

A Randomized, Open-Label, Comparative Crossover Handling Trial between Two Durable Pens in Patients with Type 1 or 2 Diabetes Mellitus

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Abstract

Background:

This open-label, randomized, comparative crossover usability study investigated preference between durable insulin pens, NovoPen® 4 and NovoPen 3, among patients with types 1 and 2 diabetes.

Methods:

In a timed test, 82 current NovoPen 3 users (mean age, 48.5 years) assessed intuitiveness of NovoPen 4. After timed training, this group and 34 insulin-naïve patients (mean age, 61.8 years) were randomized to a handling evaluation of NovoPen 4 followed by NovoPen 3, or *vice versa*, in which participants made three injections into a foam cushion. A device-specific questionnaire was filled out for each pen. A third questionnaire asked participants to compare pens.

Results:

Current NovoPen 3 users completed the intuitive assessment of NovoPen 4 in an average time of 1.94 min (range, 0.57–4.98 min). The training of insulin-naïve patients occurred in slightly less time with NovoPen 4 than with NovoPen 3 but did not reach significance (9.9 versus 11.5 min; $p = .32$). Survey responses showed that both groups had less difficulty and were more confident in handling NovoPen 4 than NovoPen 3; 96.3% of the NovoPen 3 users and 100% of the insulin-naïve group preferred to use NovoPen 4 ($p < .0001$).

Conclusion:

Patients currently using NovoPen 3 or who were insulin naïve expressed a preference for NovoPen 4 in this study, reporting it to be simpler to learn and easier to use than NovoPen 3. NovoPen 4 may help facilitate insulin therapy among newly diagnosed patients and potentially improve adherence and treatment satisfaction among current NovoPen 3 users.

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Abbreviations: (DNE) diabetes nurse educator, (T1DM) type 1 diabetes mellitus, (T2DM) type 2 diabetes mellitus

Keywords: diabetes mellitus, insulin pen, NovoPen, preference

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