Device Improves Diagnostic Accuracy for Dehydration in Young Children

Bodkin Design and Engineering

BD&E designs sensing and optical devices for the healthcare industry

Bodkin Design and Engineering, LLC is an electro-optic system and solutions research and design firm serving the bio-medical and healthcare industries. Bodkin developed a beta prototype by using unique biomedical sensors to monitor Capillary Refill Time more objectively. This project was undertaken in partnership with Dr. Vassillios Bezzerides, who invented the device, at Boston Children's Hospital in Boston, Massachusetts to measure dehydration in infants. In close collaboration, and funded by the Center for Integration of Medicine and Innovative Technology (CIMIT) Bodkin Design was contracted to develop a beta prototype to be used for data collection in clinical trials.

Capillary Refill Time is a common measure of blood flow. It is conducted by pinching

and releasing a patient's fingertip and observing the time it takes for the blood to refill. The longer the refill time, the more dehydrated the patient. The CRT instrument uses an optical sensor and computer to objectively measure this effect. This method is ideal for infants, athletes and the elderly, as well as impaired patients who cannot report if they are dehydrated.

While talking about the technology behind the Capillary Refill Time instrument, Andrew Bodkin, President of Bodkin Design said, "The assessment of dehydration in young children currently depends on clinical judgment, which is susceptible to errors. At Bodkin Design, we design, build, and test many prototype instruments like the Capillary Refill Time device. We firmly believe that our robust optical sensing technology has the potential to be useful in other applications in the healthcare industry". Bodkin Design and Engineering provides research and design services in full compliance with the regulations and standards for medical devices.

For more information, visit www.bodkindesign.com [1].

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