solventum

Shown to significantly increase wound closure rate[1,2*]

3M™ Promogran Prisma™ Wound Balancing Matrix and
3M™ Promogran™ Protease Modulating Matrix

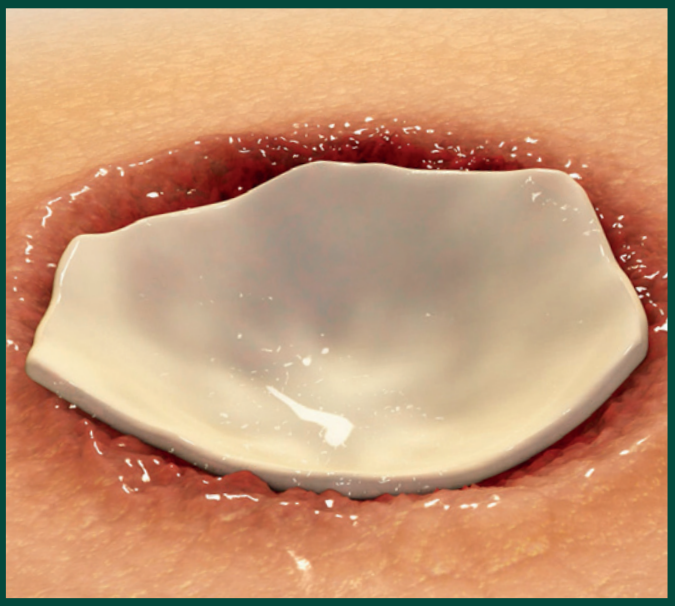
*In conjunction with good clinical practice.

Unlike any other collagen dressing

3M™ Promogran™ Matrix family of collagen dressings are uniquely formulated with Oxidised Regenerated Cellulose (ORC) and demonstrated effective through multiple clinical studies including Randomised Controlled Trials (RCTs) that were systematically reviewed in meta-analysis.[1,2]

These studies have shown the use of Promogran Matrix Family of collagen dressings:

- Are cost effective and have the potential to lower the total cost of treatment[3]
- Can significantly increase the number of wounds closed[1,2]
- When used early in wound management, may lead to improved success rates[4-7]
- And the use of 3M™ Promogran Prisma™ Wound Balancing Matrix, has been shown to lower the rate of withdrawals due to wound infections in a RCT.[5] The dressing is known to provide an effective antibacterial barrier against common wound pathogens *in vitro* due to the antibacterial properties of silver.[8]



How the dressings work

In the presence of exudate, Promogran Prisma Matrix and Promogran Matrix transform into a soft, conformable, biodegradable gel, allowing contact with all areas of the wound. The dressings help create a moist wound bed and an environment that supports wound healing. During dressing changes, it is not necessary to remove any residual dressing.

A key difference is ORC

The only collagen dressing to have the unique combination of collagen and Oxidised Regenerated Cellulose (ORC).

While collagen alone is particularly effective against matrix metalloproteinases (MMPs), it has a limited effect on elastase activity. In vitro studies have demonstrated the combination of Oxidised Regenerated Cellulose (ORC) and collagen materials had a greater effect in reducing both MMP and elastase activity than collagen alone.[9] This is important because both are highly predictive of non-healing wounds as shown below.[10]

Why is elastase important?

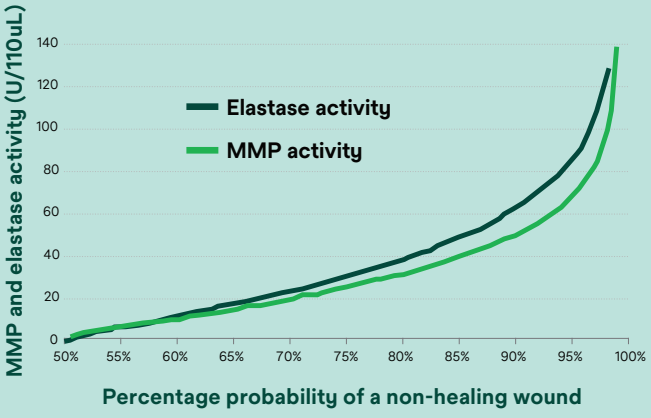
While MMPs are the most commonly discussed, elastase is one of the most abundant proteases present in chronic wounds, the first of the proteases to arrive post-injury, and is responsible for damage to:[11,12,13]

- **Fibronectin** – vital for cell adhesion and migration; must be present to signal growth factors to appear
- **Elastin** – Gives tissue elasticity
- **Growth** factors – PDGF, EGF

3M's exclusive pairing of collagen with ORC helps reduce elastase activity to promote healing.[9,14*]

