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APCI American Pharmacy Cooperative, Inc.

VOLUME 4

ON POINT
with Diabetes Care

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ON POINT
with Diabetes Care

Insulin Injection in Young Children

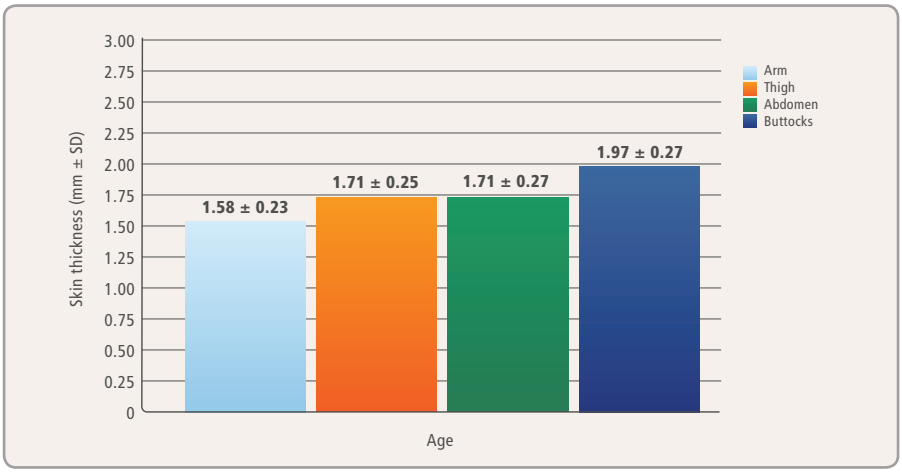
Technique and needle length can help reduce the risk of IM injection[1]

Children who need to start injecting insulin at a young age — and their parents — need special care and consideration when they're being counselled on injection technique. On top of learning to cope with daily injections, they need to quickly master the skill of doing them properly to deliver the insulin into the subcutaneous layer and not the dermis or the muscle.

In children ages 2–6, the difference between subcutaneous and intramuscular injection is on the scale of fractions of a millimeter.

Ultrasound findings confirm skin thickness in pediatric patients with diabetes

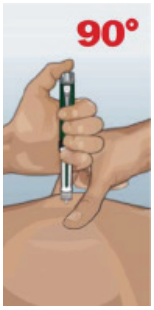
In children ages 2–6 skin is thinnest in the arms and thickest in the buttocks, growing progressively thicker with age.



Recommendations for needle length and injection technique

Children ages 2–6 should use:

A 4mm pen needle



The Pinch-Up method, at a 90˚ angle

to minimize the risk of IM injection

Children aren't the only ones who can benefit from shorter needles, like the BD Nano™ 4mm with PentaPoint™ Comfort and EasyFlow™ Technology. Read about the results from another study in obese patients, or download the clinical papers for your own reference.

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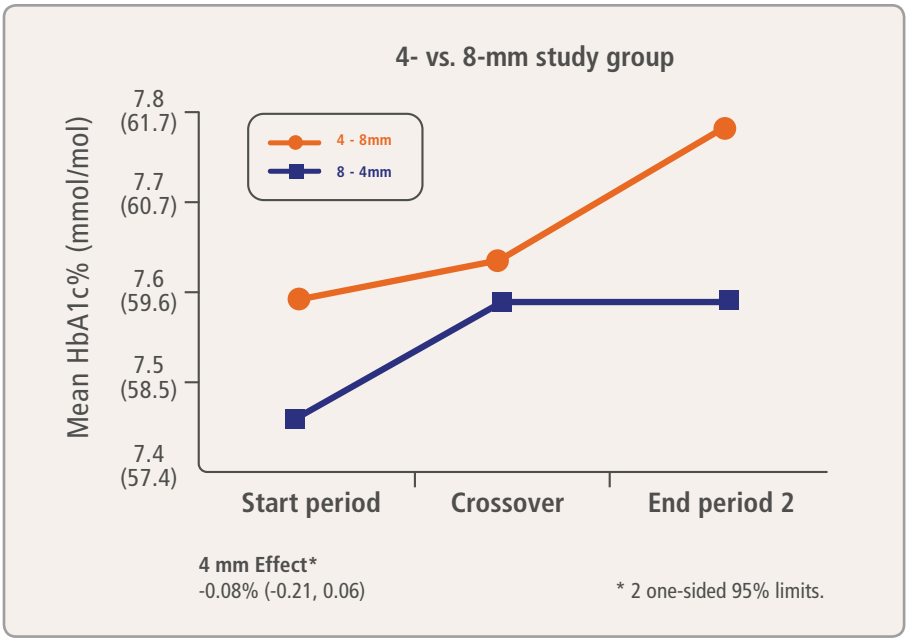
Needle Length in Obese Patients

New evidence suggests that longer isn't necessarily better

Even with the advent of shorter insulin pen needles (4–5mm), most patients with diabetes continue to use longer ones (8–12.5mm). In particular, obese patients with diabetes who require insulin are usually counselled to use these longer needles in order to maximize glycemic control, and minimize any tolerability and injection issues like leakage.

But does a longer needle actually give them better glycemic control?

4mm vs. 8mm: a randomized, crossover, equivalence study in patients with a BMI ≥30



Differences in injection experience for 4mm vs. 8 and 12.7mm pen needles

- Ease of use
- Ease of insertion
- Needle anxiety

Equivalent glycemic control was demonstrated with the BD Nano™ 4mm pen needle[2]

Young children also need special consideration for injection technique and needle length. Read the article or review the research yourself!

