3M | Veraflo™ Therapy

Start Smart

Negative Pressure
Wound Therapy with Instillation

Delayed healing and wound complications are a significant care and cost burden.

40%

of all wounds are infected or critically colonized[1]

It is estimated that 2-3% of healthcare expenditure across Europe is spent on wound care[2]

Costs are expected to increase even more as the population ages and the incidence of comorbid conditions that give rise to wounds increases[3]

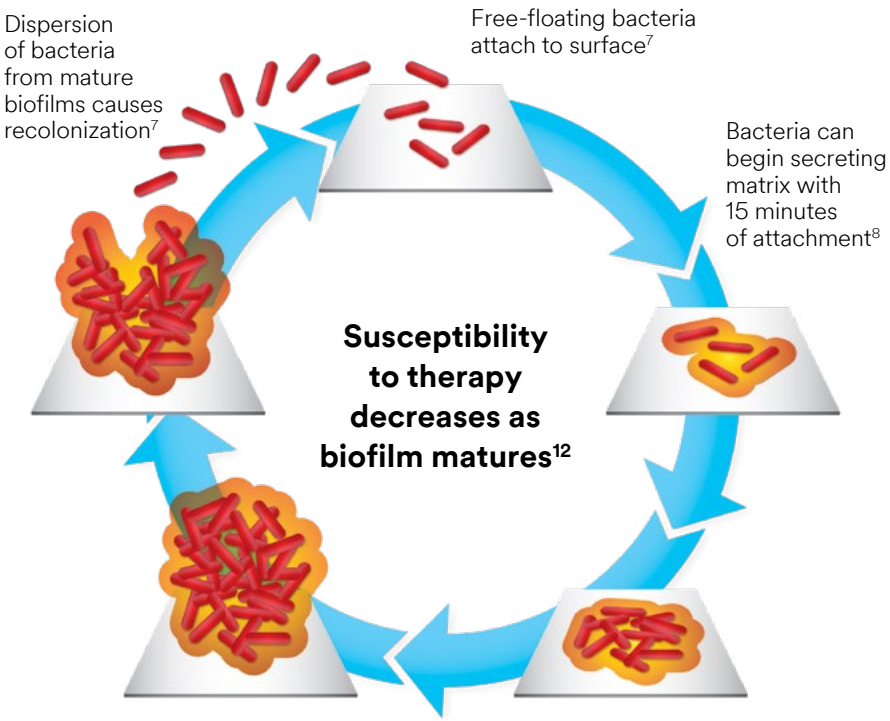
Costs may spiral if a wound does not receive the right therapy at the right time:

- Stalled wounds may develop complications such as infection, resulting in higher costs and longer hospital stays[4]

A smart start to managing bioburden.

The number of microorganisms with which an object is contaminated is referred to as the bioburden.[5]

Bioburden formation is commonly considered to occur in five main stages[6]:



3M™ Veraflo™ Therapy helps reduce bioburden through repeated cleansing cycles.

It can help:

Cleanse

Delivers topical wound solutions that dwell in the wound to help dilute and solubilize infectious material[13]

Remove

Removes solubilized wound debris and infectious materials, under negative pressure to lower bioburden[14]

Promote

Promotes granulation tissue formation and perfusion to prepare the wound for closure[15]

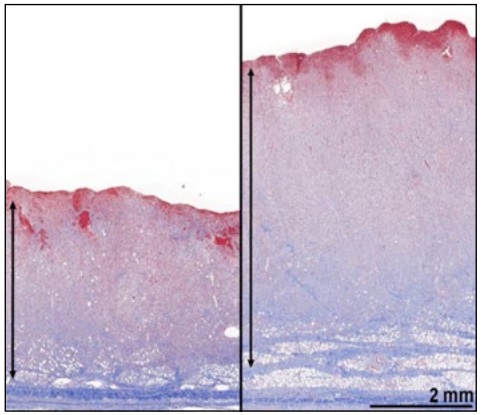
Veraflo Therapy: Shown to promote granulation tissue formation.

