

BIOMESSM Tool : A Screening Tool to Recognize Wound Severity for Early Intervention and Referral to a Specialist

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Introduction

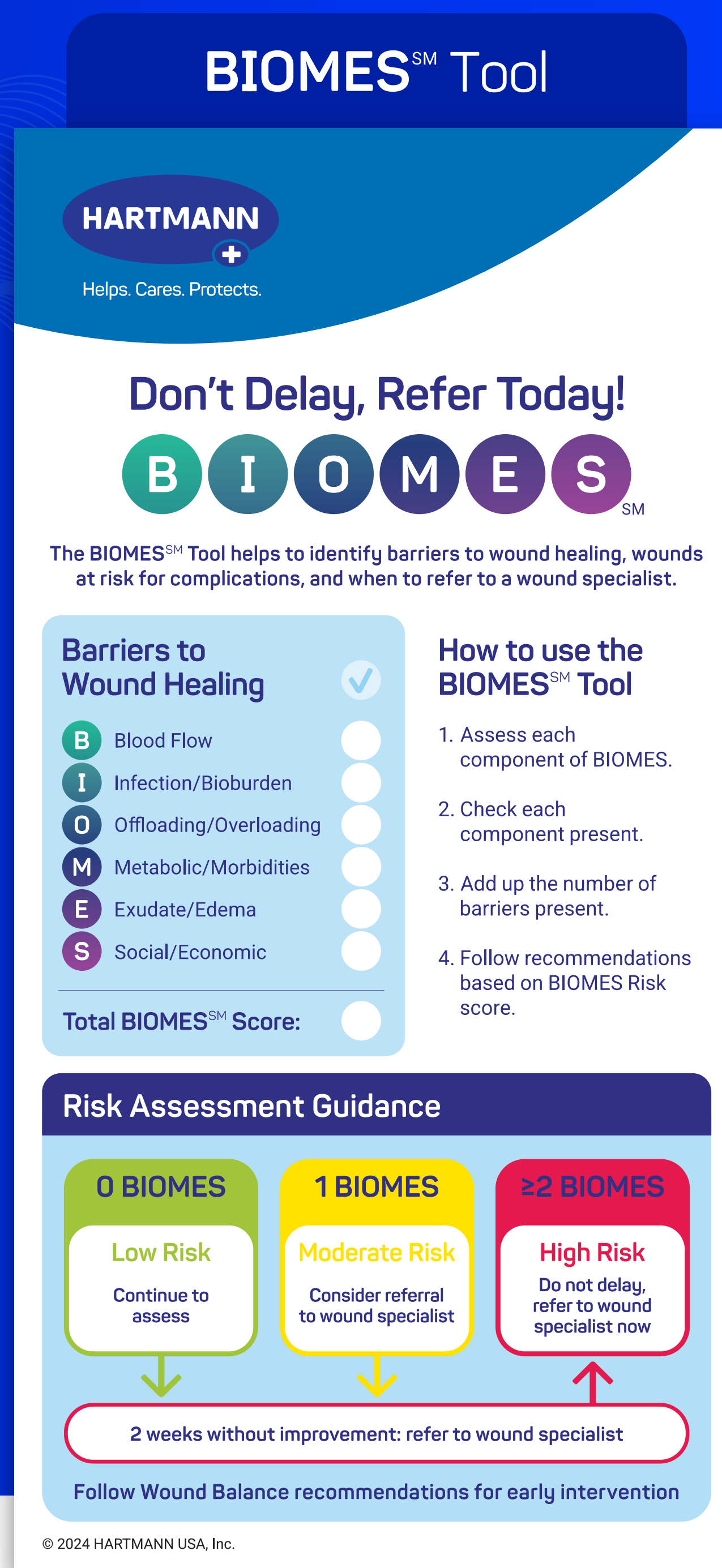
Current best practices of wound care focus on healing as early as possible which includes making a correct diagnosis, recognizing the red flags that impede wound healing, and initiating early intervention acknowledging that chronicity is not time dependent. Initial wound evaluations are often performed first by urgent care, emergency responders, or primary care professionals who are skilled in their field but are not chronic wound specialists. These medical providers are often unfamiliar with current wound care scoring systems that aid in determining wound severity, guiding early interventions, and identifying the need for specialized care based on patients' overall medical condition and the wound status. A referral to a wound specialist has the potential to expedite healing, reduce overall cost of care, alleviate patient suffering, and ultimately save a limb or life.

