Endoform® can be used with Hydrofera Blue®

- A variety of wound etiologies can be managed using the complementary products Endoform® and Hydrofera Blue®.
- Endoform® works from within the wound bed, while Hydrofera Blue® antibacterial foam dressings promotes a clean, padded environment to protect the tissue during the wound healing process.
- The Endoform® and Hydrofera Blue® combination is an effective way to manage injuries where a cast or padding is required such as foot wounds and pressure ulcers.
- Large wounds, such as those with exposed tendon or second degree burns, require substantial rebuilding of tissue; this can lead to extended exposure of the affected area. Endoform® can be used within the wound bed to scaffold tissue growth, while Hydrofera Blue® protects the healing tissue from infection.

Endoform® can be used at all phases of wound management

- Stabilize: Hemostasis
- Correct: Inflammation
- Build: Proliferation
- Organize: Remodelling

Wound Closure
References

1. Petrocelli, M. Ostler, M. Liden, B. (2016). Edema reduction with a Novel Total Contact Cast System containing a Miled Compression Sock. Symposium on Advanced Wound Care Fall Las Vegas, NA.


Edema Reduction with a Novel Total Contact Cast System Containing a Mild Compression Sock.

• Michael Petrocelli, DPM • Marta Ostler PT • Brock Liden DPM

Introduction:
In a November 2014 Off-Loading Consensus Guidelines, it is suggested that vascular management (V), infection management and prevention (I) and pressure relief (P) are essential to diabetic foot ulcer (DFU) healing. Evidence suggests that if V.I.P.’s are aggressively managed, then the wound-healing trajectory will progress. Lower extremity (LE) edema is a common clinical finding in patients with diabetes; however, there is a lack of awareness of how to treat edema without negatively impacting vascularity in the DFU patient. Elevation of the extremities has generally been recommended to reduce edema and prevent other sequential problems such as venous congestion, reduced oxygenation, possible limb pain, slow healing or non-healing wounds and possibly amputation. However, this is not an effective answer to treating edema in a functional patient. LE edema is most often treated with a method of graduated compression therapy to reduce swelling such as a wrap system or compression sock. These methods can enhance fibrolysis and venous outflow. An international consensus group has recommended a system for compression bandage systems and recommend categorizing mild compression as <20mmHg. A pilot study concluded mild compression therapy (18-25mmHg) decreased swelling in DFU patients with lower leg edema without comprising vascularity. A decrease in calf circumference, foot circumference, and cutaneous water content without compromise in arterial flow, has been demonstrated in diabetics after wearing mild compression socks.

Objective:
The objective of this observational case series was to quantify reduction in calf, ankle and mid-foot circumferences with the use of a total contact cast (TCC) system comprised clamshell cast with an off-loading footplate which includes a mild compression sock worn to the knee for DFU patients. All 8 patients were receiving TCC system comprised of a clamshell cast with an off-loading footplate for diabetic ulcer management.

Methods:
This case series of 8 diabetic patients that required off-loading for a plantar ulcer with a TCC system comprised of a clamshell cast with an off-loading footplate. The casts were applied according to manufacturer’s instruction for use. Calf, ankle and mid-foot measurements were routinely recorded prior to initial application and weekly prior to each cast application.

Conclusions:
Mild compression decreased swelling in diabetic patients with LE edema without complications. As suggested by the V.I.P. concept, use of this TCC system comprised of a clamshell cast with an off-loading footplate reduced the circumference of the calf, ankle, and mid-foot during the management of these DFU patients.

Summary:
In today’s high pressure environment to obtain quality wound management for diabetic foot ulcers, wound care professionals must take advantage of all beneficial treatments. Adding a mild compression sock to a TCC improves edema reduction. This is another opportunity for clinicians to begin to improve wound healing outcomes.