A significant increase in granulation thickness

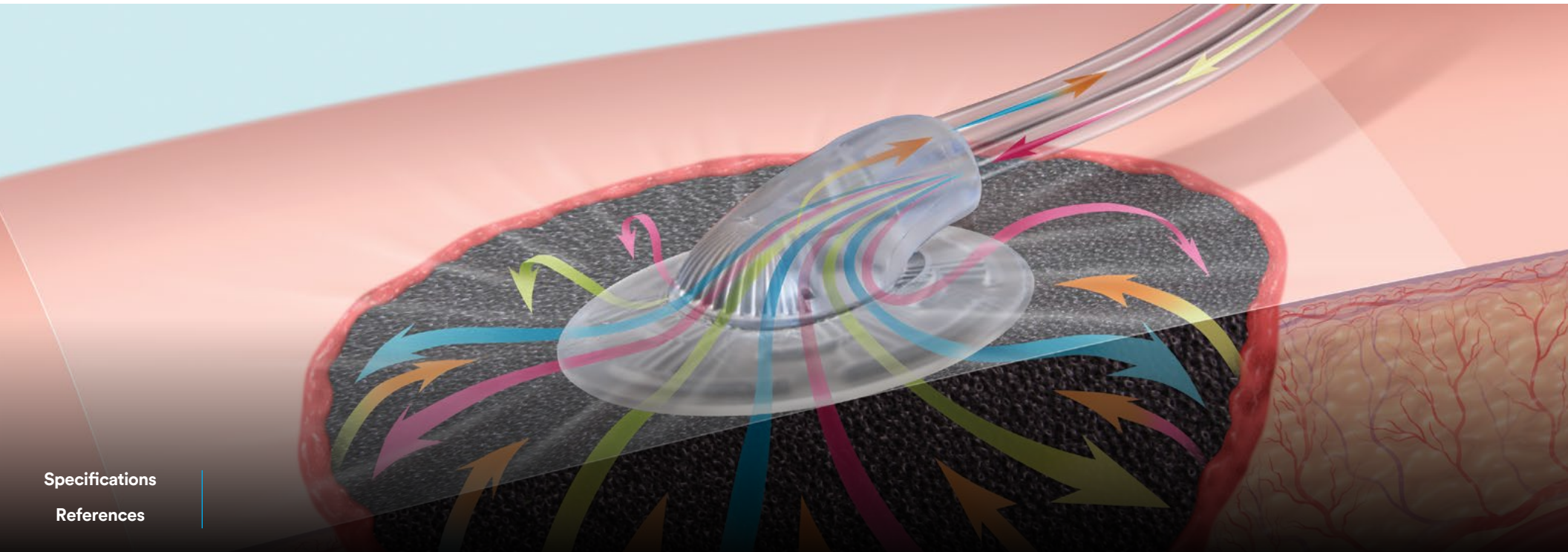
43%*

(*p*=0.05)

*These results have not been confirmed in human studies.



Histological images from a porcine study show a 43% increase in granulation tissue thickness between 3M™ V.A.C.® Therapy with the 3M™ V.A.C.® Granufoam™ Dressing (left) and Veraflo Therapy with the 3M™ V.A.C. Veraflo™ Dressing (right) after 7 days of therapy.[16]



Veraflo Therapy can provide improved clinical outcomes over standard of care in various wound types.

A systematic review of comparative studies and meta-analysis[17] evaluated the performance of Veraflo Therapy versus control in 13 studies and 720 patients in various wound types. **Results of the analysis revealed Veraflo Therapy delivered significant advantages over standard of care.**

>30% Fewer surgical debridements[17,18]
(1.77 debridements vs 2.69, *p*=0.008)

Wounds were ready for **closure** almost **twice as fast**[17,18]
(7.88 days vs 14.36 days, *p*=0.003)

Wounds were **2.39 times more likely to close**[17]
(*p*=0.01)

>50% reduced length of therapy[17,18]
(9.88 days vs 21.8 days, *p*=0.02)

