

"A Wound Care “View” to Promote Health Equity: Using Long Wave Infrared Thermography (LWIT)

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PURPOSE: Health equity is the state in which everyone has a fair and just opportunity to attain their highest level of health.¹

The objective was to provide wound ostomy and continence (WOC) nurse assessments and education at a health fair for the inner-city community's homeless, indigent, and non-English-speaking population.

METHODS:

Physicians, nurses, and interpreters were volunteers at an inner-city health fair.

- Initial Screening Stations for vitals, glucose testing, and miscellaneous exams.
- The Wound Ostomy Continence (WOC) nurse attended to those identified with diabetes, edema, or skin/wound issues.
- The WOC nurse station utilized a Doppler pulse and Long Wave Infrared Thermography (LWIT) during assessments.
- The LWIT device provided a visual and thermal image to assess metabolic activity below the skin; warm indicates inflammation/infection, and coolness indicates decreased perfusion.
- Consent was obtained before the image.
- Image results were provided on-site.

RESULTS:

Several health concerns were identified, such as inflammation and decreased perfusion, as shown in the cases presented here.

CONCLUSION: LIWT immediately visualized unknown health concerns, followed by prompt review and education.

Case A: LWIT shows inflammation on the planter foot

65-year-old male with COPD, no current treatment for diabetes. **LWIT shows inflammation on the planter foot**; previous research states asymmetrical temperatures over 2.2 °C may indicate a risk of diabetic foot ulcer (DFU)². Educated on possible pressure leading to ulceration, proper shoes, offloading, foot inspection, and care.

Case B: LWIT and Doppler revealed decreased perfusion

A diabetic patient with a history of stroke and toe amputation is planning bunion surgery due to ill-fitting shoes. The **Doppler and LWIT revealed decreased perfusion**; he was educated on the significance of blood flow for healing and advised to discuss with his physician before surgery.

Case C: LWIT image discovered poor toe perfusion

A 59-year-old male in a wheelchair with diabetes (359 glucose) wearing loose-fitting slippers; **LWIT image discovered poor toe perfusion**. Educated on the importance of protecting feet and toes to avoid injury, followed by healing challenges.

Case D: LWIT image confirmed known arthritis

A 60-year-old female with a blood clot disorder and back pain; ankle inflammation on the **LWIT image confirmed known arthritis**. The client asked, “Could this be the reason for my numb leg?” She was cautioned about the risk of all injuries and advised to discuss numbness with a physician.

