VCU Innovation Gateway
Office of Research and Innovation

Haptic Glucometer Guide

Independence for visually impaired diabetics

It is essential for diabetics to be able to self-monitor their blood glucose levels. For individuals who are blind or visually impaired, there is an added difficulty not addressed by the already available talking glucometers. In order to give a reliable result, the test strips must draw up a certain amount of blood. This is achieved by placing the finger site with blood at the appropriate angle against the test strip. People with visual impairments frequently have difficulties with this particular step. They may not be able to align their finger correctly with the strip, not providing sufficient blood, or they may smear the sample during attempt to put it on the strip. Because of this, strips may be wasted and people may test less frequently than recommended.

The technology

Researchers at Virginia Commonwealth University have developed a haptic device that serves as a guide for both lancetting and sample collection. The device, which holds the glucometer and test strip, includes a guide for the placement of an automatic lancet. Once the lancet is used, the device will guide the user to the correct point along the test strip to provide the blood for successful uptake.

A prototype has been produced for one glucometer model and limited tested in subjects without visual impairments. Efficacy studies involving subjects who are visually impaired in order to develop quantitative metrics are on-going.

Benefits

- Aligns test strip at correct angle for drawing blood
- Designed to work with user's existing glucometer
- Fits talking glucometers

Applications

- Aid in self-monitoring of blood glucose for those with visual impairment through:
  - Lancet positioning guide
  - Guidance of finger from lancet to test strip

Patent status:
Patent issued: U.S. rights are available.
9,364,183

License status:
This technology is available for licensing to industry for further development and commercialization.

Category:
Biomedical

VCU Tech #:
13-091

Investigators:
Dianne Pawluk, Ph.D.
John Clore, M.D.

Contact us about this technology

Koffi Egbeto, MS
Licensing Associate
egbetok@vcu.edu
(804) 827-2213