

Put Deteriorating Wounds on the Path to Healing – Visualize Asymptomatic Bioburden with the MolecuLight *i:X*TM



Practitioner

David Russell, MD is a consultant vascular surgeon at Leeds Teaching Hospitals NHS Trust, located in Leeds, West Yorkshire, UK.



Patient Condition

60 year old patient with diabetic foot ulcer (> 5 months) on left plantar heel. Patient exhibited no clinical signs or symptoms of infection, received regular debridement, and offloaded the wound via a total contact cast, yet the wound was deteriorating rapidly.

US FDA De Novo approval pending – the MolecuLight *i:X*TM Imaging Device is not available in the US.



MolecuLight
LOOK TO HEALTM

Bacterial colonization in chronic wounds can significantly delay or entirely prevent wound healing¹. Therefore, detection of significant bacterial burden in a wound typically mandates a change in treatment plan towards one which targets bioburden. Real-time detection of bioburden currently relies on subjective, qualitative visual assessment of clinical signs and symptoms (e.g. pain, exudate, crusting, swelling, erythema, foul odour, friable granulation tissue, and heat). Yet high levels of bacteria often occur in the absence of signs and symptoms, even some cases of wound infection¹⁻³. Without real-time confirmation of the presence and spatial distribution of bacterial burden within and around a wound, clinicians are at risk of making inappropriate and ineffective treatment decisions.

This diabetic foot ulcer patient had significant wound deterioration (3-fold area increase over 4 weeks) despite aggressive offloading, good vascularity, and no clinical signs or symptoms of infection. After routine debridement the wound was imaged for bacterial fluorescence using The MolecuLight *i:X* Imaging Device. Despite clinician confidence that the wound did not harbor significant bioburden, images revealed prominent bacterial (red) fluorescence which persisted after additional cleaning. The presence of red-fluorescing bacteria prompted the clinician to switch to a honey-based antimicrobial dressing. After two weeks, bacterial fluorescence was no longer visible and wound area had decreased by 45%.

Standard Imaging ModeTM

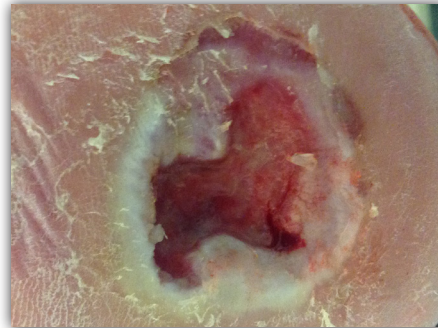


Figure 1



Figure 2

Fluorescence Imaging ModeTM

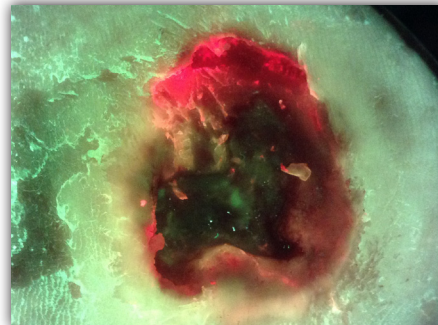


Figure 3: MolecuLight *i:X* image revealed significant bioburden (red) after debridement.

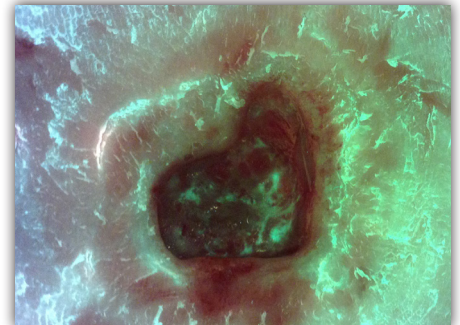


Figure 4: No bacterial (red) fluorescence observed after 2 weeks, 45% decrease in wound size.

MolecuLight *i:X*[™] Wound Intelligence Device

The MolecuLight *i:X* allows clinicians to quickly, safely and easily visualize bacteria⁴ and measure wounds⁵ at the point of care so they have maximum insights for accurate treatment selection and accelerated healing.⁴

Testimonial

“The MolecuLight *i:X* gives clinicians the ability to visualize and therefore target treatment towards clinically undetectable critical colonization. This user friendly point-of-care device is an exciting addition to our wound care protocol.”

— David Russell, MD

View MolecuLight *i:X*[™] in action.
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+1.647.362.4684
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References:

1. Edwards R *et al.* Bacteria and wound healing. *Curr Opin Infect Dis.* 2004;17(2):91–96.
2. Doebbeling BN *et al.* The validity of the clinical signs and symptoms used to identify localized chronic wound infection. *Wound Repair Regen.* 2001;9(3):178–186.
3. Hanft JR *et al.* The lack of reliability of clinical examination in the diagnosis of wound infection: preliminary communication. *Int J Low Extrem Wounds.* 2008;7(1):32–35.
4. 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).
5. MolecuLight Inc. Case Study 0051 Track Wound Size and Bacterial Presence with the MolecuLight *i:X*. 2016.

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The MolecuLight *i:X*[™] Imaging Device is approved by Health Canada (Medical License #95784) and has CE marking (Certificate #G1160292355002) for sale in Canada and the European Union. US FDA De Novo approval pending – the MolecuLight *i:X* Imaging Device is not available in the US.

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Bacteria appear red in image