Methods

The BIOMESSM scoring scale is a tool that serves as a method to quickly assess wounds as moderate to high risk for being hard-to-heal. The BIOMESSM acronym provides the front-line clinicians who perform initial patient assessments with succinct direction in the early identification of barriers to healing of moderate to high-risk wounds. Each letter guides the clinician to evaluate a part of the patient's medical history or wound presentation that may affect the healing trajectory.



Scan here for the latest version of the BIOMESSM Tool



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Figure 1. BIOMESSM TOOL

CASE STUDY 1:

Left Ankle Wound



Figure 2: Left Ankle Wound Before Treatment



Figure 3: Left Ankle Wound After Treatment With Antibiotics and Dressings

The patient is a 70-year-old female who developed wound dehiscence on a surgical incision following left total ankle replacement. The wound measured 4cm x 3cm x 0.2cm and had eschar and non-viable fibrous tissue in the wound base. Once seen by a specialist the assessment using the BIOMESSM screening tool revealed the following barriers to healing: Infection and Social concerns, as the patient would be returning to Mexico for the next 3 weeks with no access to wound care. This gave the patient a score of 2, with high risk for not healing. The wound was cultured, and the patient was started on appropriate antibiotics. A fenestrated wound matrix was applied as a primary dressing, and a multilayer silicone border SAP dressing (Zetuvit[®] Plus Silicone Border) was applied as a secondary dressing. The patient was issued sufficient secondary dressings to change bi-weekly while on her trip. Thorough verbal and written instructions were given to the patient to help address the lack of care she would receive over the next 3 weeks. The wound reached full closure after 5 weeks of treatment.

CASE STUDY 2:

Dehiscd Abdominal Incision



Pre-Sharp Incisional Debridement (Left)



Post-Sharp Incisional Debridement (Right)



Week 1

Week 2

Week 3

The patient is a 47-year-old female seen for dehiscd abdominal incision status post-perforated sigmoid colon, small bowel resection, and Hartmann's procedure, measuring 6.5 cm x 1.8 cm x 1.4 cm. Using the BIOMESSM screening tool, the following barriers to healing were noted: Infection/Bioburden, Metabolic/Morbidities, giving the patient a BIOMESSM risk score of 2. After negative pressure wound therapy, the patient was transitioned to a collagen matrix dressing with silver and EDTA (CoActive[®] Plus Ag), a multilayer silicone border SAP dressing (Zetuvit[®] Plus Silicone Border), and diet and lifestyle modification. The wound was fully closed in 6 weeks.

Results

BIOMESSM is a coined acronym that can be used by any provider to quickly identify if a patient should be referred to a specialist by classifying the wound as low, moderate, or high risk for delayed healing. Blood Flow, Infection/Bioburden, Offloading/Overloading, Metabolic/Morbidities, Exudate/Edema, and Social/Economic barriers are assessed, and one point is assigned to each barrier that can be identified as a red flag with the potential to affect the healing trajectory of a patient's wound. Wounds are classified as follows: Low risk: No BIOMESSM; Moderate risk: 1 of the BIOMESSM; High risk: 2 or more BIOMESSM. Any patient identified as moderate or high risk should be referred to a wound specialist for earlier, more aggressive management resulting in wound healing rather than traditional wound management.

Discussion

The proposed BIOMESSM approach introduces a novel, simplified acronym that emphasizes early identification of wound risk factors, thus becoming an early intervention strategy that creates a bridge between non-specialist medical teams and wound specialists. The subsequent phase in BIOMESSM expansion, implementation of the pilot study, is underway to test the reliability and validity in the field.

Citations

1. Rivolo M, Staines K. Cost effectiveness of a specialist wound careservice. J Wound Care. Sep 2 2021;30(9):685-692.doi:10.12968/jowc.2021.30.9.685
2. Garten A, Blome C, Dumas F, et al. Wound balance: Achieving wound healing with confidence [White Paper]. Wounds International2023.
3. Mikosinski J, Kalogeropoulos K, Bundgaard L, et al. LongitudinalEvaluation of Biomarkers in Wound Fluids from Venous Leg Ulcers andSplit-thickness Skin Graft Donor Site Wounds Treated with a Protease-modulating Wound Dressing. Acta Derm Venereol. Dec 132022;102:adv00834. doi:10.2340/actadv.v102.325