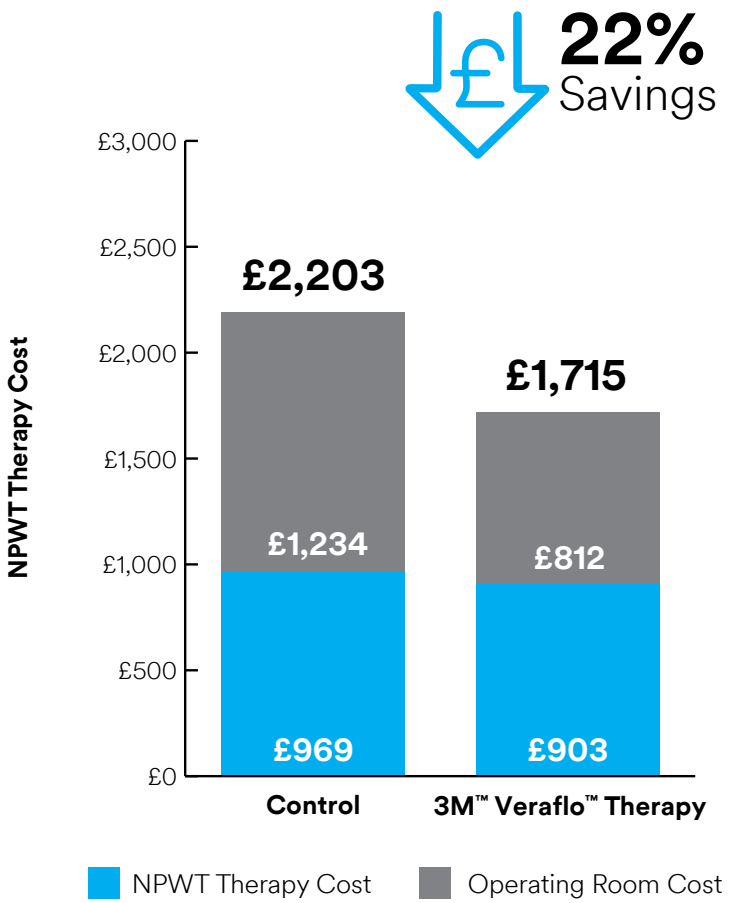
4.4 times greater odds of **reducing bacterial count**[17]
Odds were 4.4 times greater (*p*=0.003)

Use of Veraflo Therapy can potentially reduce costs verses standard of care.

- Improved wound outcomes can result in health economic benefits
- An economic analysis of the Gabriel et al. meta-analysis[17] with non-standardized means[18] illustrates potential cost effectiveness for Veraflo Therapy in the UK

Veraflo Therapy Sample Health Economic Model

	Control	3M™ Veraflo™ Therapy	Potential Reduction
Trips to OR for debridement	2.69	1.77	34%
Mean cost of OR Debridement[A]	£459	£459	
Total OR debridement cost (trips x cost)	£1,234	£812	34%
Time to final surgical procedure	14.36	7.88	45%
Length of Therapy (days)	21.8	9.88	55%
Daily cost of therapy[B]	£44	£91	
Total therapy costs (days x daily cost)	£969	£903	7%
Total cost per patient	**£2203**	**£1714**	**22%**
Potential savings due to fewer trips to OR		**£422**	
Potential savings due to shorter length of therapy		**£67**	
Total potential savings per patient		**£489**	



Footnotes: A. Caputo WJ, Beggs DJ, DeFede JL, Simm L, Dharma H. A prospective randomised controlled clinical trial comparing hydrosurgery debridement with conventional surgical debridement in lower extremity ulcers. *Int Wound J* 2008;5:288–294. **B.** Control costs vary widely. Average V.A.C.® Therapy daily costs are used to be conservative. Daily Veraflo Therapy cost is an estimate only; individual facility cost may vary.

The model uses select study data to provide an illustration of estimates of costs for use of Veraflo Therapy or Standard of Care (Control). This model is an illustration and not a guarantee of actual individual costs, savings, outcomes or results. The facility is advised to use this model as an illustration only to assist in an overall assessment of products and pricing.

The 3M™ V.A.C. Veraflo Cleanse Choice™ Dressing helps facilitate the removal of thick wound exudate and other infectious material.

Provides a wound cleansing option for clinicians when surgical debridement must be delayed or is not appropriate as deemed by the clinician.

Goals for using V.A.C. Veraflo Cleanse Choice Dressing are varied and include[13]:

Cleanse

Cleanse wounds when slough or nonviable tissue remains present on the wound surface

Remove

Remove thick exudates and infectious materials

Promote

Promote granulation tissue formation

Provide

Help provide a bridge to a defined endpoint for a clinical plan of care

V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy can help[13]:

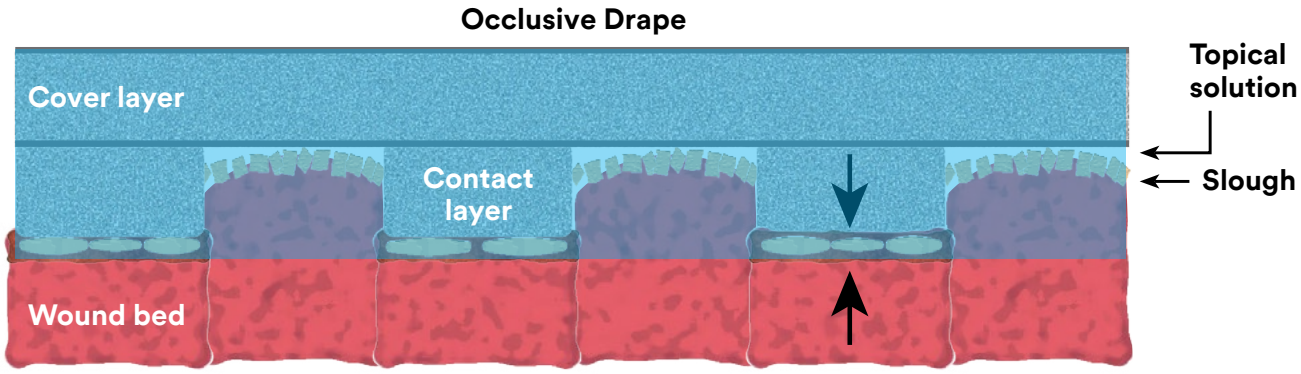
Soften

Separate

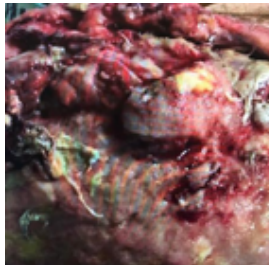
Solubilize

V.A.C. Veraflo Cleanse Choice Dressing Mechanism of Action

Instillation and dwell cycle helps to soften, separate and solubilize thick wound exudate and nonviable tissue.



During the negative pressure wound therapy cycle, the V.A.C. Veraflo Cleanse Choice Dressing becomes compressed and provides mechanical movement at the wound surface to help remove thick slough exudate and non-viable tissue.

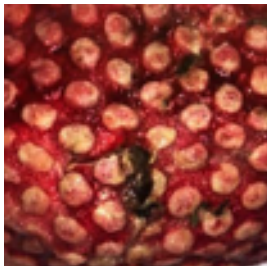


Day 0:

Dwell time: 10 minutes

NPWT time: 2 hours at -125mmHg

Solution: Hypochlorous



Day 6:

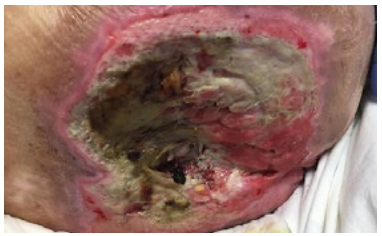
Dressing changes occurred every 3 days

30-year-old male patient with infected above-the-knee amputation stump. Comorbidities included tobacco use, anemia, and a history of methicillin-resistant *Staphylococcus aureus* infection. Conservative sharp debridement was performed at the bedside, and oral antibiotics were initiated.

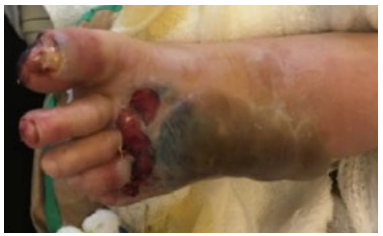
Specifications
References

Patient data and photos courtesy of Luis Fernandez, MD, FACS, FASAS, FCCP, FCCM, FICS, University of Texas Health Science Center, Tyler, TX.
NOTE: As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patients circumstances and condition.

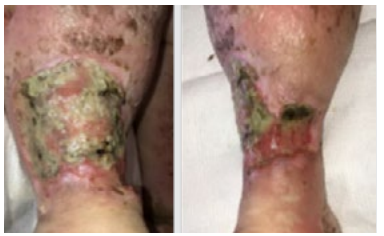
Patient results you have to see to believe: Veraflo Therapy and V.A.C. Veraflo Cleanse Choice Dressing.



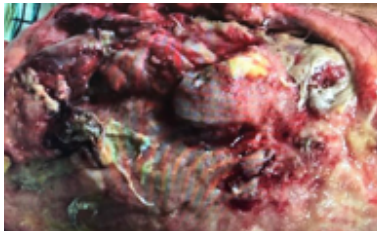
Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing for stage IV pressure ulcer.
See more >



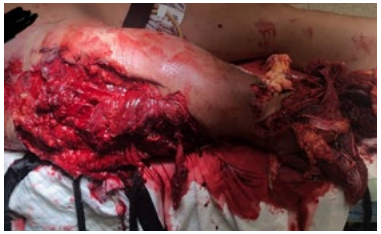
Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing for diabetic foot wound.
See more >



Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing for venous leg ulcer.
See more >



Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing for amputee with traumatic wound at stump.
See more >



Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing for soft tissue defect following transfemoral amputation.
See more >

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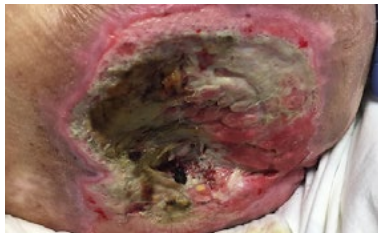
Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing: Stage IV pressure ulcer.