V - Vascular Management with low-level compression sock
I - Infection Management and Prevention with the included gentian violet and methylene blue antibacterial foam* and an ovine collagen dressing with an intact ECM**
P - Pressure Relief with TTC system comprised of a clamshell cast with off-loading footplate***

Treat the V.I.P.’s in plantar foot ulcers and improve DFU wound outcomes.

Average Limb Circumference Reduction

<table>
<thead>
<tr>
<th></th>
<th>Pre-Cast</th>
<th>Post-Cast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calf</td>
<td>39.5</td>
<td>23.6</td>
</tr>
<tr>
<td>Ankle N=8</td>
<td>25.6</td>
<td>23.3</td>
</tr>
<tr>
<td>Mid-foot</td>
<td>24.0</td>
<td>23.0</td>
</tr>
</tbody>
</table>

% Change

- Calf: 31.5%
- Ankle: 20.2%
- Mid-foot: 3.0%

References:

Financial Disclosure: Authors received an honorarium from Hollister Incorporated.

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Manufactured by AROA BIOSURGERY INC
340 Progress Drive, Manchester, CT 06042
1-860-337-7730
www.aroabio.com
Preparing a wound bed before application of cellular tissue based products using an Ovine collagen (CECM) dressing with an intact extracellular matrix.

Michael Desvigne, MD, CWS, FACS, FAACWS
Plastic & Reconstructive Surgery, Wound Care & Hyperbaric Medicine

Introduction:
With increasing amounts of offerings in dressings for wound closure, the clinician must be careful to choose the best dressing for their patients. There are many clinical reasons for utilizing advanced cellular tissue based products (CTP), but one must weigh the outcomes versus costs. The cost for a standard 2x2 of any of the CTPs can range from the hundreds to thousands of dollars per piece. Healthcare institutions are becoming more cost conscious. Failure of these products can be both costly to the patient and the healthcare system. CECM* provides a broad spectrum MMP reduction before and after CTP utilization. To set up for successful take of a CTP product, one can consider utilizing a CECM both before and after CTP application (“bookend”) to help reduce matrix metalloproteinases (MMPs) activity. In addition, CECM provides an intact, native extracellular matrix that helps promotes tissue granulation and epithelialization for final wound closure.2

Methods:
In this case, CECM was used before, during and after CTP utilization. Both the CECM and CTP were applied per product recommendations. Wounds were assessed weekly.

Conclusion:
CECM provides assistance with MMP reduction, while the CTP provides scaffolding for cellular growth.4 Because the exact mechanisms are not known, further research is needed. Early experience of the before and after utilization of CECM with CTP resulted in healing progression and showed positive results in wound closure in this case.

Case Study
Patient: 42 year-old female.
Past medical history:
- Osseous sarcoma of the left lower extremity

Previous wound management:
- Tumor resection and free tissue transfer completed after post-operative radiation. Two non-healing wounds, one in the proximal portion of the flap and the other distally at the level of the Achilles tendon. After 14 months, with failed attempts at surgical closure and moist wound therapy: There was no progression toward healing. There was no evidence of recurrent tumor and cultures were negative. The patient then underwent excisional debridement followed by a single application of CTP. The area was covered with gentian violet and methylene blue (GV/MB) polyurethane (PU) antibacterial foam dressing. The following week, CECM was added to the treatment and reapplied weekly. In 2 weeks, the distal wound had 100% epithelialization and the proximal wound decreased in size by 20% from initial wound size. At 4 weeks, the larger proximal wound in the area of radiated tissue injury decreased in size by 50% from initial wound size. At 8 weeks, the proximal wound size decreased by 70% from initial wound size. There was notable granulation tissue and new epithelium around and underlying the CTP. The graft remained adherent.
- Despite improvement at 12 weeks, the proximal wound was not completely healed and the distal wound had a recurrent ulceration. The recurring staled phase of the wounds became apparent although there was no evidence of infection or recurring trauma. At this time, it was elected to proceed with additional placement of CTP with plans to “bookend” the treatment immediately with additional CECM to assist with MMP reduction.