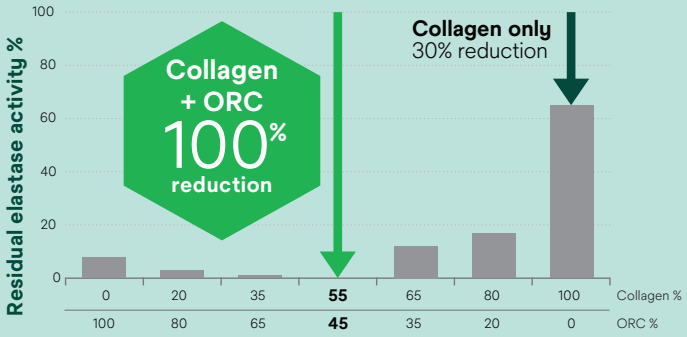
Problem

As protease activity increased for both MMPs and elastase, the probability of healing decreased.[10,14]



Solution

3M's exclusive combination of collagen + ORC led to a reduction in elastase activity after 24 hours.[15]



In vitro

Demonstrated to potentially lower the cost of treating hard to heal wounds[3*]

Time is money. Meta-analyses showed patients treated with 3M™ Promogran™ Matrix Family of collagen dressings are more likely to experience wound healing.[1,2] The cost effectiveness of the treatment was also demonstrated.[3] In addition, patients treated with 3M™ Promogran Prisma™ Wound Balancing Matrix showed a reduced risk of infection due to the antibacterial barrier properties of silver in the dressing.[5,8]

1 Cost effective[3*]

Using Promogran Matrix Family dressings is cost effective and has the potential to lower the total cost of treatment[3] due to reduced nursing time and improved healing rate.

A retrospective clinical study on chronic wounds from different etiologies (n=974) demonstrated that sequential wound management with Promogran Prisma Matrix and 3M™ Promogran™ Protease Modulating Matrix was more cost-effective (reduced total treatment cost) than treatment with gauze dressings over a 2 month period. The cost advantage was attributed to reduced nursing time and improved healing rate.*

2 Increased number of wounds closed[2]

A systematic review of 10 clinical studies (n=1521) showed wounds treated using Promogran Matrix Family dressings can significantly increase the number of wounds closed.[2]

Based on a subset meta-analysis of 6 studies, wounds treated with collagen/ORC dressings are estimated to have odds of complete healing that are 1.74 times higher than with standard dressing (p=0.03).[2]

1.74x
higher odds to achieve complete healing[2]
(95% CI:1.06–2.85)

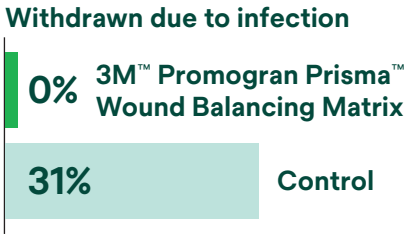
3 Fewer withdrawals due to infection[5]

An RCT showed fewer withdrawals because of infection with Promogran Prisma Matrix.[5]

The dressing provides an effective antibacterial barrier against common wound pathogens as demonstrated by the *in vitro* reduction of bacterial growth[8]. Reduction of bacterial bioburden in the dressing may result in reduced risk of infection.

A 14 week RCT involving diabetic foot ulcer (DFU) patients (n= 39) showed:[5]

- Significantly more wounds (DFU's) achieved a greater than 50% reduction in wound area vs control (standard of care) at week 4 (79% vs 43%, p=0.035)
- The number of wounds withdrawn from the study due to infection was significantly greater in the control group (0% vs 31%, p=0.012)



p=0.012, 0% n=23, 31% n=13

*Versus gauze dressings.

MMP activity reduced 97.6%

elastase activity reduced 51.3%

Seven month old diabetic foot ulcer (DFU) heals in 14 weeks.

A 74 year old male presented with a 2.5cm, 7 month old (DFU) on the bottom of the right foot (Figure 7A). The patient had a history of diabetes mellitus and had previously undergone a transmetatarsal amputation.

Wound fluid and measurements were taken at wound presentation and every 2 weeks up to 14 weeks. A 3M™ Promogran Prisma™ Wound Balancing Matrix was applied over the wound. Wound fluid was tested for MMP-9 and elastase activity using either a fluorogenic substrate or immunocapture activity assay.

