

Use of MolecuLight *i:X*TM Wound Intelligence Device with standard assessments can help to inform clinical practice and facilitate antimicrobial stewardship in wound patients

It can help to detect bacteria in asymptomatic patients as well as guide swabbing and debridement



Study overview

- A case series of seven patients (five women, two men; age range 57–93 years) with varying comorbidities who were referred to a wound ostomy continence clinician for wound assessment
- MolecuLight *i:X* autofluorescence imaging was used in addition to standard care and assessment of clinical signs and symptoms; swabs were taken for microbiology culture if fluorescence was detected



Key results

- Use of MolecuLight *i:X* with standard wound assessments helped to (Table):
 - Detect the presence of bacteria in and around wounds in asymptomatic patients
 - Guide swabbing to optimise sampling
 - Inform decisions not to prescribe antibiotics
 - Guide the extent and location of debridement
- Presence of bacteria detected using MolecuLight *i:X* was confirmed by swabs in all patients



Figure. 'Blush' red fluorescence detected using MolecuLight *i:X* indicative of subsurface bacteria (female patient; skin tear). Used with permission.

Table. Details of wound assessments incorporating MolecuLight *i:X*

Patient details	Impact of MolecuLight <i>i:X</i> use
Male (83 years) Pressure ulcer (sacral)	Used to guide swabbing of bioburden and additional conservative debridement. Antibiotics were continued. Presence of bacteria confirmed by swabs.
Female (93 years) Pressure ulcer (coccyx)	Detected bioburden around the wound. Systemic antibiotics prescribed. Hospital discharge suspended. Swabs confirmed presence of mixed anaerobes. No additional antibiotics were required after reassessment six days later.
Female (63 years) Pressure ulcer (sacral)	Detected bacteria despite no clinical signs and symptoms. Imaging used to guide swabs. Presence of bacteria confirmed by swabs. Systemic antibiotics prescribed and fluorescence-guided debridement used.
Female (82 years) Venous leg ulcer (painful, non-demarcated edges)	Bacteria detected despite the absence of erythema clinical signs and symptoms. Hospital discharge suspended, systemic antibiotics and antimicrobial dressings prescribed. Presence of bacteria confirmed by swabs.
Female (88 years) Superficial skin tear, clear exudate (area of skin graft)	A red blush (subsurface bacteria) was detected despite no clinical signs and symptoms of infection (Figure). Oral antibiotics and silver-based antimicrobials prescribed. Presence of bacteria confirmed by swabs.
Female (64 years) Type 3 skin tear (lower leg)	No bacteria detected in or around the wound. A prescription for antibiotics was rescinded.
Male (57 years) Midline dehiscence (after partial gastrectomy)	No bacteria detected. No further antibiotics prescribed. Traditional postsurgical wound care with antimicrobial packing ribbon was continued.

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Evidence in focus (continued)



Conclusion

MolecuLight *i:X*[™] images provided real-time indications of bacterial presence to help guide swab sampling and debridement in wound patients, as well as facilitate antimicrobial stewardship practices.



Considerations

- MolecuLight *i:X* is not diagnostic and should be used with standard wound assessments
- Images exhibiting red fluorescence do not provide real-time information on bacterial species or information about antibiotic resistance; wound sampling is required to obtain this information



Study citation

*Hill R, Rennie MY, Douglas J. Using bacterial fluorescence imaging and antimicrobial stewardship to guide wound management practices: a case series. *Ostomy Wound Management*. 2018;64:18–28.

Available at: [Ostomy Wound Management](#)