A 64-year-old male with multiple comorbidities presented with a stage IV pressure ulcer of the sacrum present for over four years.

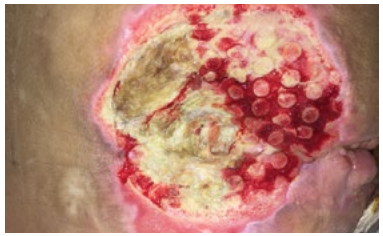


Day 0: Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing initiated.

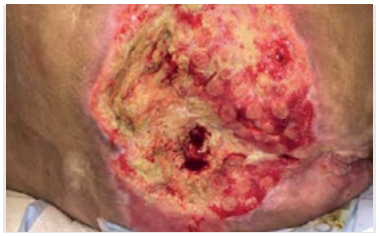
Dwell time: 1 minute

NPWT time: 30 minutes at -150mmHg

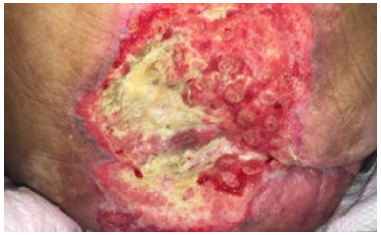
Solution: Saline (22mL)



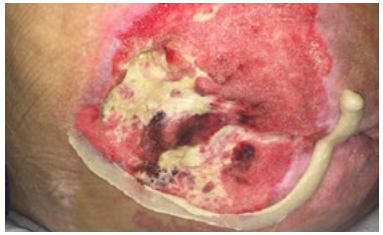
Day 3: Wound at first dressing change following three days of Veraflo Therapy and V.A.C. Veraflo Cleanse Choice Dressing.



Day 7: Wound after one week of Veraflo Therapy and V.A.C. Veraflo Cleanse Choice Dressing plus surgical debridement to remove tip of the coccyx and non-viable slough/adipose tissue.



Day 12: Wound after discontinuation of Veraflo Therapy, colostomy and resumption of Veraflo Therapy for five days. Patient is then switched to V.A.C.® Therapy.



Day 16: Wound after nine days of V.A.C.® Therapy. Patient discharged.

Specifications

References

Patient data and photos courtesy of Kimberly D. Hall, DNP, RN, GCNS-BC, CWCN-AP, COCN and Jessica Patterson, BSN, RN, CWOCN

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V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy for diabetic patient with chronic foot wound.

A 54-year-old male with hypertension, diabetes mellitus, and Charcot foot was admitted to the hospital with a chronic left foot wound.

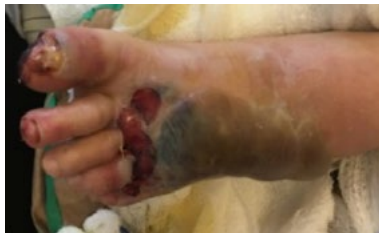

Figure A: Wound at presentation.

Dwell time: 10 minutes

NPWT time: 3.5 hours at -125mmHg

Solution: Vashe® Wound Therapy Solution

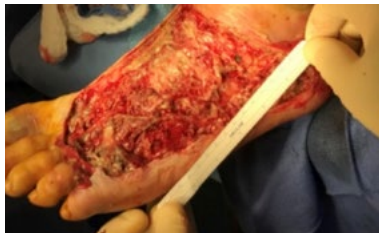

Figure B: Patient is treated with an intravenous antibiotic regime, followed by surgical debridement with excision of necrotic tissue (Figure B). Patient begins Veraflo Therapy using V.A.C. Veraflo Cleanse Choice Dressing.

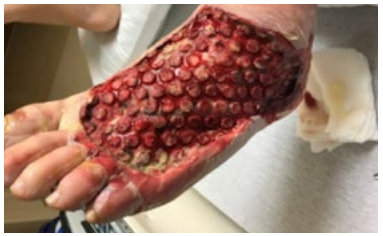

Figure C: After two days of Veraflo Therapy, the wound bed displays healthy granulation tissue with minimal devitalized tissue or thick slough. V.A.C. Veraflo Cleanse Choice dressing is changed.

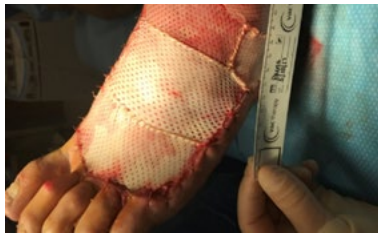

Figure D: After 14 days and 4 dressing changes, Veraflo Therapy is discontinued and human dermal collagen is applied.

