

Analysis: Linking Laboratory Data to Human Factors and Inclusion of Persons with Disabilities in Diabetes Technology Research

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Abstract

In this issue of *Journal of Diabetes Science and Technology*, Friedrichs and colleagues present a study of the injection force of four reusable insulin pens and another study of the dosing accuracy of three different insulin pens. For the study of injection force, the authors claim that lower injection force has numerous advantages for patients, including making use of pens easier for people with decreased hand strength. For the study of dosing accuracy, the authors state that dose accuracy is critical for glycemic control.

Both study designs have significant strengths, including measurements of the variable of interest using two different methodologies and thorough documentation of methods and materials. However, the careful, precise measurements of injection force and dosing accuracy are not matched by equivalent precision supporting the significance of the studies. The authors do not provide any information about what measured injection force is easy or difficult for individuals with and without manual problems or what level of dosing inaccuracy is clinically significant. Therefore, the implications for practice remain unclear. Data about these and other relevant human factors are needed to provide meaningful context for laboratory measurements of diabetes technologies. Furthermore, researchers conducting studies of diabetes technology that include human subjects should intentionally recruit persons with disabilities so diabetes care professionals can know whether and how technical information about diabetes technology applies to the full range of patients, including those with disabilities.

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Abbreviation: (ISO) International Organization for Standardization

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