Real-time detection of asymptomatic bioburden with the MolecuLight *i:X*™ revealed need for systemic antibiotics and immediate hospitalization

Accurate wound assessment is essential when determining the treatment plan for a wound. And yet, studies have repeatedly demonstrated the unreliability of clinical signs and symptoms for detecting wounds with uncontrolled bacterial burden and infection.[1,2]

Clinical Synopsis:

During a routine outpatient chemotherapy appointment, this patient mentioned a "large blister" that had developed on her bottom. This turned out to be a large, untreated sacral pressure injury (6 cm x 6 cm, 100% slough) and the hospital wound care specialist was called in for a thorough assessment. Standard assessment based on clinical signs and symptoms of infection did not suggest infection in this wound. However, the clinician proceeded to image the patient's wound with the MolecuLight ***i:X***, which showed extensive bioburden (red fluorescence) within and around the wound bed (Figure 2), resulting in immediate hospital admission for treatment including systemic antibiotics. Swabs taken from these regions of red fluorescence were later confirmed to be heavy growth of *Staphylococcus aureus* and *Escherichia coli.* Throughout treatment, the MolecuLight ***i:X*** was also used to guide debridement of this patient's wound, targeting areas of red fluorescence and sparing healthy tissues.

After 7 days of antibiotic treatment and NPWT, bacterial fluorescence in the wound bed was notably decreased (Figure 4). Hospital-based wound care treatment continued for 2 months before transferring the patient to a residential care setting. Six months after discovering the wound, it had decreased in size to 2 cm x 1.3 cm x 1.5 cm with 100% granulation tissue.

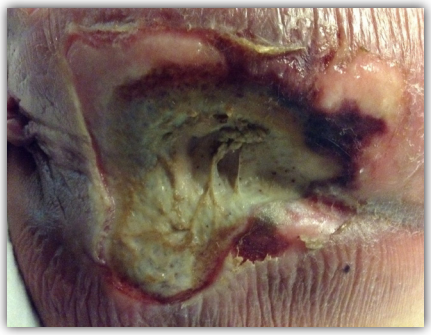

Figure 1: Standard Imaging Mode™

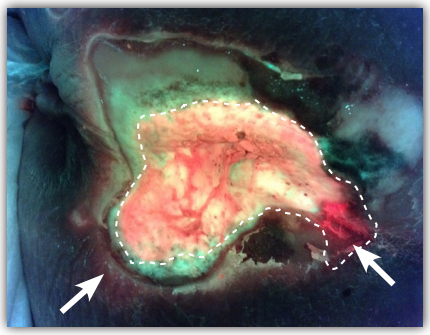

Figure 2: Fluorescence Imaging Mode™
Bacteria appear red/blush pink in image

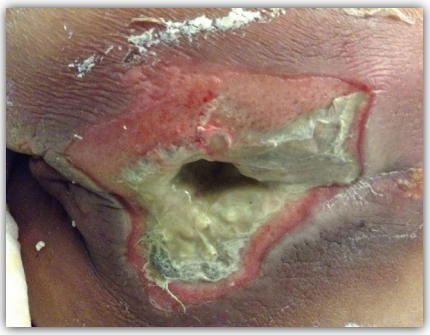

Figure 3: Standard Imaging Mode™

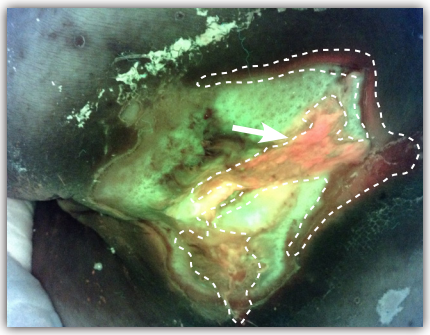

Figure 4: Fluorescence Imaging Mode™
Bacteria appear red/blush pink in image

Clinician Profile

Rosemary Hill, BSN, CWOCN, CETN(C), with over 12 years of wound care experience, oversees wound care for inpatients and outpatients at Lions Gate Hospital, Vancouver Coastal Health, located in North Vancouver, Canada. Rosemary is a past President of the Canadian Association for Enterostomal Therapy (CAET).

Patient Condition

63-year-old lymphoma patient's large, untreated sacral pressure injury was discovered by the outpatient chemotherapy unit.

MolecuLight
LOOK TO HEAL®

MolecuLight *i:X*™

Wound Intelligence Device

The MolecuLight ***i:X*** allows clinicians to quickly, safely and easily visualize bacteria[3] and measure wounds[4] at the point of care so they have maximum insights for accurate treatment selection and accelerated healing.[3]

Testimonial

"My standard wound assessment revealed no signs and symptoms of infection. But the fluorescence images taken with my MolecuLight ***i:X*** told a different story. It was the images that led to this patient receiving the in-patient and antibiotic care that she required."

— Rosemary Hill, BSN, CWOCN, CETN(C),

Bacteria appear red/blush pink in image

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References:
Images provided by Rosemary Hill, BSN, CWOCN, CETN(C), Vancouver Coastal Health, North Vancouver, BC, Canada.

MolecuLight Clinical Case 0061.

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2. Serena TE, *et al*. The lack of reliability of clinical examination in the diagnosis of wound infection: preliminary communication. Int J Low Extrem Wounds. 2008 Mar; 7(1):32-5.
3. DaCosta RS *et al*. Point-of-care autofluorescence imaging for real-time sampling and treatment guidance of bioburden in chronic wounds: first-in-human results. PLoS One. 2015 Mar 19;10(3).
4. MolecuLight Inc. Case Study 0051 Track Wound Size and Bacterial Presence with the MolecuLight ***i:X***. 2016.