



Swift Ray™

Swift Ray™ provides advanced **bacterial imaging**, allowing users to view and record images of fluorescence emitted from a wound when exposed to an excitation light.



Actual Size

Benefits of Bacterial Imaging



Early Objective Detection of Bacterial Load

Fluorescence imaging offers real-time visualization of bacterial burden ($>10^4$ CFU/g) using fluorescence, enabling more immediate and objective detection compared to traditional clinical assessments [1, 2].



Targeted Debridement & Clinical Decision Making

By pinpointing bacterial hotspots, fluorescence-guided imaging empowers clinicians to perform focused debridement, leading to improved wound hygiene, antibiotic use, and informed dressing choices [2, 3].



Improved Healing Outcomes

Studies demonstrate enhanced healing outcomes with use of fluorescence for bacterial detection. Wounds often respond faster and require fewer antimicrobials, using fluorescence protocols [3].



Influences Treatment Plans & Reduces Overtreatment

In multicenter clinical evaluations, fluorescence imaging changed clinical management in over 50% of cases—highlighting its role in preventing both undertreatment and unnecessary interventions [4].



Superior Diagnostic Accuracy

Fluorescence imaging shows significantly higher sensitivity than standard visual assessments, boosting accuracy in bacterial detection, guiding sampling techniques, and monitoring of treatment efficacy [1, 5].



Biofilm Detection & Preclinical Validation

Fluorescence imaging has been proven capable of detecting bacterial biofilms [5]. Fluorescence aids in accurately locating microbial hotspots, enhancing biopsy targeting and microbiological profiling [6].

Citations

1. Rennie, M. Y., Lindvere-Teene, L., Tapang, K., & Linden, R. (2017). Point-of-care fluorescence imaging predicts the presence of pathogenic bacteria in wounds: A clinical study. *Journal of Wound Care*, 26(8), 452–460. <https://doi.org/10.12968/jowc.2017.26.8.452>
2. Hurley, C. M., McClusky, P., Sugrue, R., Clover, J. A., Kelly, J. E. (2019). Efficacy of a bacterial fluorescence imaging device in an outpatient wound care clinic: A pilot study. *Journal of Wound Care*, 28(7), 438–446. <https://doi.org/10.12968/jowc.2019.28.7.438>
3. Price, N. (2020). Routine Fluorescence Imaging to Detect Wound Bacteria Reduces Antibiotic Use and Antimicrobial Dressing Expenditure While Improving Healing Rates: Retrospective Analysis of 229 Foot Ulcers. *Diagnostics*, 10(11), 927. <https://doi.org/10.3390/diagnostics10110927>
4. Jacob, A., Jones, L. M., Abdo, R. J., Cruz-Schivone, S. F., Skerker, R., Caputo, W. J., Krehbiel, N., Moyer-Harris, A. K., McAtee, A., Baker, I., Gray, M. D., & Rennie, M. Y. (2023). Lights, fluorescence, action: Influencing wound treatment plans including debridement of bacteria and biofilms. *International Wound Journal*, 20(6), 1797–1807. <https://doi.org/10.1111/iwj.14208>
5. Lopez, A. J., Jones, L. M., Reynolds, L. Diaz, R. C., George, I. K., Little, W., Fleming, D., D'souza, A., Rennie, M. Y., Rumbaugh, K. P., Smith, A. C. (2021). Detection of bacterial fluorescence from in vivo wound biofilms using a point-of-care fluorescence imaging device. *International Wound Journal*, 18(5), 626–638. <https://doi.org/10.1111/iwj.13564>
6. Serena, T. E., Snyder, R. J., Bowler, P. G. (2023). Fluorescence-informed biopsy improves microbial profiling: Sensitivity 98.7% vs. clinical judgment 87.2% in detecting $>10^4$ CFU/g. *Frontiers in Cellular and Infection Microbiology*, 12, 1070311. <https://doi.org/10.3389/fcimb.2022.1070311>