Methods:
In this case, CECM was used before, during and after CTP utilization. Both the CECM and CTP were applied per product recommendations. Wounds were assessed weekly.

Conclusion:
CECM provides assistance with MMP reduction, while the CTP provides scaffolding for cellular growth.4 Because the exact mechanisms are not known, further research is needed. Early experience of the before and after utilization of CECM with CTP resulted in healing progression and showed positive results in wound closure in this case.

REFERENCES

* Endoform dermal template, Distributed by Hollister Incorporated.
** Hydrofera Blue Ready foam, Distributed by Hollister Incorporated.
Purpose:
A retrospective case review was conducted to evaluate the benefit of a combination wound dressing protocol for treating Stage 3 pressure ulcers that could be left on the wound for a week.

Introduction:
Stage 3 pressure ulcers are a major challenge for the clinician to heal. Using a combination dressing protocol may improve healing. Multiple randomized controlled trials have demonstrated the superiority of hydrocolloid dressings over plain gauze in the treatment of pressure ulcers.1 One RCT including 65 residents with Stage 3 pressure ulcers in long term care facilities demonstrated similar healing rates of hydrocolloid dressings vs standard collagen dressings.2 The benefits of collagen to modulate excess matrix metalloproteinase (MMP) activity in a wound have been documented. A low MMP level is conducive to healing rather than a high level which can delay or retard healing.2 When treated in the outpatient setting, using a dressing that would be effective for the weekly episode of care would be ideal. A combination dressing protocol was developed and evaluated for the treatment of Stage 3 pressure ulcers.

Methodology:
A retrospective case review of 17 patients with Stage 3 pressure ulcers from long term care facilities patients were followed on a weekly basis at the wound care center. Initial excisional debridement was performed in all cases followed by subsequent debridement as needed during the treatment phase. Pressure reduction with mattress overlays and or seat cushions were ordered as needed. As part of the overall wound care plan, the combination dressing protocol developed consisted of a ovine collagen extracellular matrix dressing* (CECM) used as the primary dressing (Photo 2), a hydrogel if needed for moisture balance, and methylene blue/gentian violet (MB/GV) polyurethane (PU) antibacterial foam** (Photo 3) for management of bioburden, which was held in place with a generic hydrocolloid cover dressing (Photo 4). Dressing changes were performed weekly. Periwound skin was prepped with tincture of benzoic swabs to improve adherence of the hydrocolloid cover dressing. If the dressing dislodged before the next weekly clinic visit, care givers were instructed to reapply the collagen and foam portion of the dressing with a hydrocolloid cover. Wound assessment, simple wound measurements, and wound photographs were obtained at each weekly patient visit.

Results:
Seventeen patients presented with 21 Stage 3 sacrococcygeal area pressure ulcers. Nineteen wounds were followed to closure. Twelve of nineteen (12/19), 63.2% of the wounds healed in 4 weeks or less. All 19 wounds healed in a mean of 5.6 weeks (range 0.9-25.1 weeks). Median time to healing was 2.9 weeks. Two patients did not complete the study: One patient moved out of the area, but the wound volume reduced 71% in 6.6 weeks and the other patient deceased with the wound volume reduced 67% at 1 week.

Discussion:
In a comparative randomized controlled trial of 65 residents of skilled nursing home facilities with pressure ulcers, 13 patients had Stage 3 pressure ulcers.1 Either a collagen dressing or a hydrocolloid dressing were used to treat the wounds. When a collagen or hydrocolloid dressing were used alone, healing at 4 weeks did not occur.

In this retrospective case review, it appeared that using this combination dressing protocol with the CECM collagen dressing used in conjunction with MB/GV PU antibacterial foam and a hydrocolloid, complete healing was observed in 12 of 19 (63.2%) of stage 3 pressure ulcers at 4 weeks.

Conclusion:
Given that wound closure occurred in the majority of these Stage 3 pressure ulcers within 4 weeks, in this retrospective case review it appears to suggest that this dressing protocol did show effective wound closure on a timely basis.

