

[Emerg Radiol.](#) 2012 Jun;19(3):203-9. doi: 10.1007/s10140-012-1027-2. Epub 2012 Feb 24.

## **Early assessment of the efficacy of digital infrared thermal imaging in pediatric extremity trauma.**

Website: <http://www.ncbi.nlm.nih.gov/pubmed/22362422>

[Silva CT](#)<sup>1</sup>, [Naveed N](#), [Bokhari S](#), [Baker KE](#), [Staib LH](#), [Ibrahim SM](#), [Muchantef K](#), [Goodman TR](#).

### **Author information**

- <sup>1</sup>Yale University School of Medicine, 333 Cedar Street, PO Box 208042, New Haven, CT 06520, USA. [cicero.silva@yale.edu](mailto:cicero.silva@yale.edu)

### **Abstract**

Young children or those with intellectual disability with trauma to an extremity often undergo radiographs of the whole limb. The objective of the study was to assess the efficacy of digital infrared thermal images (DITI) in pediatric extremity trauma. We hypothesized fractures to be associated with local hyperthermia, detectable with DITI, which could direct focused radiographs. In this exploratory study, patients seen over a 2-month period in a pediatric emergency department for limb trauma were included if an extremity radiograph was taken on the same day. Patients had DITI of symptomatic and contralateral limbs. The warmest area of each image was compared to the site of pain and/or fracture on the radiograph. Fifty-one patients were enrolled. DITI matched 73% of pain sites. Fractures were seen in 11 patients. DITI matched 7 of 11 (64%) fracture sites. DITI performance in pinpointing the site of injury, although suboptimal, is encouraging for further evaluation.

PMID:

22362422

[PubMed - indexed for MEDLINE]