Analysis of Novel Methods to Determine the Accuracy of the OmniPod Insulin Pump: A Key Component of the Artificial Pancreas System

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Abstract

In this issue of Journal of Diabetes Science and Technology, Zisser and colleagues describe two inexpensive methods for accurate measurement of dosage delivered by OmniPod insulin pump. The first method is based on imaging a meniscus movement in a micro-pipette and using simple image analysis; the second relies on using a digital microscope to measure the volume of a dispensed droplet while it is still attached to the cannula tip. Both methods produce accurate measurements for doses >0.2 U, and the latter method is especially appropriate for doses <0.2 U, with accuracies down to 0.9%.