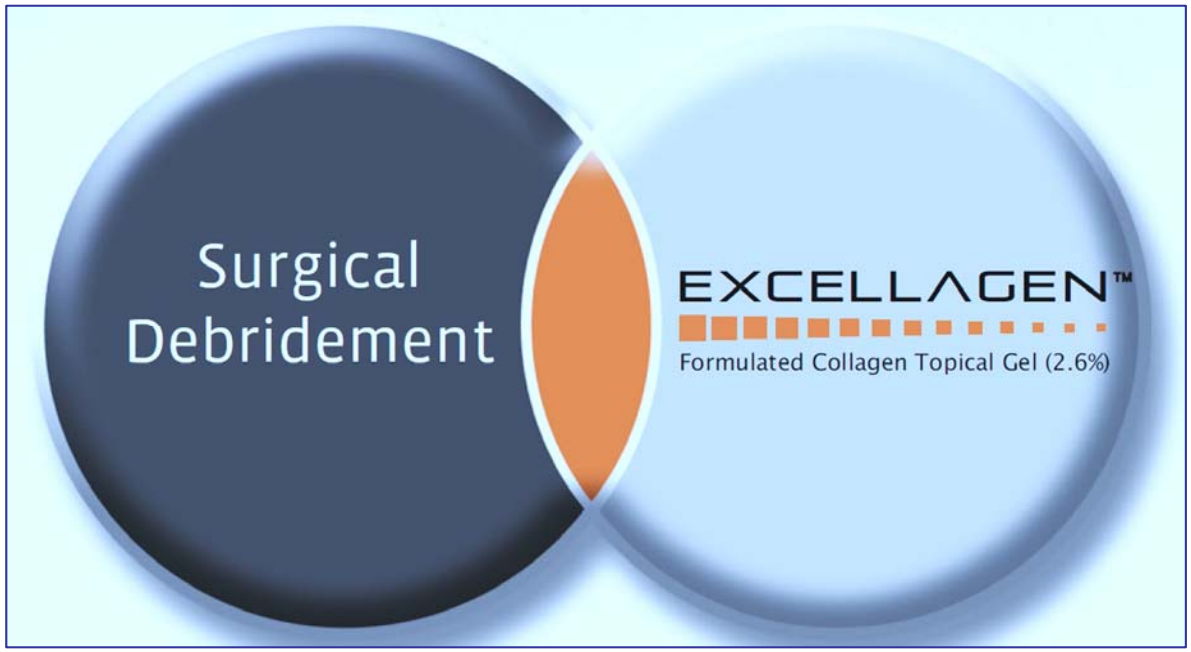
EXCELLAGEN™
Formulated Bovine Collagen Topical Gel (2.6%)
for Wound Care Management

Excellagen: Commercial Overview

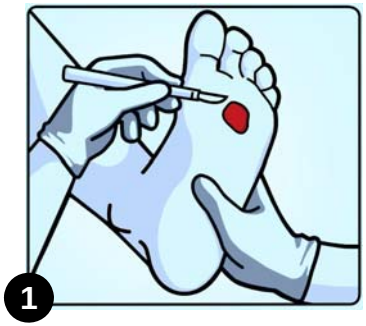
- Newly FDA cleared Excellagen is the only syringe-based, flowable formulated fibrillar Type I collagen-based (2.6%) topical gel available for marketing and sale in the U.S. Excellagen, which was clinically studied and commercially advanced by Cardium Therapeutics and its affiliate Tissue Repair Co., is designed to be used in concert with the surgical debridement of non-healing diabetic foot ulcers in order to provide a favorable wound care management environment to support and accelerate tissue growth for wound repair.
  - Initially developed and specially formulated as a flowable matrix to support, preserve and promote advanced DNA-based regenerative medicine biologics, this engineered collagen matrix demonstrated accelerated tissue growth healing capabilities as compared to standard of care in a controlled, double-blinded randomized multi-center clinical study (Matrix clinical study).
- Excellagen represents a technology and product platform that offers the opportunity to develop a portfolio of new and innovative wound care products.
- Based on the Matrix clinical study, the formulated collagen-based (2.6%) topical gel significantly accelerated healing (as measured by a reduction in wound radius) when applied immediately following surgical debridement as compared to the standard of care study arm. Results from the Matrix clinical study have been published in the peer-reviewed official journal of the Wound Healing Society, *Wound Repair and Regeneration*, (2011) **19:** 302–308.
- Excellagen, as a novel product for advanced wound care, is designed to be strategically compatible with currently marketed advanced wound healing products like Dermagraft®, and negative pressure wound therapy medical devices, and offers the potential to serve as a co-marketed or co-promoted product for existing sales forces detailing podiatrists and other wound care professionals.
- Excellagen manufacturing utilizes an out-sourced network of suppliers. Based on targeted initial list pricing and Cardium's business model, the current manufacturing cost structure offers the potential to yield attractive gross margins, and to serve as a strategic product platform to expand and develop multiple products for a wide range of specialized wound care opportunities.

