



# How to inject your diabetes medication: The five golden rules<sup>1</sup>

## For adults and children

Based on the latest published clinical recommendations from *Mayo Clinic Proceedings*

The correct injection technique can help you achieve better control of your diabetes.<sup>2,3</sup>



# A new approach to your injections<sup>1</sup>



**If you inject diabetes medication, you should know how important correct injection technique is for effectively managing your diabetes.** Your pen needle or medication syringe, type of medication and rotation of injection sites all play critical roles, which can lead to better treatment results.<sup>2</sup>

**The following golden rules can help you better manage your diabetes.<sup>1</sup>**

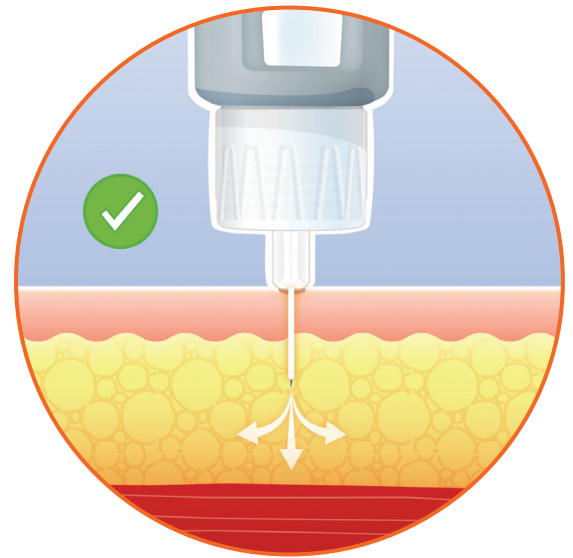
# Golden rule 1

## Always **inject into the healthy fatty layer** under your skin<sup>1</sup>

For your medication to work properly, it needs to be injected into the fatty layer under your skin to avoid the muscle.

It is also important to use a new site for every injection. Do not inject into the same injection site repeatedly.

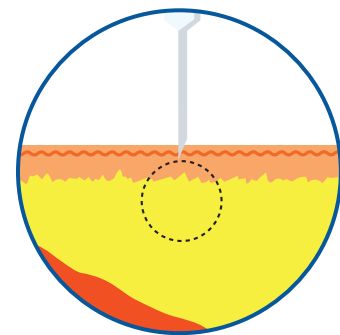
If you inject into the muscle, a scar or any area where your skin feels thick or lumpy, your medication may not work the way it's supposed to and may lead to changes in your blood sugar.<sup>1,3-6</sup>



## Did you know?

On average your skin is only 2–2.5 mm thick, so you don't need a needle much longer than that to reach the fatty layer.<sup>7</sup>

Ask your healthcare professional about the BD Nano™ 4mm pen needle to better manage your diabetes.<sup>1</sup>



With a 90° insertion, the BD Nano™ 4mm pen needle ensures your diabetes medication is injected into the fatty layer over 99.5% of the time, at all injection sites.<sup>7</sup>

## Golden rule 2

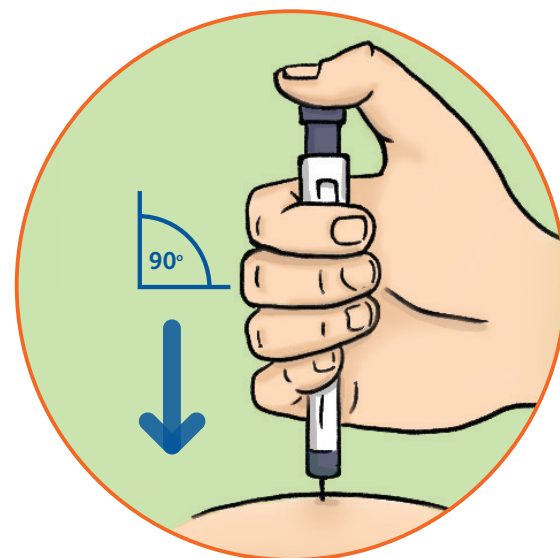
# 4 mm pen needles, inserted at 90° with no skin fold, are recommended for all adults and children<sup>1\*</sup>

The *Mayo Clinic Proceedings* recommendations observe that a 4 mm pen needle is considered the safest for adults and children—regardless of your age, sex, ethnicity or body weight.

This is because it's short enough to pass through the skin with little risk of injection into the muscle.

