

# Patient with Longstanding Pyoderma Gangrenosum 'Got His Life Back' in Just One Month

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## PROBLEM

A previously healthy 65-yr-old sustained a posterior lower leg wound while gardening. After 17 months, an 11mm in diameter scab persisted. A wound center sharply debrided it, leading to enlargement and increased pain. Subsequent debridement led to more pain and enlargement. After a stent in the pelvic vein did not promote healing, Pyoderma gangrenosum (PG) was finally diagnosed post-biopsy at 29 months. Despite prednisone and adalimumab (3 rounds each), intralesional triamcinolone x2, hyperbaric oxygen x10days, the PG size increased to 140x120mm. Medication side effects devastated the patient's health. By ~34 months, BP soared to 150/98, BMI to 37.7, and HgbA1c to 9.9. Slough and eschar covered the wound bed despite hypochlorous acid soaks 4-5/day at dressing changes. Consistent elevation, ibuprofen, fentanyl patches or oxycodone + acetaminophen, and copious applications of lidocaine cream were all required to keep rest pain at 3-10. As costs spiraled, pain and episodic hemorrhage severely limited the patient's ability to work and virtually eliminated social activity.

The patient's wife did extensive online research of alternative treatments, finding that studies did not support most choices. However, a WoundSource.com poster demonstrated successful use of polymeric membrane dressings (PMDs) on PG ulcers. They purchased PMDs and contacted the makers for guidance.

## RATIONALE

Polymeric membrane dressings\* (PMDs), originally designed to decrease pediatric burn patients' pain during dressing changes, are an ideal choice for PG wounds for many reasons. PMDs address the underlying cause of the ulcers (inflammation) directly by subduing the nociceptor (pain-sensing nerves) response. PMDs' components work synergistically with the body to gently, continuously debride wounds, avoiding pathergy while eliminating barriers to healing. PMDs also promote brisk wound healing by concentrating nutrients in the wound bed and fostering an optimal moisture balance across the entire wound surface. PMDs do not adhere to the wound bed, avoiding this potential source of trauma. Finally, PMDs are recognized as a "pain relieving" dressing because of their effect upon the nociceptor system. PMDs meet every identified wound need.

## METHOD

Remote wound management guidance via email and Signal (for privacy), with periodic in-person visits to a wound clinic and dermatologist, began immediately. The patient provided weekly wound photos and completed a daily pain and dressing change log. Standard or extra-thick PMDs were secured with stretch netting. Routine rinsing at dressing changes was eliminated, but a little tap water was dripped onto dry wound areas, at dressing changes. Dressings were changed when saturation, visible through the PMD backing, reached any of the wound edges. The patient also took vitamin D, and all involved prayed.

**RESULTS:** Dressing change pain, consistently 10 prior to the use of PMDs, immediately decreased to 2, and soon there was no increase in pain during dressing changes at all. After one week, the patient exclaimed that he finally slept for 5 hours straight with no opioids. Bleeding decreased rapidly and slough and eschar were atraumatically removed by the PMDs. By two weeks, dressing change frequency decreased from the 4-5 a day prior to PMDs to 3x/day. After only a month, frequency was down to 1-2/day, pain was almost always 1, and the wound bed, which was clean except for crusts along some areas of the edges. The wound was also granulating for the first time. At that point, the patient showed his PCP his wound, demonstrated the simple dressing change process, and told him that anyone who has PG MUST use PMDs. He was no longer taking any pain medications.

Four days later, the patient joyfully reported that he had stopped elevating his leg and had resumed normal activities, including mowing the lawn. This may have slowed healing, but he had his life back! After 5 months of PMDs rather than any systemic anti-inflammatories, his HgbA1c came down to 7.2, but the hypertension persisted despite four medications to control it. The wound closed with no exudate with 54 weeks of PMD use, reopened briefly, and then achieved durable closure. The center of the scar remains fragile.

## OBJECTIVES

1. Note the effective atraumatic eschar and slough removal of the wound cleansing system created by the synergism between the body and the various components of PMDs.
2. Recognize that inflammatory wounds respond well to the use of PMDs, which are able to limit and focus inflammation by altering the nociceptor response, even on intact skin.
3. Consider the advantages of eliminating the need for NSAIDs, topical, and opioid pain relievers through the use of PMDs, which contain a built-in pain relieving mechanism.

## DISCUSSION

Steroids and biologics caused serious side effects as the ulcer worsened. In contrast, PMD use resulted in dramatically decreased dressing change and persistent pain, atraumatic cleansing, elimination of hemorrhage, and steady wound closure. In only one month, the patient was able to resume working and spending time with family: he got his life back! Despite his dramatic increase in activity (including abandoning limb elevation), his PG ulcer of four years' duration closed in just over a year of PMD use.

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## WHAT IS PYODERMA GANGRENOSUM?

Pyoderma gangrenosum is a notoriously painful inflammatory wound type often related to autoimmune disorders. Both manual and sharp debridement are contraindicated because any manipulation of the ulcers causes them to increase in size (pathergy). Even "non-adherent" dressings usually adhere to the wound bed, increasing pathergy.

Biopsies reveal high levels of neutrophils. Other hallmarks include hemorrhagic pustules or nodules, and irregular, violaceous borders. The "classic form" (lower leg ulcer) represents 85% of cases. Cultures usually reveal opportunistic pathogens only; antimicrobials are not recommended. The dysregulated immune system causes the ulcers to produce copious slough. Strong anti-inflammatories are *usual practice*, but come with significant, even life-threatening, side effects.

## Before PMDs Were Used on the Ulcer (34 Months):



Scab at 17 months, when left TKA was delayed due to this open wound. No significant pain or change in size since initial injury in Sept of 2019. 1.1cm in diameter  
2021 Feb 17



11 months of wound clinic management, including serial sharp debridement, led to dramatic pain and size increases, rather than healing  
2022 Jan 03



10 weeks later, after stent placement (which ruled out VLU), PG diagnosis led to prednisone, adalimumab, intralesional triamcinolone, & HBO. HgbA1C 9.9, BP 150/98. Ulcer deteriorated markedly.  
2022 Mar 10



3 months later, the deep, painful ulcer bled profusely, and multiple HCIO soaks per day could not remove the slough. Looked for help...  
2022 Jun 10

## The Results of Using PMDs on the Ulcer (13 months):



After only 2 days of PMD use, the slough was already breaking down. Dressing Pain: 2 Overall Pain: 5 - 10  
2022 July 7



After 26 days, PMDs have removed all slough and eschar except at edges. 13.0cm x 11.0cm Overall Pain: 1 - 9  
2022 July 31



One month of PMD use. Granulation advancing (circles)! Patient promoting PMDs for PG. Overall Pain: 1 - 3  
2022 Aug 7



3 months of PMD use. Resumed all usual activities (leg dependent) in Aug. 7.0cm x 7.5cm Overall Pain 1.  
2022 Oct 16



7 months of PMD use. TKA scheduled in 2 weeks - expect slower healing. 2.2cm x 2.5cm Pain rarely > 1  
2023 Feb 12



Almost 13 months of PMD use. Ulcer closed, reopened, and then closed again. Scar center remains fragile.  
2023 July 30

\*PolyMem® Dressings and PolyMem MAX® Dressings, collectively referred to generically as "polymeric membrane dressings" or PMDs, are made by Ferris Mfg. Corp. in Fort Worth Texas, USA. The author (the clinician who directed the patient care) is a Ferris Mfg. Corp. employee.