Excellagen: Initial Medical Focus

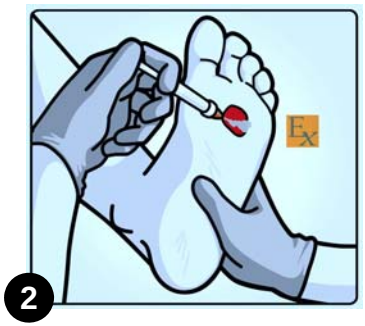


Wound Care Management for Diabetic Foot Ulcers

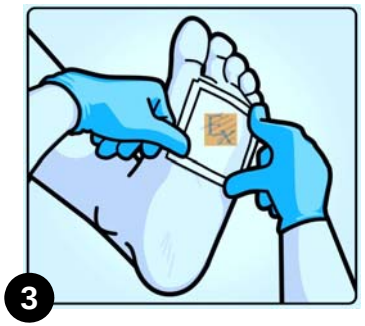
Excellagen Treatment:
Diabetic Foot Ulcers



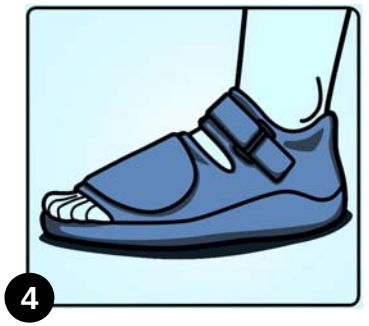
Debride



Treat



Bandage



Offload

YouTube
NYSE Amex: CXM

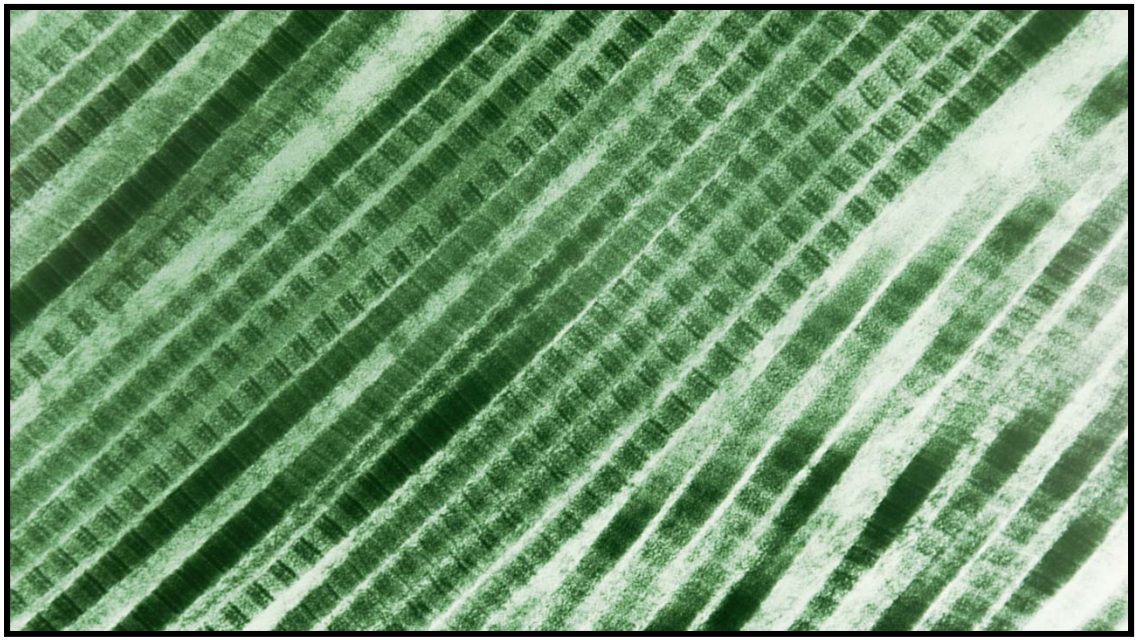
www.excellagen.com

Wound Care Management Platform
Formulated Collagen Topical Gel

- Highly-Refined Fibrillar Type I Bovine Collagen
- Specialized Formulation
- Kit Provides for up to Four Applications over 12 Weeks Immediately Following Surgical Debridement Procedure

- Pre-Formulated Ready-to-Use. One 0.5 cc Excellagen Syringe will Treat Wounds up to 5cm^2 in Size
- Pre-Filled Single Use Sterile Syringes
- Refrigerated Storage
- For Professional Use Only

