

## Comment on “Do Different Body Colors and Labels of Insulin Pens Enhance a Patient’s Ability to Correctly Identify Pens for Injecting Long Acting versus Short-Acting Insulins?”

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A recent publication by Lefkowitz<sup>1</sup> in *Journal of Diabetes Science and Technology* reported on the ability of patients to distinguish between long-acting and short-acting insulin using SoloStar<sup>®</sup> pens, in which the insulin type was differentiated by the color of the pen’s body, undifferentiated SoloStar pens, or the FlexPen<sup>®</sup>, in which the insulin types were differentiated using the label text/color, tactile and color elements on the injection button, and a colored cartridge holder.<sup>2</sup> Participants were asked to identify which pen they would use to inject insulin in three scenarios. The author concluded that the full-body color used on SoloStar pens enhanced the ability of participants to differentiate between insulin types.

However, several aspects of the study should be considered when interpreting the clinical relevance of the findings. In everyday use of insulin pens, there is a series of steps that patients go through during the injection process, but in this study, participants were simply asked to look at the pens. The study did not include any simulation of the injection process, and therefore, fails to assess the user’s ability to differentiate between pens as they would in everyday use and the impact that this may have on their confidence in pen use. For example, the perception of the pens and of insulin differentiation could have been altered greatly by simply removing the caps or holding the pen in the hand (**Figure 1**)—a necessary step in the injection process. Furthermore, it is important to describe the exact method in which the pens were presented to the participants (for example, were they placed on a hard surface with the label facing upward or downward?) as this could influence the visibility of the color-coding features on these pens—this is difficult to ascertain from the publication.

Another aspect of this study that makes interpretation of the results difficult is the possibility of some imbalance between the two groups in the study. For example, 16% of patients in the group asked about SoloStar had type 1 diabetes mellitus (T1DM) but only 12% of patients in the group asked about FlexPen had T1DM. Such patients may be more likely to be using basal-bolus regimens, and therefore, may be more practiced in differentiating between insulin types.

As the author states, patients in clinical settings would receive complete guidance on how to remember differences between insulin types and would be shown additional features of the pens that minimize injection errors. With such guidance, patients rarely report problems selecting the correct insulin type. Although this small-scale survey is

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**Figure 1.** FlexPen® with cap off and when held in the hand

interesting, the above concerns make interpretation of the results and assessment of their clinical relevance difficult. As such, the conclusion of the author that a full-body color on pens enhances the ability of patients to differentiate between insulin types, and that this may reduce the risk of errors in the type of insulin injected, may be an over-emphasis of these results. We suggest that more comprehensive studies, and experience in everyday use, may be needed before any strong conclusions can be made.

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**References:**

1. Lefkowitz M. Do different body colors and labels of insulin pens enhance a patient’s ability to correctly identify pens for injecting long-acting versus short-acting insulins? *J Diabetes Sci Technol.* 2011;5(1):136–49.
2. Pfützner A. FlexPen for the delivery of insulin: accuracy, injection force and patient preference. *Expert Rev Med Devices.* 2009;6(2):115–23.