

Building the Evidence on Effective Insulin Injection for Patients at the High and Low Ends of the BMI Index: Testing a New Framework for the Provision of Educational Services

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Purpose

This purpose of this study was to investigate the use of two instructional strategies for insulin injection site rotation among patients at the high and low ends of the BMI index. The two strategies were a site selection paper guide and an Injection Locator™. Both tools address site selection and rotation, as well as visually show patients where all the sites are and how to access the sites.

Methods

A randomized crossover study design was employed to investigate the two instructional approaches for organized site rotation insulin injection techniques. Study subjects were recruited continuously over a nine-month period between September 2009 and May 2010 throughout Genesee County, Michigan (n = 67). Patients received both treatments but were randomly assigned to the treatment order. After six weeks of one rotation techniques, patients transferred to the alternative site rotation technique for six additional weeks. Primary outcome measures were knowledge, attitudes, and HbA1c.

Results

Similar results were found using the paper guide and the Injection Locator™. Subjects: 1) increased knowledge related to injection technique; 2) were less fearful injecting insulin; 3) reported better site rotation; 4) rated "ongoing" staff support as the most helpful in learning proper injection technique. There were no significant differences in clinical parameters with either group. Even though most participants had been on insulin an average of 5 years, most reported the need for more instruction related to proper insulin injection technique.

Conclusion

Subjects reported that they could inject their insulin properly regardless of the site rotation teaching aid used. Fear of injecting was decreased and appropriate site rotation was achieved with both teaching aides. Even though subjects had been injecting insulin for an average of 5 years, they ranked the ongoing support from the staff as the most helpful in injecting their insulin. This stresses to the importance that people who inject insulin should work with their health care professional who knows the best injection techniques to use with various body types. This study can be used to strengthen current diabetes education and support services patients receive.