Highly-Refined Formulated
Type I Fibrillar Collagen



EXCELLAGEN™
Formulated Bovine Collagen Topical Gel (2.6%)
for Wound Care Management

Excellagen: Conceptual Product Predicate

EXCELLAGEN Formulated Bovine Collagen Topical Gel (2.6%) for Wound Care Management	LOVAZA omega-3-acid ethyl esters
"Excellagen: Find a New Wound Care Pathway"	*"Discover Lovanza: Where Nature Meets Science"*
Highly-Refined Type I Bovine Fibrillar Collagen	Highly-Refined Omega 3 Fish Oil
Professional Use Product	Prescription-Based Product
Specialized Manufacturing Process	Specialized Manufacturing Process
Premium Priced	Premium Priced
FDA 510(k) Clearance	FDA Approved Product with Drug-like Claims
Competition: Low-Priced, Commodity-Based Products	Competition: Low-Priced, Commodity-Based Products

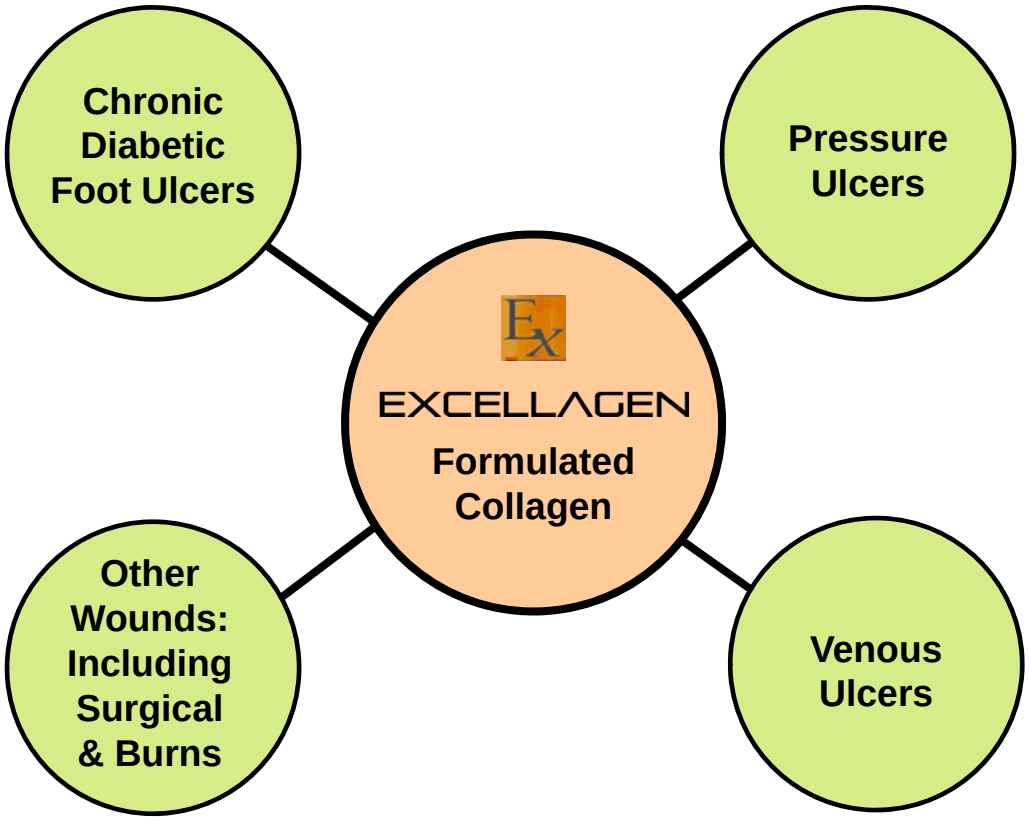
Lovaza® is a Registered Trademark of GlaxoSmithKline.

EXCELLAGEN™
Formulated Bovine Collagen Topical Gel (2.6%) for Wound Care Management

