

Letter: Clarifying Details on the Latest Continuous Glucose Monitoring Device

We wish to thank Drs. Burge, Mitchell, Sawyer, and Schade of New Mexico Health Sciences Center in Albuquerque for their comprehensive, insightful article on “Continuous Glucose Monitoring: The Future of Diabetes Management” (*Diabetes Spectrum* 21:112–119, 2008). However, we would like to point out some unfortunate errors in the article.

In their review of continuous glucose monitoring (CGM) technology, the authors described the production of hydrogen peroxide as a result of the reaction between interstitial fluid glucose and glucose oxidase. Although this method is used by some CGM systems, the method used in the FreeStyle Navigator from Abbott Diabetes Care does not rely on the production and measurement of hydrogen peroxide. The proprietary Wired Enzyme technology in the FreeStyle Navigator sensor operates by direct mediated capture of electrons from glucose oxidase, not the indirect oxidation of hydrogen peroxide used in other commercially available continuous glucose sensors. The glucose oxidase is cross-linked with an osmium mediator to capture the electrons from the reaction with glucose. The mediator was designed to let the sensor operate at a very low electrical potential of 40 mV, which

in turn allows the electrochemical measurement to occur without interference from other substances in the interstitial fluid.

Several errors regarding the features of FreeStyle Navigator in the text and in Table 1 (p. 114) need to be corrected. The FreeStyle Navigator was approved by the U.S. Food and Drug Administration in March 2008 for a 5-day wear period. Approved insertion sites are the abdomen and upper arm. Calibrations performed with the built-in FreeStyle blood glucose meter are required a minimum of four times during the 5-day wear period. The sensor life span is up to 122 hours.

Finally, we would like to add to Table 2 (p. 117) the website for information on FreeStyle Navigator: www.freestylenavigator.com.

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Editor's note: The article by Burge et al. was written before the FreeStyle CGM device gained FDA approval. Once it did, the authors made late-stage revisions in an effort to include emerging information about the new product.