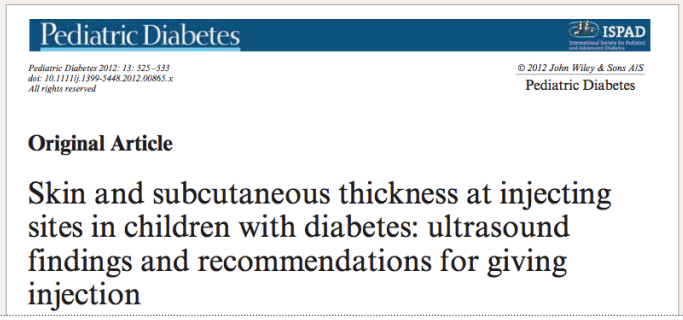
ON POINT with Diabetes Care

BD: Your Partner in Research

We're committed to advancing knowledge and improving outcomes in diabetes care

As a busy pharmacist with a patient population to manage and a business to run, we know you don't always have the time you'd like to review every interesting clinical study the moment it comes out. Or perhaps you prefer to review the source research yourself, and draw your own conclusions.

That's why we're making these 2 clinical studies easily accessible to you — so that you can read them on your own time, and your own terms, to explore the latest findings on insulin injection in two special populations of your patients.


Pediatric Diabetes

ISPAD

Pediatric Diabetes 2012: 13: 525–533
doi: 10.1111/j.1399-5448.2012.00865.x
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Pediatric Diabetes

Original Article

Skin and subcutaneous thickness at injecting sites in children with diabetes: ultrasound findings and recommendations for giving injection

Lo Presti D, Ingegnosi C, Strauss K.

Skin and subcutaneous thickness at injecting sites in children with diabetes: ultrasound findings and recommendations for giving injection.

Pediatric Diabetes 2012; 13(7):525-33.

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MAYO CLINIC

ORIGINAL ARTICLE

Safety and Efficacy of Insulin Therapy Delivered via a 4mm Pen Needle in Obese Patients With Diabetes

Richard M. Bergenstal, MD; Ellie S. Strock, ANP-BC, CDE; Diana Peremislov, RN, MSN, CDE; Michael A. Gibney, RN, CDE; Valentin Parvu, PhD; and Laurence J. Hirsch, MD

Abstract

Bergenstal RM, Strock ES, Peremislov D, Gibney MA, Parvu V, Hirsch LJ.

Safety and efficacy of insulin therapy delivered via a 4mm pen needle in obese patients with diabetes.

Mayo Clinic Proceedings 2015; 90(3):329-38.

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To read a quick summary of some of the findings from these papers, check out our other articles on injection technique and needle length in children and obese patients.

Description	NDC #	McKesson Code #
BD AutoShield Duo™ Pen Needles 30G X 5mm	08290-3295-15	2157642
BD Nano™ Pen Needles with PentaPoint™ Comfort and EasyFlow Technology 32G X 4mm	08290-3201-22	2404671
BD Insulin Syringes with BD Ultra-Fine™ Needle 3/10 ml 31G X 6mm Needle	08290-3249-09	1249010
BD Insulin Syringes with BD Ultra-Fine™ Needle 3/10ml Half Unit 31G X 6mm Needle	08290-3249-10	1249028
BD Insulin Syringes with BD Ultra-Fine™ Needle 1/2 ml 31G X 6mm Needle	08290-3249-11	1249002
BD Insulin Syringes with BD Ultra-Fine™ Needle 1ml 31G X 6mm Needle	08290-3249-12	1248905
BD Ultra-Fine™ Mini Pen Needles 31G X 5mm	08290-3201-19	2426591
BD Ultra-Fine™ Short Pen Needles 31G X 8mm	08290-3201-09	1866359
BD Ultra-Fine™ Original Pen Needles 29G X 12.7mm	08290-3282-03	1639459
BD Ultra-Fine™ Short Needle Insulin Syringes 31G X 8mm	08290-3284-18	1445683
BD Ultra-Fine™ Short Needle Insulin Syringes 1/2 31G X 8mm	08290-3284-68	1633445
BD Ultra-Fine™ Short Needle Insulin Syringes 3/10 ml 31G X 8mm	08290-3284-38	1633023
BD Ultra-Fine™ Short Needle Half-Unit Scale Insulin Syringes 3/10ml 31G X 8mm	08290-3284-40	1624188
BD Ultra-Fine™ Insulin Syringes 1ml 12.7mm (1/2") 30G	08290-3284-11	2183739
BD Ultra-Fine™ Insulin Syringes 1/2ml 12.7mm (1/2") 30G	08290-3284-66	2184034
BD Ultra-Fine™ Insulin Syringes 3/10ml 12.7mm (1/2") 30G	08290-3284-31	2184331

References:

1. Lo Presti D, et al. Skin and subcutaneous thickness at injecting sites in children with diabetes: ultrasound findings and recommendations for giving injection. Pediatric Diabetes 2012; 13(7):525-33.
2. Bergenstal RM, et al. Safety and efficacy of insulin therapy delivered via a 4mm pen needle in obese patients with diabetes. Mayo Clinic Proceedings 2015; 90(3):329-38.