Product Specification

Intended Use	Excellagen formulated collagen gel 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, wound dehiscence), trauma wounds (abrasions, lacerations, second-degree burns, and skin tears) and draining wounds. This device is packaged for one-time use at the physician's office.
Device Description	Excellagen is a wound care device composed of formulated, 2.6% (26 mg/mL) fibrillar bovine dermal collagen (Type I) that is topically applied directly to the wound surface. Excellagen is packaged as single-use units to ensure safety and provide for easy topical application. The device is tested for sterility in accordance with USP<71>. Excellagen is supplied in one of two kit configurations. One kit configuration consists of four single-use 1.0 cc syringes, each containing 0.5 cc of 2.6% (26 mg/mL) formulated collagen, and four single use sterile flexible applicators. This kit can be used for smaller wounds. The second kit configuration consists of one single-use 10.0 cc syringe containing 4.0 cc of 2.6% (26 mg/mL) formulated collagen, and one single-use sterile flexible applicator. This kit can be used for larger or tunneling/undermined wounds. Excellagen is stored at standard refrigeration temperature (2-8°C). During manufacture, the collagen component of Excellagen is purified using a specialized process that removes impurities (including endotoxins), and removes denatured molecules and collagen fragments. Excellagen consists almost exclusively of high molecular weight, intact, fibrillar collagen and is formulated at a concentration of 2.6% (26 mg/mL) in an isotonic buffer with protein stabilizing agents.
Treatment	Excellagen is a physician use only product. It is suggested that the product be applied at two to four week intervals following the initial treatment as part of a standard of care treatment regimen (including offloading and debridement) or anytime immediately following a surgical debridement procedure. The wound should be covered with Excellagen and bandaged following application.

Excellagen: Medical Focus



Excellagen Potential Market Opportunities:
Beyond Diabetic Foot Ulcers

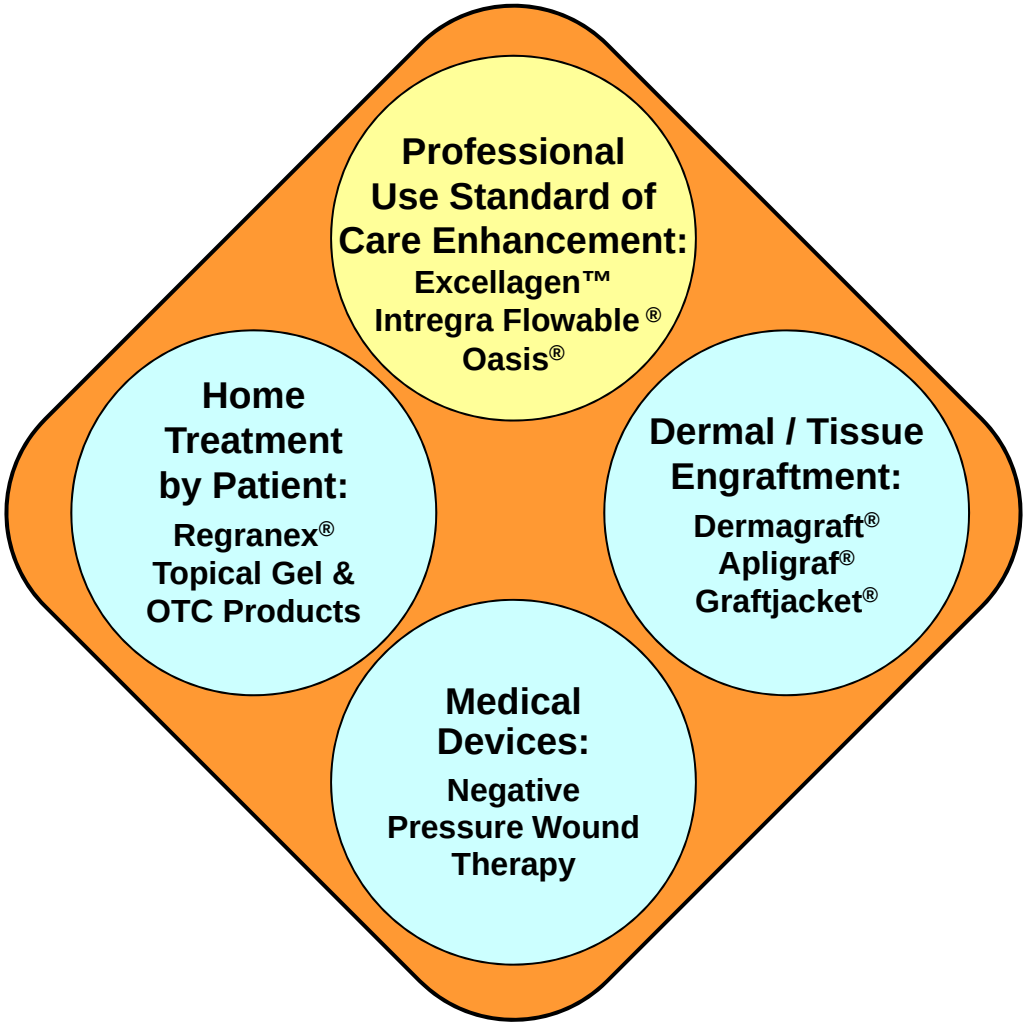
Medical Condition	Wound Type	Incidence
Illness	Venous Ulcers	1,625,000
	Arterial ulcers	1,725,000
	Diabetic foot ulcers	1,260,000[1]
Immobility	Pressure Ulcers	2,500,000
Surgical	Surgical Wounds: Major	36,000,000
	Surgical Wounds: Moderate/Minor	31,000,000
Trauma	Burn injuries	1,285,000
	Amputations	150,000
	Traumatic Wounds/Lacerations[2]	16,250,000
TOTAL		91,795,000

Source: Medtech Insight

[1]*Source: American Diabetes Association*

[2]Traumatic wounds/lacerations consist of open wounds (approx. 8.7 million), superficial wounds (approx. 1.7 million), and contusions (approx. 5.8 million) seen in emergency rooms.

