**MolecuLight i:X®**

Point-of-care imaging device for **Detection of Bacteria & Digital Wound Measurement**

In a darkened room, or using a DarkDrape™, shining a **safe violet** excitation light (405 nm) on a wound causes wound components (skin, slough, blood, bacteria, etc.) to fluoresce in different colors\(^2-4\).

The **i:X** device displays and captures images of the most informative of these fluorescent colors. Green fluorescence from the skin provides anatomical context. **Red** and **cyan** fluorescence are associated with regions of bacterial load of \(\geq 10^4\) CFU/g\(^2,3\), which is typically **moderate-to-heavy** growth\(^3,5\), as demonstrated in multiple clinical studies.

**How does the MolecuLight i:X® Detect Bacteria in Wounds?**

**Red Fluorescence**

The majority of bacteria fluoresce **red** under violet light\(^4,5\).

**Cyan Fluorescence**

*Pseudomonas aeruginosa* fluoresces **cyan** (blue/green with a glowing white center)\(^2,4\).

Microbiology: 2.3 x 10^8 CFU/g, including *Staphylococcus hominis*, *Campylobacter urealyticus* etc.

Microbiology: 1.5 x 10^7 CFU/g, primarily *Pseudomonas aeruginosa*.

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Real-time information supporting clinical decision-making along the wound care pathway:

**EARLY DETECTION & ASSESSMENT**

Assess Wounds Accurately
- Information on wound size, bacterial load ($\geq 10^4$ CFU/g) and location available at the point-of-care.1
- Fluorescence imaging increased detection of wounds with bacterial loads $\geq 10^4$ CFU/g by 3-4 fold compared to clinical signs and symptoms.2,3,5-6 Red or cyan fluorescence was indicative of bacteria in 95% of wounds assessed.4

**TARGETED SAMPLING**

- Target sampling to areas positive for bacterial fluorescence to improve sampling true positives and reduce overall sampling costs.5,7,8

**WOUND BED PREPARATION**

- Fluorescence images demonstrate that standard-of-care cleaning and debridement typically leave behind high levels of bacteria, which are detrimental to wound healing.9-14

**TREATMENT SELECTION**

Evidence-Based Decision Making
- More appropriate deployment of antimicrobials facilitates stewardship practices.13-15
- Improved timing of advanced therapies like NPWT and grafting.7,16-18

**MONITORING & OUTCOMES**

- May prevent further progression up the bacterial-infection continuum.13
- Rapid course corrections for ineffective treatment.15,19
- Fluorescence-guided care has been associated with putting non-healing wounds onto a healing trajectory.20,21

**DIGITAL MEASUREMENT AND WOUND DOCUMENTATION**

- Accurate: $\geq 95\%$.1
- Rapid: Calculate area, length and width in seconds.
- Automated: Auto-detection of wound boundaries displayed on image.
- Consistent: Reproducible, accurate.
- Facilitates Documentation: for wound monitoring and reimbursement.
- EMR Import: Images and measurements easily imported into EMR.

References:

The MolecuLight® i:X Imaging Device is approved by Health Canada for sale in Canada and has CE marking for sale in the European Union. The MolecuLight® i:X Imaging Device has received FDA clearance.