Enhancing Pen Needle Compliance: Impact of Unifine® Pentips® Plus

White Paper

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Introduction

Needle reuse among insulin-dependent patients can lead to medical complications such as tissue microtrauma, embedded needle tips, and lipodystrophy.[1] Additionally, failing to remove pen needles between injections can result in insulin leakage and dosage inaccuracies.[2] Despite medical recommendations to replace needles after each use, compliance remains low due to factors like dexterity challenges, needlestick fears, and the inconvenience of sharps disposal.

Unifine® Pentips® Plus was designed to address these barriers by integrating a built-in needle remover for ease of disposal and an ergonomic design to facilitate handling. This study evaluates the impact of Unifine® Pentips® Plus on patient behavior regarding needle replacement.

Study Objective

This study examines whether Unifine® Pentips® Plus, with its integrated needle removal feature, increases compliance among diabetes patients using injection pens

Study Design

A total of 59 patients with Type 1 or Type 2 diabetes participated in an eight-week crossover study:

- **Weeks 1-4:** Patients used their existing pen needles.
- **Weeks 5-8:** Patients switched to Unifine® Pentips® Plus.
- Participants recorded their daily injection, user experience, and needle-changing habits through an online diary.

Participants were recruited via local pharmacies and met specific eligibility criteria, including administering their own injections at least three times daily and being familiar with online diary logging. The study was conducted with an independent healthcare market research company, and significance testing was conducted at the 95% level of confidence ($p<0.05$) to ensure that any difference in the results was meaningful.

Key Findings

- **61% Increase in Compliance:** Patients using Unifine® Pentips® Plus were more likely to use a new needle for each injection.
- **38% Increase in Pen Needle Consumption:** More frequent needle changes correlated with higher usage.
- **95% Daily Needle Change Rate:** Compared to 78% with standard pen needles.
- **Enhanced Safety:** 68% of users reported fewer needlestick injuries.
- **Ease of Use:** 86% found Unifine® Pentips® Plus as easy or easier to use than their previous pen needles.
- **Patient Preference:** 61% preferred Unifine® Pentips® Plus due to its convenience, ease of disposal, and enhanced safety features.

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Discussion

The study demonstrated a clear link between product design and improved adherence. The built-in removal chamber and user-friendly grip facilitated frequent needle changes, addressing common patient concerns such as difficulty handling needles and improper disposal. The device's ability to store used needles safely also contributed to increased compliance.

Patients who previously exhibited non-compliant behavior showed improvements when using Unifine® Pentips® Plus, particularly those with dexterity challenges. Given the strong preference for the device, healthcare professionals should consider its potential role in improving diabetes management outcomes.

Conclusion

Unifine® Pentips® Plus effectively encourages better compliance in pen needle changing behavior due to its ease of use and built-in removal chamber. By reducing barriers to compliance, this innovation offers a practical solution for improving patient outcomes and should be considered a valuable tool for diabetes management alongside patient education.

References

1. Look, D, K Strauss: Reuse of sharps in diabetic patients: is it completely safe? Diabetes Journal 10:31-34 (1998).
2. Diabetes care in the UK, The First UK Injection Technique Recommendations, 2nd Edition.

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