References

Combination Dressing Protocol

<table>
<thead>
<tr>
<th>Weeks to Heel per Wound</th>
<th>Baseline wound area (cm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0.75</td>
</tr>
<tr>
<td>0.27</td>
<td>1.25</td>
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<tr>
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<tr>
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<tr>
<td>2.16</td>
<td>3.74</td>
</tr>
<tr>
<td>3.74</td>
<td>5.28</td>
</tr>
</tbody>
</table>

Financial Disclosure: The active ingredient is tetrarabosilic acid provided by Merck Sharp & Dohme.

* Endoform dermal template, Distributed by Hollister Incorporated.
** Hydrofera Blue Ready foam, Distributed by Hollister Incorporated.

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West Shore Center for Wound Care and Hyperbaric Medicine, Manistee, MI

Improved Healing of Stage 3 Pressure Ulcers Using Extracellular Matrix Collagen Dressings.

Gregory Bohn, MD, FACS, ABPM/UHM, CWSP, FACCHM • Sue Champion RN, CWOCN


West Shore Center for Wound Care and Hyperbaric Medicine, Manistee, MI

Appulse


West Shore Center for Wound Care and Hyperbaric Medicine, Manistee, MI

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West Shore Center for Wound Care and Hyperbaric Medicine, Manistee, MI

Appulse
Patient: 54 year-old female with 18 month-old non-healing wound on the lower leg

Past medical history:
- Ulcerative colitis, lower leg edema 1+ varicosities

On admission to wound clinic, treatments were:
- Biopsy: Negative for cancer or vasculitis
- Arterial ultrasound and ankle brachial index were normal
- Oral steroids and antibiotics given for two months
- Hydrofera Blue classic foam in conjunction with a topical steroid around peri-wound skin was applied and secured with a double layer of a tubular compression bandage for 3 months. Patient changed dressings weekly and was seen in the clinic monthly.
- After 3 months of above treatment, due to slow progression of wound, Endoform dermal template was added to wound treatment, covered with non-adherent contact layer, Hydrofera Blue classic foam, topical steroid around peri-wound skin, secured with rolled gauze and double layer of a tubular compression bandage.

**Week 0:**
Start of using Endoform dermal template

**Wound measurements:**
5 cm x 3.7 cm x 0.2 cm

**Week 4:**

**Wound measurements:**
4.5 cm x 2.7 cm x 0.2 cm

**Week 10:**

**Wound measurements:**
3 cm x 2 cm x 0.1 cm

**Week 12:**

**Wound measurements:**
2 cm x 1 cm x 0.1 cm

**Week 15:**

**Wound measurements:**
0.5 cm x 0.4 cm x 0.1 cm

**Week 16:**

Wound healed
Case provided by:
Dr. Juan Bravo, Medical Director Center for Wound Care and Hyperbaric Medicine at Coral Springs Medical Center, Coral Springs, Florida

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For product questions, sampling needs, or detailed clinical questions concerning our products in the US, please call 1-860-337-7730

HCPCS are for reference only and subject to change.

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Endoform® Dermal Template is marketed in the USA by Appulse
CASE STUDY 25 | Venomous Spider Bite - Left Forearm

Patient: 57 year-old male bitten by a venomous spider on the left forearm.

Age of wound:
- 2.5 Weeks

Previous Treatment:
- IV antibiotics and steroids while inpatient
- Two oral antibiotics as outpatient
- Collagenase ointment applied to wound when seen in the wound clinic at 2.5 weeks.

Wound Description:
Wound completely covered with dry slough, periwound edges rolled with mild border of erythema, patient reported no pain and had paresthesia in left forearm, but had 5/5 muscle strength and full range of motion. 1+ pitting edema in left wrist.

Wound Management:
The slough was debrided. Collagenase ointment was applied to wound base and covered with saline-moistened Hydrofera Blue classic dressing which may help with autolytic debridement and may help flatten wound edges.

