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Clinical testing results and high patient satisfaction with a new needle-free device for growth hormone in young children.

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Abstract

Fifty children ages 4-10 yr with type 1 diabetes mellitus volunteered to participate in a study to evaluate and compare a new needle-free device developed for growth hormone delivery. Children answered descriptive questions related to nervousness and worry, hurt or pain, redness or bleeding, and stinging and wetness. Choices for answers for each of these five questions were none, a little, or a lot. None or a little was also combined to give a minimal category. Children also answered four questions that compared the needle-free device to their morning insulin needle injection in reference to ease of use, pain, nervousness, and overall preference. Half the children had single comfort rings inserted to increase the injection pressure. Results indicated no difference in question responses with or without pressure rings. Pain (92%), erythema (96%), worry (90%), stinging (86%) and wetness (96%) were minimal and significant ($0.001 > p < 0.03$) following all questions. Results of the comparative questionnaire indicated that the device was easier ($p < 0.03$) to use than needles and significantly preferred ($p < 0.001$) in 74% of children under age 10.

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