Patient data and photos courtesy of Douglas Duke, DO; Director of Wound Care, Flowers Hospital, Dothan, AL.

NOTE: As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's circumstances and condition.

V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy: Venous leg ulcer.

A 60-year-old female presented with a venous leg ulcer (10cm x 16cm x 1.5cm) of the right distal lower extremity. Systemic antibiotics were initiated upon presentation.

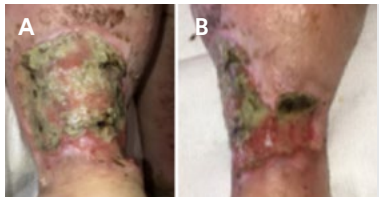

Figure 1: Wound at presentation. A. Anterior view. B. Medial view.

Dwell time: 10 minutes

NPWT time: 1 hour at -125mmHg

Solution: 34mL of quarter-strength Dakin's® Solution

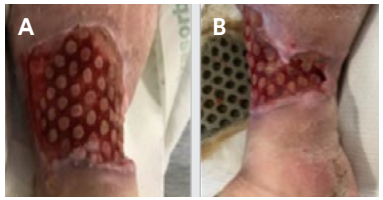

Figure 2: Wound after 24 hours of V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy. Solution changed to 28mL normal saline.

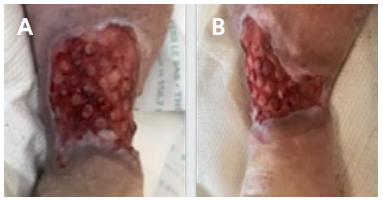

Figure 3: Wound after 8 days of Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing showed decrease in size and healthy granulation tissue. Patient was transitioned to Veraflo Therapy with V.A.C. Veraflo Dressings.

Dwell time: 10 minutes

NPWT time: 2 hours at -125mmHg

Solution: Saline

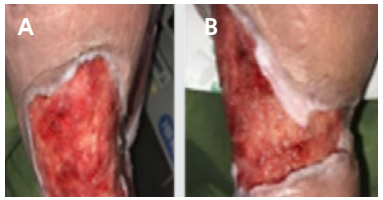

Figure 4: Wound after 2 days Veraflo Therapy with V.A.C. Veraflo Dressing showed healthy granulation tissue. Patient transitioned to advanced wound dressing and compression therapy.

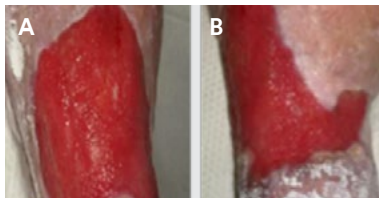

Figure 5: Wound after 7 days of advanced wound dressing and compression therapy showed continued improvement with healthy granulation tissue.

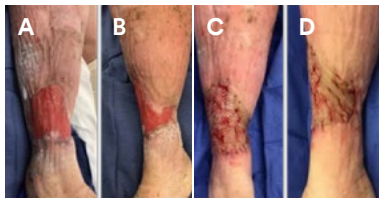

Figure 6: Wound approved for allograft: Anterior (A) and medial (B) views prior to allograft procedure; anterior (C) and medial (D) views of allograft application.

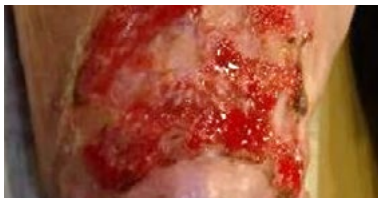

Figure 7: After 2 days patient was discharged to a skilled nursing facility. After 44 days wound demonstrated areas of re-epithelialization.

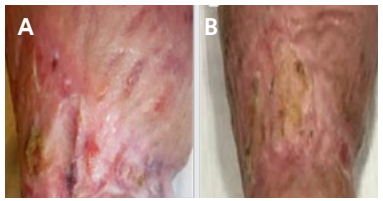

Figure 8: Fully closed after 102 days (A) of advanced wound dressing care and compression dressings; remained closed 56 days post closure (B).

Specifications

References

Patient data and photos courtesy of Kersten Reider BSN, RN, CWOCN, Elizabeth McElroy, MSN, RN, CRNP, CWS, CWOCN-AP, Tower Health System, West Reading, PA

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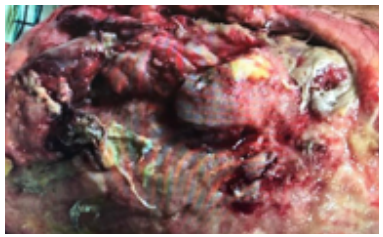
V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy: Traumatic wound.