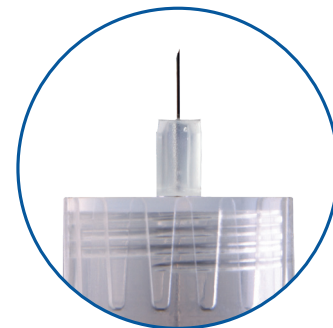
Because it's so short, you can inject a 4 mm pen needle straight into your skin at 90° without a skin fold.<sup>1\*</sup>

If you need to use a syringe,<sup>†</sup> a 6 mm needle is the shortest available, and you should inject **at 90° into a skin fold.**<sup>1‡</sup>



## Ask your healthcare professional

about the BD Nano 4mm pen needle—the recommended pen needle length for all adults and children<sup>1</sup>



<sup>\*</sup> Children 6 years and under and very thin adults should perform a skin fold and inject at 90°. Note that a 2-finger skin fold usually prevents injection into the muscle in children, but is much less effective in the thigh than in the abdomen.<sup>1</sup>

<sup>†</sup> Syringe needles are not recommended for children 6 years and under and very thin adults because of the risk of injecting into the muscle.<sup>1</sup>

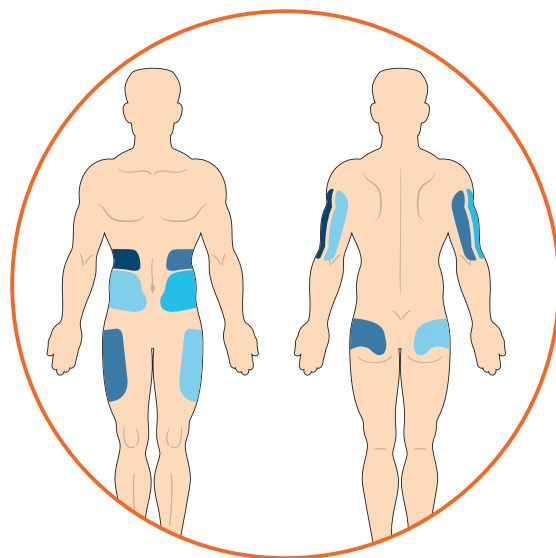
<sup>‡</sup> If arms are used for injections with needles 6 mm or longer, you must inject into a skin fold. This requires that the injection be given to you by someone else.<sup>1</sup>

# Golden rule 3

## Inject your medication into areas on your **abdomen, thighs, buttocks and upper arms**<sup>1</sup>

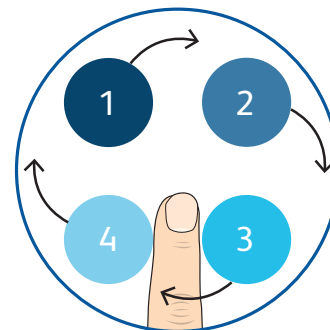
It's important to make use of all these injection sites as part of a healthy injection site rotation plan.

It's important to rotate your injection sites to help keep all of your sites healthy. Work with your healthcare team to develop an injection site rotation plan that works for you.<sup>1</sup>



## Remember:

Inject one finger's width away from your last injection. A single injection site should not be used more than once every 4 weeks.<sup>1</sup>



## Golden rule 4

# Check your injection sites for lumps and bumps<sup>1</sup>

Thickened skin or rubbery lumps and bumps can build up in the fatty layer under your skin at your injection sites.

Do not inject into these lumps and bumps. These lumps and bumps are called 'lipos.'<sup>1</sup>

You should check your injection sites for these lumps and bumps on a regular basis. If you inject into these lumps and bumps, your medication may not work to control your diabetes the way it's supposed to.<sup>8</sup>

To avoid developing these lumps and bumps, be sure to:

- Inject your medication into a new site with every injection.
- Use a new needle for every injection.

Your healthcare professional should also help you check for them and mark any that are of concern.<sup>1</sup>



## Always use a new needle

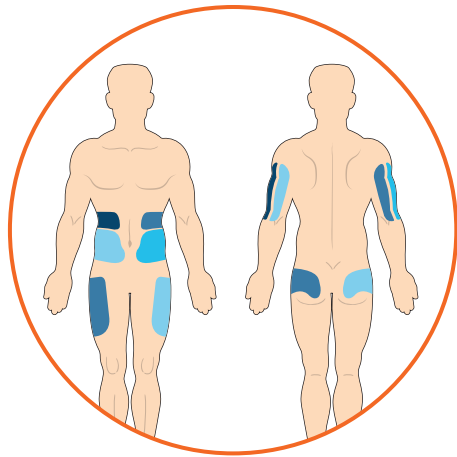
to avoid developing lumps and bumps.<sup>1</sup>