Excellagen: Competitive Landscape



Excellagen: Planned Initial Product Extension

EXCELLAGEN

Four Single Use Sterile Syringes

0.5 cc / Syringe

- **Non-Healing Diabetic Neuropathic Ulcers. Administered Immediately Following Surgical Debridement Procedure**
- **Professional Use**

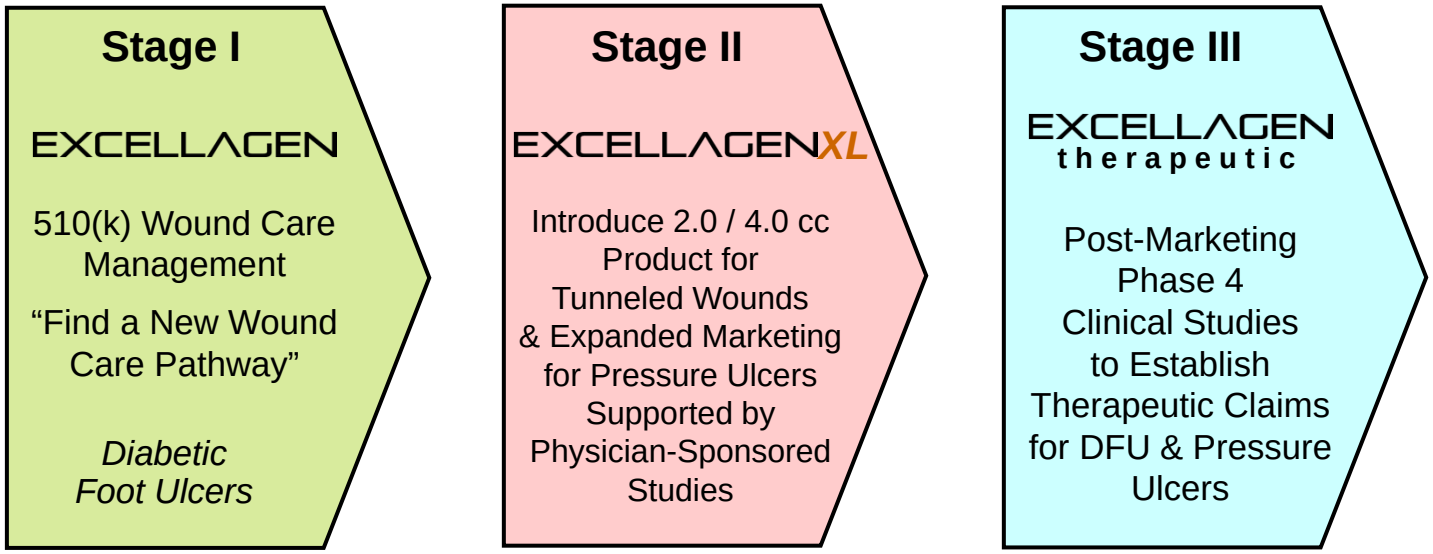
EXCELLAGEN*XL*

One Single Use Sterile Syringe

2.0 - 4.0 cc / Syringe

- **Non-Healing Diabetic Neuropathic Lower Extremity Ulcers that are large, or deep and difficult to access (“Tunneled Wounds”)**
- **Professional Use**
- **Product Predicate: Integra Flowable Collagen**

Excellagen: Product Development Strategy



Cardium's Matrix clinical study supports Excellagen's potential to accelerate tissue growth in diabetic foot ulcers compared to standard of care. Based on these clinical findings, the 510(k) registration offers the potential for an expeditious and cost-effective pathway to establish specific therapeutic claims for wound healing using Phase 4 post-marketing clinical studies.

