Infrared Thermography

Bethany Therrien
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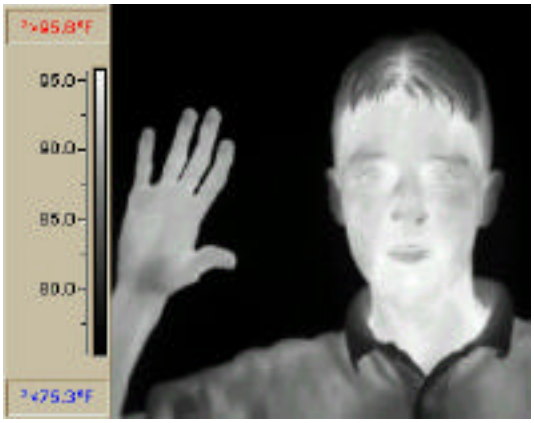
Infrared thermography is the technique of converting infrared energy (radiant heat) into an image that a person can see and understand. An infrared camera creates an image by converting radiant heat energy into a signal that can be displayed on a monitor (and later printed). The infrared energy emitted from an object is directly proportional to its temperature. Therefore temperatures are accurately measured by the infrared camera. The ability to measure temperature from an IR image is called radiometry. This requires sophisticated and expensive electronics. The ability to measure a temperature anywhere on the image is available only on the high-end cameras like the Flir PM280 used by IRIS Associates.

WHY USE INFRARED?

- Adds new dimension to diagnostic capabilities: Physiology vs Anatomy
- Physiology - 5 to 6 mm micro dermal skin blood flow
- Anatomy– structure & mass
- Provides physician's/patient's with more information
    - Visual reference to differential diagnosis
    - Increases patient compliance to treatment or life-style changes

It is a diagnostic screening device used for Oncology, Neurology, Orthopedics, Chiropractics, and other functional medicine groups. Examples of applications of IR are cancer diagnostics and SAR detection. The basis of cancer screening thermography is the detection of abnormal heat generated by new blood vessel growth in the area of tumors, as well as heat generated from the metabolic activity of the tumor. The procedure gives promise to the earliest possible detection these abnormal cells and thus the earliest intervention. Thermography is a non-invasive and totally safe diagnostic tool. There was also an excellent discrimination between benign and malignant tissue. Following the severe acute respiratory syndrome (SARS) outbreak, remote-sensing infrared thermography (IRT) was advocated as a means of screening for fever in travelers at airports and border crossings. IRT readings from the side of the face, especially from the ear at 0.5 m, yielded the most reliable, precise and consistent estimates of conventionally determined body temperatures.



Sources/Journals:

- http://0-www.ncbi.nlm.nih.gov.helin.uri.edu/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=15544710
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