Wound Measurements:
12.1 x 6.4 x 0.1 cm

Week 2:
Wound Measurements:
10.3 x 8.2 x 0.2 cm, undermining from 10-11 o'clock 0.5 cm and 1-2 o'clock 0.6 cm

Week 3:
Wound Description:
Wound completely covered in slough. Patient still had no pain and continued reporting paresthesia of left forearm. 1+ pitting edema in left wrist.

Wound Management:
The slough was debrided. Collagenase ointment was continued along with weekly debridements.

Week 5:
Wound Description:
Wound completely covered in slough. Patient still had no pain and continued reporting paresthesia of left forearm. 1+ pitting edema in left wrist.

Wound Management:
Wound debrided. Collagenase ointment applied to wound base and covered with saline-moistened Hydrofera Blue classic dressing which may help with autolytic debridement and may help flatten wound edges.

Week 6:
Wound Description:
Wound slough reduced. Proximal portion exhibits rolled wound edges. Patient still had no pain and continued reporting paresthesia of left forearm. 1+ pitting edema in left wrist.

Wound Management:
Wound debrided and collagenase ointment discontinued. Began using Endoform dermal template with saline-moistened Hydrofera Blue classic foam dressing secured with rolled gauze and tape. Dressing changes three times weekly. Patient seen in wound clinic every 2 weeks.
CASE STUDY 25 | Venomous Spider Bite - Left Forearm

**Week 10:**

**Wound Description:**
Wound bed mostly covered with granulation tissue with small amount of scattered slough and slight hypergranulation. Periwound edges are flattening. Patient still reports no pain but continues to report paresthesia. 1+ pitting edema in left wrist edema in left wrist.

**Wound Management:**
Wound bed and edges debrided. Endoform covered with saline-moistened Hydrofera Blue classic foam dressing and secured with rolled gauze and tape. Dressing changes three times per week. Patient reminded to elevate left arm to alleviate swelling. Patient continued to return to wound clinic every 2 weeks.

**Week 15:**

**Wound Description:**
Wound completely covered with granulation tissue, periwound edges pink and flat. Patient still reports no pain but continues to report paresthesia. 1+ pitting edema in left wrist.

**Wound Treatment:**
Saline-moistened Hydrofera Blue classic foam dressing only used at this point covered with an occlusive dressing. Dressings changed three times per week. Patient reminded to elevate left arm to alleviate swelling. Patient to return in 2 weeks.

**Week 12:**

**Wound Description:**
Wound closed with cicatrix noted (scar). Patient continues to report paresthesia. Trace edema noted in left wrist.

**Week 17:**

**Wound Description:**
Wound completely covered with red granulation tissue. Periwound edges are completely flat. Patient still reports no pain but continues to report paresthesia. Trace edema noted in left wrist.

**Wound Management:**
No debridement necessary at this visit. Endoform covered with saline-moistened Hydrofera Blue classic foam dressing secured with rolled gauze and tape. Dressing changes three times per week. Patient reminded to elevate left arm to alleviate swelling. Patient continued to return to wound clinic every 2 weeks.

Case provided by:
Sarah Reyna MNSc, CNP, AGACNP-BC-Saline Memorial Wound Healing Center, Benton, Arkansas

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AROA BIOSURGERY INC
340 Progress Drive, Manchester, CT 06042
1-860-337-7730
www.aroabio.com
Innovative solutions in the management of wounds with exposed tendons utilizing ovine collagen extracellular matrix and gentian violet and methylene blue antibacterial foams.

Dr. Igor Zilberman, DPM  |  Nooshin Zolfaghari DPM, CWL, MPH, South Florida Lower Extremity Center, Hollywood, FL

**INTRODUCTION:**

Tendons are anatomical structures that connect muscle to bone. They are composed of parallel bundles of collagen fiber and often appear at striated white or cream yellowish structures in wound beds. Tendons are nourished by blood vessels and by diffusion of nutrients from synovial fluid. Because nourishment is disrupted when the tendon is exposed, meticulous care must be provided to prevent infection and desiccation. Either of these two may result in loss of tendon viability.