A 33-year-old male amputee with history of tobacco use, anemia, and methicillin-resistant *Staphylococcus aureus* presented with infection of above-the-knee stump. Conservative sharp debridement was performed at the bedside and oral antibiotics were initiated.



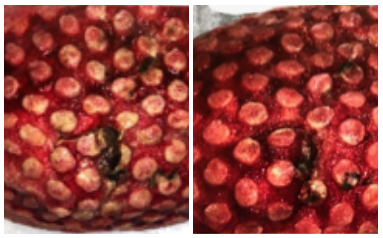
Day 0: Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing initiated.

Dwell time: 10 minutes

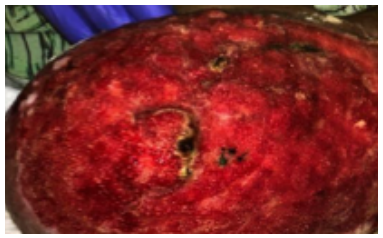
NPWT time: 2 hours at -125mmHg

Solution: Hypochlorous solution (80-100mL)

Day 3: Wound after 3 days of Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing.



Days 6 and 9: Further granulation tissue and reduction in slough after 6 and 9 days of V.A.C. Veraflo Cleanse Choice Dressing. Veraflo Therapy discontinued and switched to V.A.C.® Therapy.



Day 12: Wound after 1-day V.A.C.® Therapy. Patient was discharged to a long-term care facility 12 days after admission to the hospital.

Patient data and photos courtesy of Luis Fernandez, MD, FACS, FASAS, FCCP, FCCM, FICS, University of Texas Health Science Center, Tyler, TX

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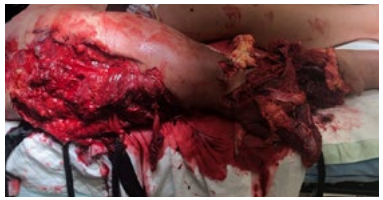
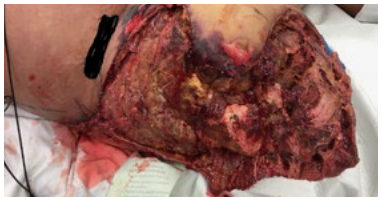
V.A.C. Veraflo Cleanse Choice Dressing with Veraflo Therapy: Soft tissue defect following transfemoral amputation.

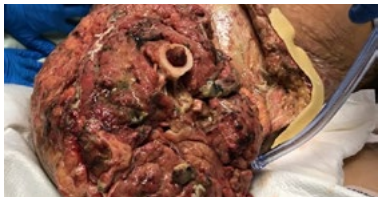
Following a boating injury, a 26-year-old female received transfemoral amputation that resulted in soft tissue defect measuring approximately 90 × 45cm^2. Antibiotics were administered throughout the patient treatment period.



Day 1: Extensive wound on injured leg debrided of devitalized tissue and irrigated. V.A.C.® Therapy at -125mmHg applied.



Day 6: Following diagnosis of macrophage activation syndrome, patient received further debridement and irrigation due to aggressive infection.

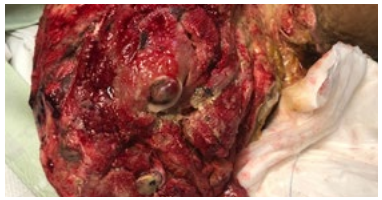


Day 9: With patient in critical condition and debridement no longer an option, Veraflo Therapy with V.A.C. Veraflo Cleanse Choice Dressing was initiated.

Dwell time: 5 minutes

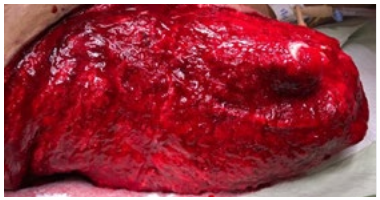
NPWT time: 2 hours at -150mmHg

Solution: 100mL Dakin's® Solution

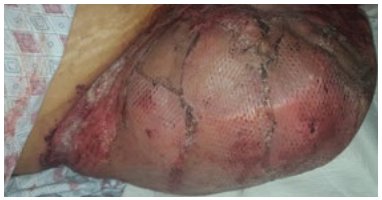


Day 13: Wound demonstrated healing at 4 days following initiation of Veraflo Therapy.

