



BD Nano™ 2nd Gen Pen Needles by embecta: Redesigned With Patients in Mind

To develop and provide solutions that make life better for people living with diabetes.

President & CEO: Devdatt (Dev) Kurdikar

Founded: Spun off from BD in 2022

Employees: 2,000+

Stock Symbol: EMBC

Toll-Free Phone: (844) 823-5433

Address: 300 Kimball Drive
Parsippany, NJ 07054

Website: www.embecta.com



Company Background

embecta is one of the largest pure-play diabetes care companies in the world following its spinoff from Becton, Dickinson and Company (BD) on April 1st, 2022. The company's history in the diabetes care category dates back to 1924 and the development of the world's first specialized insulin syringe. Today, it is the leading producer of diabetes injection devices, manufacturing approximately 8 billion injection devices annually for an estimated 30 million patients. embecta empowers people with diabetes to live their best life through innovative solutions, partnerships, and the passion of more than 2,000 employees around the globe.

Product Overview

When it comes to managing diabetes with insulin, a comfortable injection experience matters. BD Nano™ 2nd Gen Pen Needles can help patients inject with more comfort and confidence.¹

Patented features include:^{1,2}

- Wider outer cover for easier attachment to pen device.
- Larger, green, inner needle shield for easier grip and removal before an injection.
- Contoured needle base that provides greater comfort and compensates for injection force variability, supporting more reliable subcutaneous injections.

The unique features of BD Nano™ 2nd Gen 4 mm Pen Needles offer a number of potential benefits, including:

- Reduction in injection pain.^{3*}
- Less force required to deliver the full dose.^{4†}
- Greater confidence that the full dose has been delivered compared to other pen needles studied.^{4‡}

BD Nano™ 2nd Gen Pen Needles are:

- Compatible with widely used pen injection devices.⁵
- Covered by most health plans at the preferred co-pay, including Medicare Part D.⁶

Not all patients inject the same. Some may apply excessive force, which can increase the risk of injecting deeper than intended, increasing the risk of intramuscular (IM) injections.^{1**} Shorter needles (i.e. 4 mm pen needles) may lower the risk of inadvertent IM injection, which is associated with unpredictable insulin absorption and variable effects on glucose.⁷ Educating patients on structured injection technique can help improve glycemic control.^{8^} A few steps to deliver structured injection technique training include using a new needle with every injection, rotating injection sites, and injecting within sites at least one finger width apart, and shifting to short needle lengths.⁹ Join the movement and help ensure your patients have enough pen needles or insulin syringes to use a new needle with each injection.

References:

* Single-blind, randomized, control trial of 209 patients with diabetes where each completed 6 pairs of abdominal injections of 0.3 mL sterile saline in random order and utilized a 150 mm visual analog scale (mean scores of >0 mm; clinically significant difference of ≥5 mm). BD Nano™ 2nd Gen 32Gx4 mm demonstrated superiority vs. each comparator group for less injection pain.

** Estimated to reduce intramuscular (IM) injection risk by 2-8x — the study used in-silico probability model of needle penetration \depth for posted-hub 4 mm pen needles and average human tissue thickness measurements across a range of injection forces and recommended sites, pooled across gender and BMI.

† Single-blind, randomized, control trial of 209 patients with diabetes where each completed 6 pairs of abdominal injections of 0.3 mL sterile saline in random order and utilized a Likert Scale where ratings range from -2 to 2; positive scores reflect less thumb force for BD Nano and negative scores reflect less thumb force for the comparator pen needle. Scores of 0 indicate no difference. BD Nano™ 2nd Gen 32Gx4 mm contoured hub 5-bevel extra thin wall demonstrated superiority vs. each comparator group for less injection force.

‡ 198 patients with diabetes were included in this prospective, multicenter, randomized, open-label, 2-period, crossover study to evaluate differences in perceived thumb force and in confidence that the full dose of insulin was delivered, between the participants' usual pen needle (PN) and the corresponding extra-thin wall (XTW) pen needle while using a manually-operated insulin pen. Both outcomes were considered statistically significant if the 95% confidence interval (CI) for the mean VAS score was either positive (XTW preferred) or negative (current PN preferred). Significant differences favoring XTW pen needles were seen for perceived thumb force and confidence that the full dose was delivered by 28.4 mm (95% CI, 23.7-33.2), and 24.4 mm (95% CI, 19.7-29.1), respectively; (all, P < 0.001).

^ 116 patients with diabetes on insulin were randomized to three intervention groups to assess the change from baseline in A1C at six months following structured injection technique training and changing to a shorter needle length (4 mm or 5 mm pen needle). Baseline A1C for all groups were similar (Mean: 8.5 – 8.8% [± 1.4 – 1.9%]).

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