



FIT Technique Plus*

Making Injections more Comfortable

*Educational tools based on FIT Canada Recommendations for Injection Technique, updated February 11th, 2020



Mrs. W



48 year old ♀

Type 2 diabetes for 10 years

BMI = 39m/kg²

- A1C 8.5%, FBG 6-7 mmol/L, pre-meal 9-12 mmol/L, 2 hour pc 12-16 mmol/L.

- Maximum dose of 3 oral agents for diabetes.
- NPH 35 units qHS for the past 2 years, using an 8mm pen needle.
- Initially, A1C improved, but gradually it increased to 8.5%. Her MD had suggested adding meal time insulin, but she refused. When referred for diabetes education to discuss the need to intensify her treatment and to help address her reluctance, she shares with the educator her concerns that the pain and discomfort he experiences with her injections will increase with more injections.

Challenges



1. A1c not controlled and requires intensification of insulin, including starting meal time insulin. She has refused.

Injection Technique Review:

- Injecting using a 90° angle, no skin lift, at all injection sites.
- Storing all insulin in the refrigerator.
- Has been told to use a longer needle because she is overweight.
- Changing pen needle only when inserting a new cartridge.

Injecting cold insulin, using long needles (without a skin lift) and reusing needles could all be causing Mrs. W's injection discomfort.

What does the research say?



Aronson 2012¹

Comfort in insulin therapy has contributed significantly to injection anxiety. Injection comfort, however, has greatly improved over the past decade because of advances in needle length, needle diameter and needle tip geometry.



Hirsch 2010²

The 4mm 32G pen needle provided equivalent glycemic control compared to 5mm 31G and 8mm 31G pen needles with reduced pain, no difference in insulin leakage and was preferred by patients.



Hirsch 2012³

In a home use study, the 5-bevel needle tip was perceived as less painful and was preferred by 2/3 of subjects.



Recommendations for Mrs. W

- Keep injectable therapy in use at room temperature.
- Use a new needle for each injection.
- Use shorter needles and smaller diameter.
- Inspect and palpate the skin prior to each injection to ensure injection site is healthy.

Mrs W. agreed to adjust her injection technique and add mealtime insulin, as recommended.

At her follow-up appointment she has improved blood glucose control with more comfortable injections.

FIT Canada Recommendation:⁴

4, 5 and 6mm pen needles are suitable for all people living with diabetes regardless of BMI.





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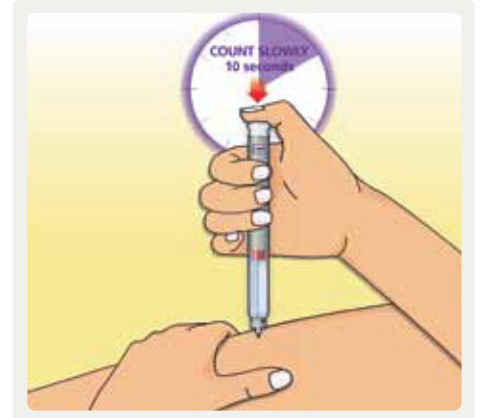


Did you know?



- Injectable therapy is an option to treat diabetes and can help you achieve better blood glucose control.
- Over the years needle technology has improved. Some pen needles are shorter, finer and have extra thin wall technology. These improvements all make injecting more comfortable than you might think.

- Injection technique also matters. When done properly, injections can be virtually pain free.
- If you are new to injecting, ask your educator to demonstrate proper technique using a pen and a shorter, finer pen needle.

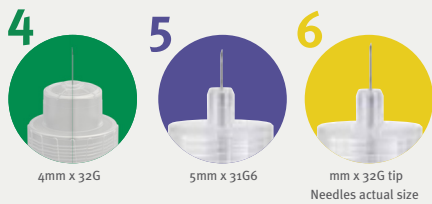


Top tips for comfort

1. Keep injectable therapy in use at room temperature.
2. Use a new needle each time.



3. Use shorter needles and smaller diameter.



1. Inspect and palpate the skin prior to each injection to ensure injection site is healthy.



5. Inject solution slowly and evenly.
6. Avoid using alcohol to swab skin, but if used, inject only after it has dried completely.
7. Avoid injecting into hair roots, scars and moles.
8. Avoid injecting through clothing.
9. If the volume of your injection is uncomfortable, talk to your doctor about how to divide into 2 injections.

Did you know?



- Shorter needles means a reduction in anticipation of pain and in actual injection pain.¹
- Bleeding is more likely to be associated with injection pain; smaller diameter needles cause less bleeding, therefore less pain.¹

1. Aronson R. The Role of Comfort and Discomfort in Insulin Therapy. *Diabetes Technology & Therapeutics*. April 2012;14(8):1-7.
 2. Hirsch LJ, et al. Comparative glycemic control, safety and patient ratings for a new 4mm x 32G insulin pen needle in adults with diabetes. *Curr Med Res Opin* 2010;6:1531-41. 3. Hirsch LJ, et al. Impact of a Modified Needle Tip Geometry on Penetration Force as well as Acceptability, Preference, and Perceived Pain in Subjects with Diabetes. *J Diabetes Sci Technol* 2012;6(2):328-335.
 4. Berard L, et al. FIT Forum for Injection Technique Canada. Recommendations for Best Practice in Injection Technique. October 2011.