Tendons may be exposed in trauma wounds, stage IV pressure wounds, diabetic wounds, and contaminated or infected surgical wounds. Chronic wounds represent a failure in the normal order and sequence of wound healing. Changes in local pH, temperature, and amounts of chemical reactants are all factors influencing wound healing.

The three main components of local wound management include debridement, infection/inflammation, and moisture balance. Bioburden, or critical bacterial colonization, leads to persistently high levels of matrix metalloproteinases (MMP) being released from inflammatory cells that digest the normal collagen scaffold in the base of a healing wound. Addressing these key barriers to wound healing with use of advanced wound care products may assist to achieve tendon coverage and promote wound healing.

**OBJECTIVE:**

To describe the use of an ovine collagen with an intact ECM (CECM) and gentian violet and methylene blue (GVMB) polyurethane (PU) and/or polyvinyl alcohol (PVA) antibacterial foam in wounds with exposed tendons.

**METHODS AND MATERIALS:**

Patients were selected with wounds containing either partial or complete tendon exposure. The CECM dressing and GVMB foams were changed according to product instructions. Assessments and measurements were performed by the clinician weekly.

**CONCLUSION:**

The use of the CECM dressing with GVMB antibacterial foams in this case series was helpful in the management of these complex wounds. Complete tendon coverage and resolution of wounds were without complication.

---

**Case Study 1 - Surgical wound - Right Dorsal Foot**

**Patient:** 59 year-old female presented to clinic with dehisced surgical incision on 2nd right toe osteomyelitis.

**Past medical history:**

- Hypertension, diabetes.
- Previous treatment:
  - IV antibiotics. Hospitalized for 1½ weeks.

**Wound Size:** 7.4 cm X 5.0 cm

**Treatment:**

- MB/GV PVA antibacterial foam covered with dry gauze and secured with gauze wrap. Dressings changed every other day.

**Wound Description:** 7.5 cm x 5.5 cm

**Case Study 2 - Debridged surgical wound - 2nd right toe**

**Patient:** 59 year-old female presented to clinic with debrided surgical incision on 2nd right toe osteomyelitis.

**Past medical history:**

- Hypertension, diabetes.
- Previous treatment:

**Wound Size:** 7.4 cm X 5.5 cm

**Treatment:**

- Gauze wrap. Dressings changed every other day.

**Wound Description:** 7.6 cm x 0.7 cm x 0.3 cm

**Case Study 3 - Pressure Ulcer - Achilles**

**Patient:** 60 year-old male living in a skilled nursing facility, bed bound with 3 month old pressure ulcer to the achilles.

**Past medical history:**

- Peripheral vascular disease, cognitive heart failure.

**Wound Size:** 8.0 cm x 3.0 cm x 0.2 cm

**Treatment:**

- Silvadene for 4 weeks to remove black slough.

**Wound Description:** 8.5 cm x 3.5 cm x 0.2 cm

**Case Study 4 - Diabetic Foot Ulcer – Left First Metatarsal**

**Patient:** 51 year-old male with diabetic foot ulcer.

**Past medical history:**

- JU

**Wound Size:** 7.0 cm x 0.1 cm x 0.3 cm

**Treatment:**

- Applied CECM covered with MB/GV PU antibacterial foam, secured with gauze wrap. Dressings changed every other day.

**Wound Description:** 7.0 cm x 0.1 cm x 0.3 cm

---

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**Zilberman, I. and N. Zolfaghari (2016). Innovative solutions in the management of wounds with exposed tendons utilizing ovine collagen extracellular matrix and gentian violet and methylene blue antibacterial foams. Symposium on Advanced Wound Care - Atlanta, GA**
Purpose:
To analyze our clinical outcomes with use of ovine collagen extracellular matrix (CECM)* and gentian violet/methylene blue (GV/MB) polyurethane (PU) antibacterial foam dressings** in treating chronic lower extremity wounds.

