Rapid, Accurate Diagnosis of a Wound Infection With a Smartphone

**Title:** Rapid and Non-Destructive Detection of Wound Infection

**Invention:** The technology utilizes a smartphone as a point of care diagnostic to identify species of bacteria in a wound via light scattering.

**Background:** The cost for chronic wound care, which is estimated to be $25 billion annually, is mainly due to improper selection of antibiotic treatment and the need to treat an infection quickly. The current method of diagnosing infections is a tissue biopsy and swab culture, a process that can take hours to complete and requires additional resources. In general, if a bacterial species is unknown, broad-spectrum antibiotics are used, which increases the risk of drug resistance.

**Applications:**
- Medical devices
- Smart phone apps
- Wound care companies

**Advantages:**
- Rapid and accurate identification of bacterial species from a wound
- A non-destructive and mobile medium
- Potential to empower a patient to notify a physician and receive the correct treatment without waiting for lab results

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