Excellagen: Potential for Diabetic Foot Ulcer Market

Diabetic Foot Ulcers		Annual
U.S. Patients with Diabetic Foot Ulcers[1]		1.3 Million
Average Number of Physician Visits per Year[2]		14 per patient
Projected Patient Visits Involving Surgical Debridement (est. 50%)		7 per patient
Potential Number of U.S. Surgical Debridement Procedures for DFUs		9.1 Million
Potential Revenue Opportunity at Varying Excellagen Market Penetration Levels[3]		
	0.5%	$5 Million
	1.0%	$10 Million
	2.0%	$20 Million
	4.0%	$35 Million
	6.0%	$50 Million
	8.0%	$70 Million
	10.0%	$80 Million

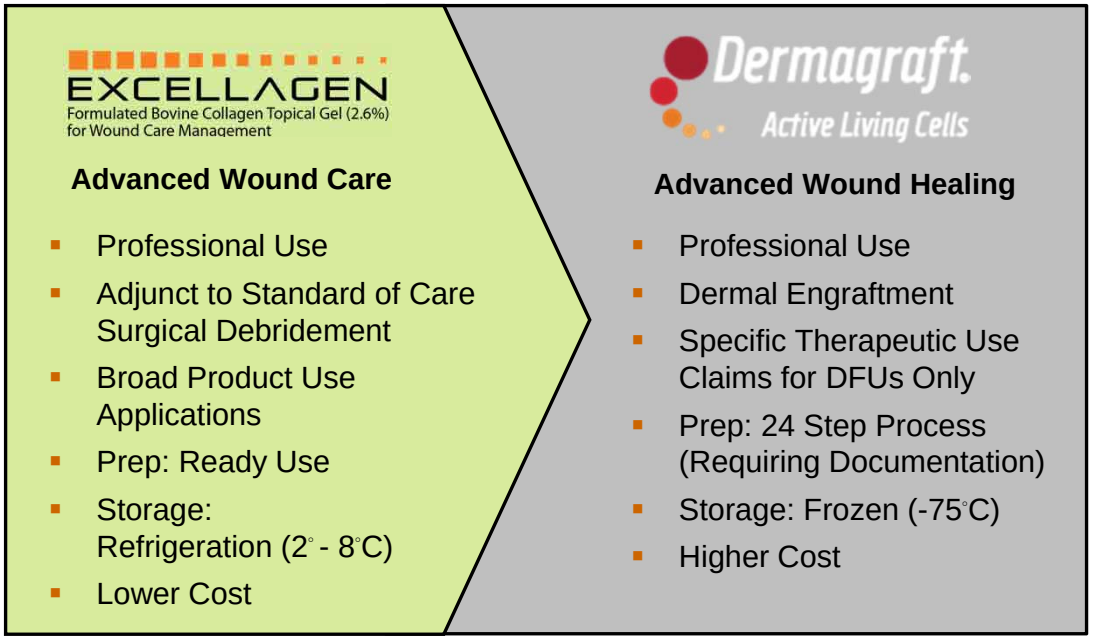
[1] American Diabetes Association.

[2] U.S. Department of Health and Human Services: Agency for Healthcare Research and Quality.

[3] Assumes $95.00 per Excellagen Treatment.

Excellagen: Strategic Fit with Current Advanced Wound Healing Products

Treatments for Diabetic Foot Ulcers



Tissue Regeneration

Dermagraft is a Registered Trademark of Advanced BioHealing, a subsidiary of Shire PLC.

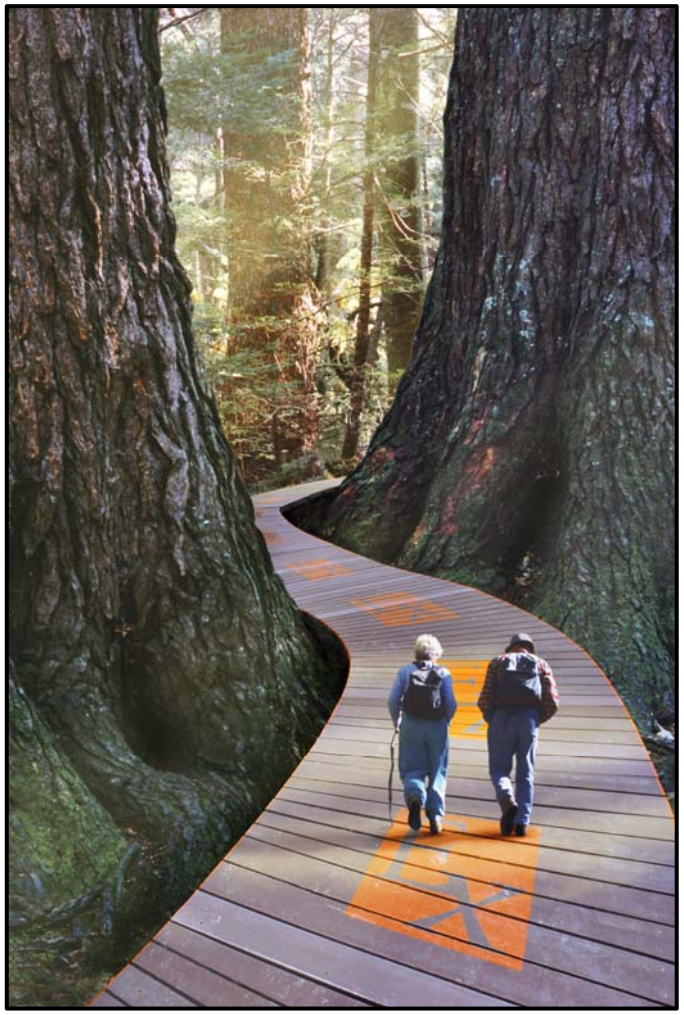
Excellagen: Physician
Market Positioning