Introduction:
Chronic lower extremity wounds are increasingly more prevalent and complex to treat, and are a significant cause of morbidity and drain on healthcare resources worldwide. Patient comorbid conditions such diabetes, peripheral vascular disease and obesity can delay wound healing, and must be clinically addressed to correct causes of tissue damage. In addition to underlying medical conditions, chronic wounds are characterized by a complex etiology that can include abnormal cell-extracellular matrix (ECM) interactions, elevated bioburden levels and bacterial biofilm, imbalances of matrix-metalloproteinases (MMP) with inherent aspects of an ECM may contribute to improved wound healing outcomes and shorter treatment times.3

Methodology:
Retrospective chart analysis was performed on observational data of consecutive patients with chronic lower extremity ulcers who were managed with CECM as a primary dressing and MB/GV PU antibacterial foam dressing to manage bioburden as a secondary dressing in an outpatient setting.

Results:

<table>
<thead>
<tr>
<th>Patient demographics</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients (n)</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>22</td>
<td>41.5%</td>
</tr>
<tr>
<td>Female</td>
<td>31</td>
<td>58.5%</td>
</tr>
</tbody>
</table>

Mean age (years) 75.9
Mean Body Mass Index (BMI) 28.3
Mean wound area at presentation (cm2) 5.8

Thirty-three patients with 53 wounds were treated.

Types of wounds treated were diabetic foot ulcers (n=22), venous leg ulcers (n=28), and heel pressure ulcers (n=3). Average BMI for study population was 28.3 using a standard BMI formula with a BMI between 25 and 30 being overweight; average patient age was 75.9 years.

Mean percent wound size reduction at 4 weeks was 38.5%; mean wound size reduction at 8 and 12 weeks was 73.3% and 91.3%, respectively.

Week 0: 4.5 cm x 4.5 cm x 0.4 cm
Week 1: 3 cm x 3 cm x 0.1 cm
Week 13: 1.2 cm x 1.2 cm x 0.1 cm

Wound area reduction over 20 weeks (percent)

Wound surface area reduction over 20 weeks (percent)

**Comparison to V Luis, DFUs showed a slightly greater percent size reduction rate at 8 weeks, but a lesser size reduction at 12 weeks. This is consistent with our observation that DFUs in this series took longer than V Luis to progress to full healing during the re-epithelialization phase, but considerably more research is required to validate this observation.

Wound treatment: cleansing, sharp debridement as needed, and a CECM dressing covered with a GV/MB PU antibacterial foam until wound was healed.

Case Study
Patient: 66-year-old male patient with history of T2DM and HIV presented with anterior left ankle wound secondary to increased compression from treatment of pressure ulcer to heel that was almost closed. Patient was self-treating wound when he changed his dressing and over-tightened the gauze wrap on his left ankle.

Discussion:
Overall, the use of CECM covered with MB/GV PU antibacterial foam in an overweight, advanced-age population was successful with an average time to closure of 10.6 weeks for wounds in this series. It is interesting to note that 24/25 wounds that did not achieve greater than 40% wound surface area reduction by week 4 progressed to complete closure by week 20, with no additional wound treatment besides weekly application of CECM and MB/GV PU antibacterial foam dressings.

Rates of wound size reduction at 4, 8, and 12 weeks were similar between V Luis and DFUs.

* Endoform dermal template, Distributed by Hollister Incorporated.
** Manufactured for: Endoform�, 430 Progress Drive, Manchester, CT 06042

REFERENCES

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Lullove E. Use of Ovine Collagen Extracellular Matrix and Gentian Violet and Methylene Blue Antibacterial Foam Dressings to Help Improve Clinical Outcomes in Lower Extremity Wounds. Symposium on Advanced Wound Care - Fall, Las Vegas, NA.

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