At presentation

- MMP activity = 227.2 relative fluorescence units (RFU)/minute/ml
- Elastase activity = 568.6 RFU/minute/ml

At week 12

- 97.6% reduction of MMP-9 activity and 51.3% reduction in elastase activity
- MMP activity = 5.4 RFU/minute/ml
- Elastase activity = 277.1 RFU/minute/ml

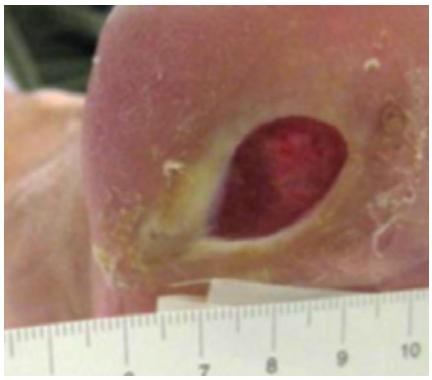


Figure 7A
Diabetic foot ulcer on bottom of right foot at presentation.

Figure 7B
Wound at week 4.

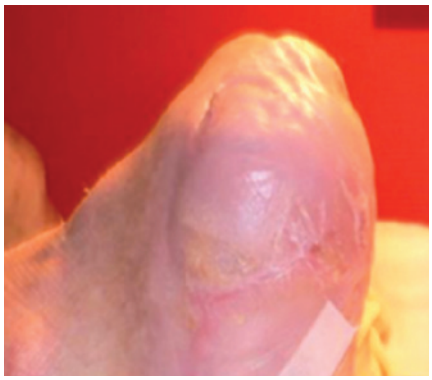


Figure 7C
Wound fully reepithelialised at week 14.

Case study images courtesy of Dr. Finn Gottrup, Professor of Surgery, MD, DMSci. As with any case study, the 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.

Treat early. Don't wait.

Early treatment of wounds with 3M™ Promogran™ Matrix Family dressings may help improve healing rates versus non-active treatments.[4-7]

As wounds get older, the chances of the wound healing or improving decreases.[4] Don't wait for a wound to stall. Help your patients get back to living their lives sooner. The collective evidence below shows that Promogran Matrix Family dressings help to improve wounds versus a control, and that wounds treated early in duration have higher healing rates. Thus, treating wounds earlier with Promogran Matrix Family Dressings, may help improve healing rates over non-active treatments.

Wounds treated early have higher rates of healing or improvement.[4,6]

- An RCT on Diabetic Foot Ulcers (DFUs) (n=276) showed a trend of healing among DFUs with less than 6 months' duration when treated with Promogran Matrix Family versus moistened gauze control (45% vs 33%, p=0.056)[6]
- A prospective randomized multi-centre study of Venous Leg Ulcers (VLUs) (n=56) showed a significant correlation between ulcer duration and healing using a multivariate analysis (p=0.004)[4]

Early usage

of Promogran Matrix Family may lead to improved success rate[4-7]

Promogran Matrix Family helps to improve healing rates.

An RCT on VLUs (n=73) showed at 12 weeks a higher reduction in wound area with Promogran Matrix than the control group (median decrease 82.4% vs 44.6%, p<0.001).[7]

Median wound area reduction
12 week period

p<0.001)

An RCT on DFUs (n=39) showed more wounds treated with the Promogran Matrix Family had greater than 50% reduction in wound area at week 4 (79% vs 43%, p=0.035).[5]

Median wound healing
at 4 weeks

p=0.035

> I would use it as our only collagen. All collagens are not created equal.

Dorothy (Dot) Weir, RN, CWON, CWS
Dot Weir is a paid consultant of 3M.

Two great dressing choices. Both with ORC.

The only collagen dressing to have the unique combination of collagen and Oxidised Regenerated Cellulose (ORC)

Two products offering the right combination of materials, depending on your needs. 3M™ Promogran Prisma™ Wound Balancing Matrix – for those wounds that can benefit from silver's antimicrobial properties[8] – and 3M™ Promogran™ Protease Modulating Matrix.

3M™ Promogran Prisma™ Wound Balancing Matrix

1% Silver-ORC

55% Collagen	44% ORC

3M™ Promogran™ Protease Modulating Matrix

55% Collagen	44% ORC

3M™ Promogran™ Matrix Family

Indications for use

Promogran Prisma Matrix and Promogran Matrix are intended for the management of exudating wounds including:

- Diabetic ulcers
- Venous ulcers
- Pressure injuries
- Ulcers caused by mixed vascular etiologies
- Full-thickness and partial-thickness wounds
- Donor sites and other bleeding surface wounds
- Traumatic wounds healing by secondary intention
- Dehisced surgical wounds
- May be used under compression therapy with health care professional supervision

Ordering information

3M™ Promogran Prisma™ Wound Balancing Matrix

Item code	Eaches/carton/box	Size
M772028	10 ea/ct – 4 ct/bx	28cm² hexagon
M772123	10 ea/ct – 4 ct/bx	123cm² hexagon

3M™ Promogran™ Protease Modulating Matrix

Item code	Eaches/carton/box	Size
PS2028	10 ea/ct – 4 ct/bx	28cm² hexagon
PS2123	10 ea/ct – 4 ct/bx	123cm² hexagon

To learn more about how the 3M™ Promogran™ Matrix Family can help in the treatment of your patients, contact your local 3M Account Representative.