Get Back to the Future with New Excellagen Formulated Collagen Topical Gel

Advanced Wound Care for Diabetic Foot Ulcers

- Outcomes-focused wound care
- New FDA cleared professional use, advanced wound care product as an adjunct to standard of care surgical debridement
- Designed to support a favorable wound healing environment

Excellagen: Web-Based
Direct-to-Consumer Positioning



Find a New Wound Care Pathway

"Non-healing foot ulcers are serious. If you have received treatment without success, become part of the solution, try something new! Find a new wound care pathway with Excellagen"

EXCELLAGEN™
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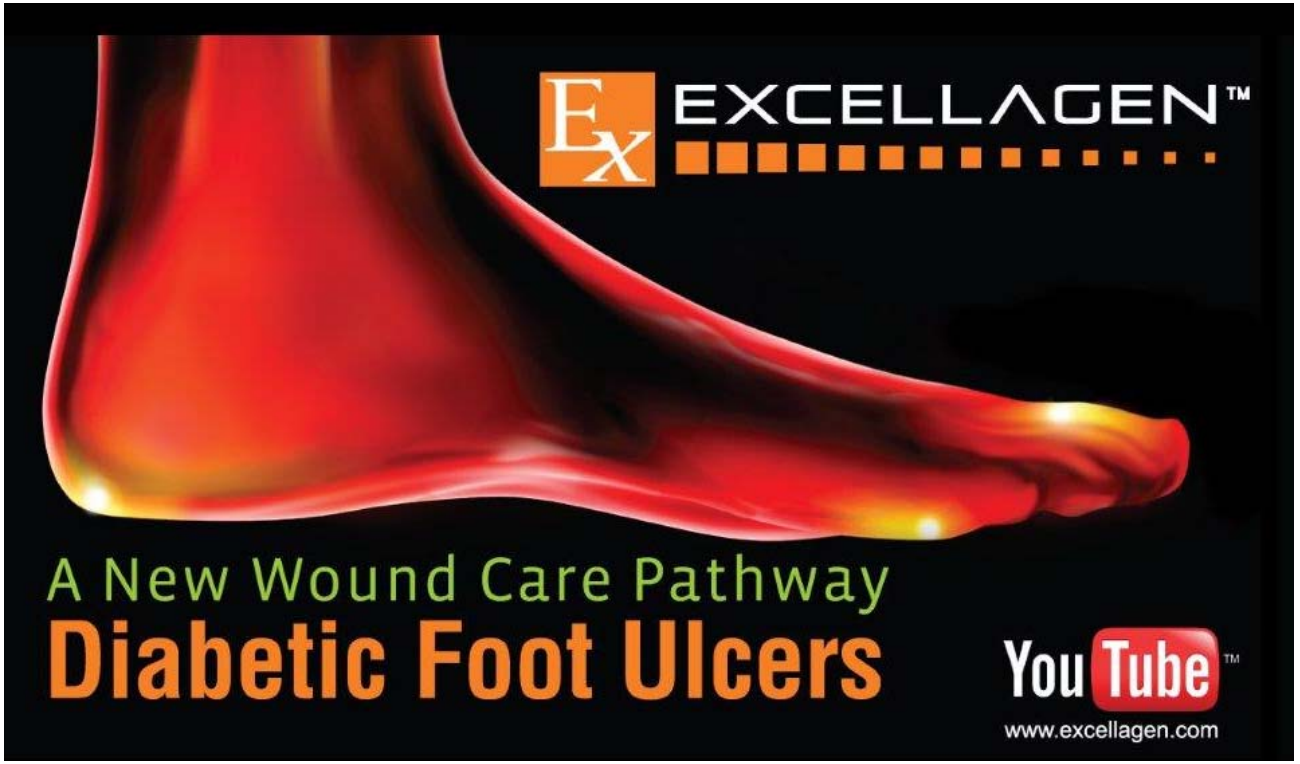
Excellagen: Web-Based Banner Ad



