Effective Health Care

Laser Doppler Burn Imaging
Nomination Summary Document

Results of Topic Selection Process & Next Steps

- Laser Doppler Imaging for the assessment of burns is an important topic. Due to limited studies and resource constraints the EHC program is unable to develop an evidence review on this topic at this time. No further activity on this topic will be undertaken by the Effective Health Care (EHC) Program.

Topic Description

Nominator(s): **Industry**

Nomination Summary: The nominator is interested in an assessment of burn depth using the moorLDI2-B1 laser Doppler imager versus standard visual clinical assessment or biopsy. This technology is FDA-certified for burns of up to 30% total body surface area.

Staff-Generated PICO
Population(s): All ages and genders of patients with burns of intermediate or indeterminate depth, excluding patients with co-existing or pre-existing vascular conditions and patients with wound infections. Sub-populations of interest include patients with intermediate-depth burns; children; the elderly, and low income groups.
Intervention(s): Use of the laser Doppler imaging technology
Comparator(s): Standard visual clinical assessment, biopsy
Outcome(s): Improvements in the accuracy of burn depth assessment for burns of intermediate and indeterminate depth. Secondary outcomes include improved surgical planning, more appropriate (often smaller) graft area, less pain and discomfort for the patient, reduced scarring (improved cosmetic outcome), and earlier average discharge from burn center.

Key Questions from Nominator: For patients with burns of intermediate or indeterminate depth, what is the comparative effectiveness of an assessment method incorporating the moorLDI laser Doppler burn imaging system versus standard clinical assessment in improving health outcomes?

Considerations

- According to the CDC, deaths from fires and burns are the fifth most common cause of unintentional injury deaths in the United States and the third leading cause of fatal home injury. Groups at higher risk for death and injury from fire include children aged 4 and under, adults aged 65 and older, African Americans, Native Americans, those at the lowest end of the poverty scale, people living in rural areas, and people living in manufactured or substandard housing.

- With burns of intermediate or indeterminate depth, it is difficult to accurately predict the depth of the wound. Underestimating or overestimating wound depth could impact healing time, type of intervention including surgery, scarring, and other complications.
- There are a variety of techniques used to assess burn depth including simple clinical (visual) evaluation, biopsy/histology, and various perfusion measurement techniques such as thermography, vital dyes, video angiography, video microscopy, and laser Doppler imaging.
- The topic is important, but due to the limited number studies identified and resource constraints the EHC program is unable to develop an evidence review on this topic at this time.