References

1. Chowdhry S.A., *et al.* Use of oxidised regenerated cellulose/collagen dressings versus standard of care over multiple wound types: a systematic review and meta-analysis. *Int. Wound J.* 2021.
2. Chen, Y.; Du, P.; Lv, G. A meta-analysis examined the effect of oxidised regenerated cellulose/collagen dressing on the management of chronic skin wounds. *Int. Wound J.* 2023; 20(5):1544–1551. doi:10.1111/iwj.14009CHENET AL.1551.
3. Snyder, R. *et al.* A Retrospective Study of Sequential Therapy with Advanced Wound Care Products versus Saline Gauze Dressings: Comparing Healing and Cost. *Ostomy Wound Management.* 2010; 56(11A):9–15.
4. Cullen, B.; *et al.* Early adoption of collagen/ORC therapies improves clinical outcome. Paper presented at: Wounds UK Harrogate, 2011.
5. Gottrup, F.; Cullen, B.; Karlsmark, T.; Bischoff-Mikkelsen, M.; Nisbet, L.; Gibson, M. Randomized controlled trial on collagen/oxidized regenerated cellulose/silver treatment. *Wound Repair & Regeneration.* 2013; 21:1–10.
6. Veves, A.; Sheehan, P.; Pham, H.T. A randomised controlled trial of Promogran (a collagen/ oxidized regenerated cellulose dressing) vs standard treatment in the management of diabetic foot ulcers. *Arch. Surg.* 2002; 137(7):822–827.
7. Vin, F.; Teot, L. and Meaume, S. (2002) The healing properties of Promogran in venous leg ulcers. *J. Wound Care*, 11, 335–341.
8. Bourdillon, K.A.; Delury, C.; Cullen, B. Biofilms and delayed healing – an in vitro evaluation of silver and iodine containing dressings and their effect on bacterial and human cells. *International Wound Journal.* 2017. ISSN 1742–4801.
9. Cullen, B.; Watt, P.; Lundqvist, C. *et al.* The role of oxidized regenerated cellulose/collagen in chronic wound repair and its potential mechanism of action. *Int. J. Biochem. Cell Biol.* 2002; 34(12):1544–1556.
10. Serena, T.; Cullen, T.; Bayliff, S. *et al.* Defining a new diagnostic assessment parameter for wound care: Elevated protease activity, an indicator of non-healing for targeted treatment. *Wound Repair Regen.* 2016; 24(3):589–595.
11. Gibson, D.; Cullen, B.; Legerstee, R.; Harding, K.G.; Schultz, G. MMPs made easy. *Wounds International.* 2009; 1(1)1–6.
12. Weitz, J.I.; Landmann, S.L.; Crowley, K.A.; Birken, S.; Morgan, F.J. Development of an assay for in vivo human neutrophil elastase activity. Increased elastase activity in patients with alpha 1-proteinase inhibitor deficiency. *J. Clin. Invest.* 1986; 78:155–162. doi:10.1172/JCI112545. Cited by: Cited by: Ferreira, A.V.; Perelshtein, I.; Perkas, N.; Gedanken, A.; Cunha, J.; Cavaco-Paulo, A. Detection of human neutrophil elastase (HNE) on wound dressings as marker of inflammation. *Appl. Microbiol. Biotechnol.* 2017; 101:1443–1454.
13. Hasmann, A.; Gewessler, U.; Hulla, E.; *et al.* Sensor materials for the detection of human neutrophil elastase and cathepsin G activity in wound fluid. Exp. Dermatol. 2011; 20(6):508–513. doi: 10.1111/j.1600–0625.2011.01256.x. Cited by: Ferreira, A.V.; Perelshtein, I.; Perkas, N.; Gedanken, A.; Cunha, J.; Cavaco-Paulo, A. Detection of human neutrophil elastase (HNE) on wound dressings as marker of inflammation. *Appl. Microbiol. Biotechnol.* 2017; 101:1443–1454.
14. Serena, T.; *et al.* Protease activity levels associated with healing status of chronic wounds. Poster presented at: Wounds UK Annual Conference; November 7–9, 2011; Harrogate, UK.
15. Cullen, Gregory, 2002, A comparison of collagen containing dressings to modify the chronic wound environment, poster presented at EWMA, May 24, 2002, Granada, Spain.

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.

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