Excellagen: Web-Based
Direct-to-Consumer Positioning

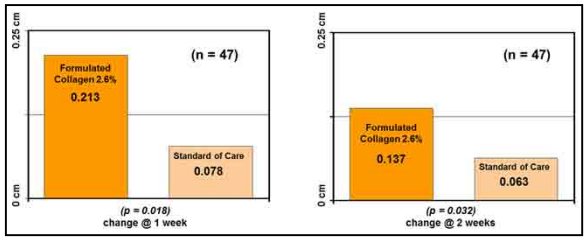
Excellagen YouTube NYSE Amex: CXM

MATRIX Clinical Study Data

The Science of Formulated Collagen Gel

WOUND REPAIR AND REGENERATION
THE INTERNATIONAL JOURNAL OF TISSUE REPAIR AND REGENERATION

Formulated collagen gel "…causes a large and rapid time-dependent effect on tissue growth rates." A single application "increases the healing rate of neuropathic DFUs...", and more frequent applications "…hold promise to significantly improve overall incidence of complete wound closure."[1]



Wound Repair and Regeneration

ORIGINAL RESEARCH – CLINICAL SCIENCE

Formulated collagen gel accelerates healing rate immediately after application in patients with diabetic neuropathic foot ulcers

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ABSTRACT

We assessed the safety and efficacy of Formulated Collagen Gel (FCG) alone and with Ad5PDGF-B (GAM501) compared with Standard of Care (SOC) in patients with 1.5–10.0 cm² chronic diabetic neuropathic foot ulcers that healed < 30% during Run-in. Wound size was assessed by planimetry of acetate tracings and photographs in 124 patients. Comparison of data sets revealed that acetate tracings frequently overestimated areas at some sites. For per-protocol analysis, 113 patients qualified using acetate tracings but only 82 qualified using photographs. Prior animal studies suggested that collagen alone would have little effect on healing and would serve as a negative control. Surprisingly trends for increased incidence of complete closure were observed for both GAM501 (41%) and FCG (45%) vs. Standard of Care (31%). By photographic data, Standard of Care had no significant effect on change in wound radius (mm/week) from during Run-in to Week 1 (0.06 ± 0.32 to 0.78 ± 1.53, p=ns) but both FCG (0.08 ± 0.61 to 1.97 ± 1.77, $p < 0.002$) and GAM501 (0.02 ± 0.58 to 1.46 ± 1.37, $p < 0.002$) significantly increased healing rates that gradually declined over subsequent weeks. Both GAM501 and FCG appeared to be safe and well tolerated, and alternate dosing schedules hold promise to improve overall complete wound closure in adequately powered trials.

Approximately 24 million people in the US have diabetes and 800,000 new cases are identified each year.[1] Many diabetic patients develop diabetic peripheral neuropathy. Among all diabetic patients 15% will eventually develop a Diabetic neuropathic Foot Ulcer (DFU), 25% of whom will have a foot amputation and subsequent 3-year survival rate of 50% despite currently available therapies.[2] The current Standard of Care (SOC) for DFU includes surgical debridement, moist dressing changes, and off-loading.[4] SOC treatment results in healing incidences of approximately 25% after 12 weeks and 30% after 20 weeks.[3] In chronic DFU, the healing process is impaired in part due to deficiency of growth factors.[5–9] Currently available secondary interventions include living skin equivalents (e.g., Apligraf, Organogenesis Inc., Canton, MA; Dermagraft, Advanced Biohealing Inc., Westport, CT), Becaplermin (Regranex, platelet-derived growth factor-B homodimer [PDGF-BB], Systagenix Wound Management, Gargrave, UK), hyperbaric oxygen, negative pressure devices, antibiotics for infection, and specialized dressings. These interventions provide moderate improvement over SOC, generally only 15–20%, and may be expensive and time consuming. For example Becaplermin is

Ad5	Adenovirus serotype 5 vector
Ad5PDGF-B	E1-deleted adenovirus serotype 5 encoding human platelet-derived growth factor-B
CFU	Colony forming unit
DFU	Diabetic foot ulcer
DSMB	Data and safety monitoring board
FCG	Formulated Collagen Gel
GAM501	Gene Activated Matrix 501, a proprietary product
ITT	Intention to treat
PDGF-B	Platelet derived growth factor B gene
PDGF-BB	Platelet derived growth factor BB
PP	Per-protocol
SAP	Statistical analysis plan
SOC	Standard of Care

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Wound Rep Reg (2011) 19:302–308 © 2011 by the Wound Healing Society

Peer Reviewed Medical Journal Article

[1]Blume P, et al. *Wound Repair Regen*. 2011 May-Jun;19(3):302-8.

In Vitro Research Study Data

The Science of Formulated Collagen Topical Gel

Activated Platelet Release of PDGF