Day 17: Wound showed absence of devitalized tissue, with increase in vascularity and significant granulation. Veraflo Therapy was transitioned to V.A.C. Veraflo Dressing.



Day 25: Wound measured approximately 25 × 30cm, with significant granulation tissue and considerable coverage over the femur fragment.



Day 43: The patient underwent a tangential excision and split-thickness skin graft, which was covered with a non-adherent layer and bolstered using V.A.C.® Therapy.

Day 167: Patient 167 days after initial injury, taking first steps on a new prosthesis.

Specifications
References

Patient data and photos courtesy of Brandon Hill, RN, CWCN, FACCWS; Ochsner Louisiana State University Health Shreveport, Shreveport, LA

NOTE: As with any case study, the results and outcomes should not be interpreted as a guarantee or warranty of similar results. Individual results may vary depending on the patient's circumstances and condition.

With a comprehensive portfolio of advanced wound care solutions, 3M is at the forefront of scientific innovation, collaborating with clinical partners to develop proven clinical therapies at every point in the patient journey. Transforming outcomes through patient-centric science, 3M is setting high standards across the continuum of care.

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of advanced wound care therapies to support your patient every step of the way

1,900+
peer-reviewed publications support the value of 3M negative pressure technology

>100
peer-reviewed publications on Veraflo Therapy

>10M
wounds treated worldwide with V.A.C.® Therapy[19]

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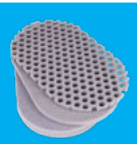
>25 years
of transformative technology in Negative Pressure Wound Therapy leadership

V.A.C. Veraflo Dressing specifications and fill volumes*

	3M™ V.A.C. Veraflo™ Dressing: Small & Medium* 	3M™ V.A.C. Veraflo Cleanse Choice™ Dressing* 
Wound characteristics	Open wounds, including wounds with shallow undermining or tunnel areas where the distal aspect is visible	Wounds with thick wound exudate, such as fibrin, slough or infectious material
Dressing specifications	**Small: L x W x D** 3.0" x 4.4" x 0.7" 7.7 × 11.3 × 1.8cm **Medium: L x W x D** 5.8" x 6.8" x 0.7" 14.7 × 17.4 × 1.8cm	**Medium: L x W x D1 or D2 or D3** 7.1" x 4.9" x D1 or D2 or D3 18.0cm x 12.5cm x D1 or D2 or D3 **Large: L x W x D1 or D2 or D3** 10.1" x 5.9" x D1 or D2 or D3 25.6cm x 15.0cm x D1 or D2 or D3 **D = layer thickness** **D1 =** 0.3" (0.8cm) thin cover layer **D2 =** 0.6" (1.6cm) thick cover layer **D3 =** 0.3" (0.8cm) wound contact layer (1.0cm circular holes; 5mm spacing)
Fill volume start points	**Small:** 12-80mL (1 piece) 26-160mL (2 pieces) **Medium:** 38mL (1 piece) 80mL (2 pieces)	**Medium:** 85mL (1.6cm cover layer); 42mL (0.8cm cover layer); 24mL (0.8cm wound contact layer) **Large:** 150mL (1.6cm cover layer); 75mL (0.8cm cover layer); 42mL (0.8cm wound contact layer

3M™ V.A.C. Veraflo™ Dressings and Accessories for use with 3M™ Veraflo™ Therapy

ULTVFL05SM	3M™ V.A.C. Veraflo™ Dressing, small, 5-pack	**ULTVCC05LG**	3M™ V.A.C. Veraflo Cleanse Choice™ Dressing, large, 5-pack
ULTVFL05MD	3M™ V.A.C. Veraflo™ Dressing, medium, 5-pack	**ULTLNK0500**	3M™ V.A.C. Veralink™ Cassette, 5-pack
ULTVCC05MD	3M™ V.A.C. Veraflo Cleanse Choice™ Dressing, medium, 5-pack	**ULTDUO0500**	3M™ V.A.C. VeraT.R.A.C. Duo™ Tube Set, 5-pack
		M8275063/5	500mL Canister with gel for use with 3M™ V.A.C.® Ulta Therapy System

*3M™ V.A.C. Veraflo™ Dressing Kits contain foam dressings, V.A.C.® Advanced Drape, a ruler, a 3M™ V.A.C. VeraT.R.A.C.™ Pad (Small & Medium Sizes) or 3M™ V.A.C. VeraT.R.A.C. Duo™ Tube Set (Large Size), and 3M™ Cavilon™ No Sting Barrier Film (where available).

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NOTE: Specific indications, contraindications, warnings, precautions, and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. This material is intended for healthcare professionals.