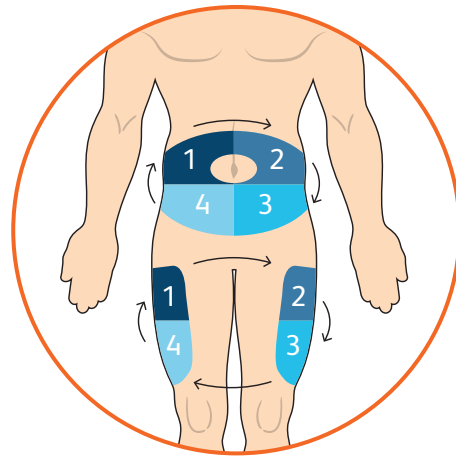
# Golden rule 5

## Rotate your injection sites<sup>1</sup>

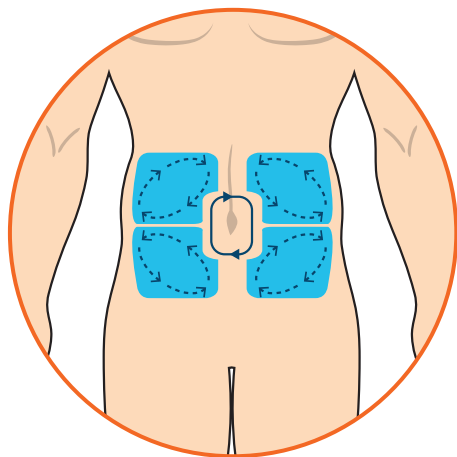
It's important to rotate your injection sites to retain healthy skin and reduce your risk of developing lipos. Try not to use an injection site more than once every four weeks.<sup>1</sup>



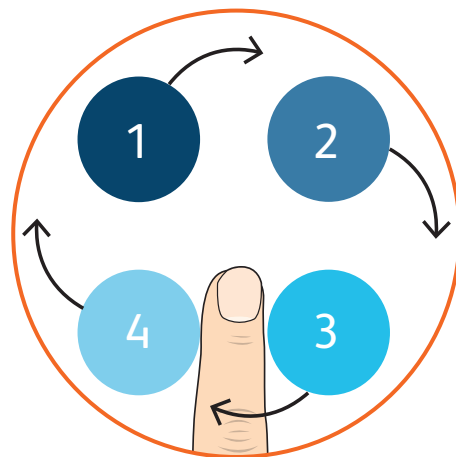
1. Choose an area.



2. Divide that area into four quadrants.



3. Select a site in a quadrant to start injecting. Use one quadrant per week.



4. Inject one finger's width away from your last injection.

# BD Nano™ 4mm Pen Needles

## Preferred by patients<sup>9</sup>

- Less effort to inject medication for people with hand strength issues<sup>9\*</sup>
- BD's smallest, thinnest pen needle was rated as less painful and easier to insert<sup>9†</sup>
- Faster injections<sup>9‡</sup>
- Fits all leading insulin pens for diabetes treatment<sup>†</sup>

\* Compared to standard BD 3-bevel pen needles.

† Compared to standard BD thin-wall pen needles.

‡ As of September 22, 2016.



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### References:

- 1 Frid AH, Kreugel G, Grassi G, et al. New insulin delivery recommendations. *Mayo Clin Proc.* 2016;91(9):1231–1255.
- 2 Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Worldwide injection technique questionnaire study: injecting complications and the role of the professional. *Mayo Clin Proc.* 2016;91(9):1224–1230.
- 3 Frid AH, Hirsch LJ, Menchior AR, Morel DR, Strauss KW. Worldwide injection technique questionnaire study: population parameters and injection practices. *Mayo Clin Proc.* 2016;91(9):1212–1223.
- 4 Young RJ, Hannan WJ, Frier BM, Steel JM, Duncan LJ. Diabetic lipohypertrophy delays insulin absorption. *Diabetes Care.* 1984;7(5):479–480.
- 5 Johansson UB, Amsberg S, Hannerz L, et al. Impaired absorption of insulin aspart from lipohypertrophic injection sites. *Diabetes Care.* 2005;28(8):2025–2027.
- 6 Blanco M, Hernandez MT, Strauss KW, Amaya M. Prevalence and risk factors of lipohypertrophy in insulin-injecting patients with diabetes. *Diabetes and Metabolism.* 2013;13:445–453.
- 7 Gibney MA, Arce CH, Byron KJ, Hirsch LJ. Skin and subcutaneous adipose layer thickness in adults with diabetes at sites used for insulin injections: implications for needle length recommendations. *Curr Med Res Opin.* 2010;26(6):1519–1530.
- 8 Famulla S, Hövelmann U, Fischer A, et al. Insulin injection into lipohypertrophic tissue: blunted and more variable insulin absorption and action, and impaired postprandial glucose control. *Diabetes Care.* 2016;39(9):1486–1492. DOI: 10.2337/dc16-0610.
- 9 Aronson R, Gibney MA, Oza K, Bérubé J, Kassler-Taub K, Hirsch L. Insulin pen needles: effects of extra thin-wall needle technology on preference, confidence, and other patient ratings. *Clin Ther.* 2013;35(7):923–933.e4. DOI: 10.1016/j.clinthera.2013.05.020.

BD, 1 Becton Drive, Franklin Lakes, NJ, 07417, USA

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