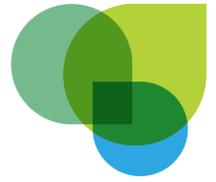




FIT Technique Plus*

Lipohypertrophy

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



Did you know?



Lipohypertrophy is present at the injection sites of many people who inject insulin.

- Lipohypertrophy, sometimes referred to a “lipo”, is a thickened rubbery area of fat tissue, characterized by fibrous poorly vascularized lesions, that can grow and develop in the subcutaneous fat where injections of insulin are given.

- Areas of lipohypertrophy vary greatly in size and are often felt more easily than seen.⁴
- Regular site inspection should be a normal part of your injection routine. To check your injection site, feel the area where you normally inject. Look for puffiness, raised areas and redness. Feel for hardness or lumpiness. If it is difficult to see your injection sites, a mirror may help.



Did you know?

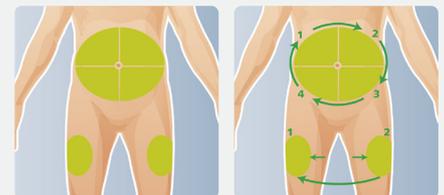


Lipohypertrophy can be prevented.

- The risk of developing lipohypertrophy increases with repeated injections into a small area less than the size of a postage stamp.³
- Areas for injection should be at least the size of a postcard and each injection should be rotated within the area, spaced at least one finger width apart.⁵ In other words, don't inject in exactly the same point each time.



- Your doctor or diabetes educator can recommend a structured site rotation plan that will work for you. This will involve rotation between injection sites and within injection sites.



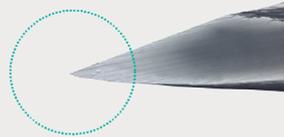
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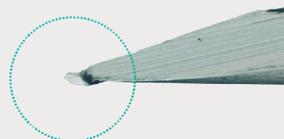
Lipohypertrophy has also been associated with needle reuse.

Needles should be used only once (and then disposed of in an approved sharps container).⁵

New needle



Reused needle



At x 370 magnification

An area of lipohypertrophy can affect your blood glucose control.

Injecting into an area of lipohypertrophy can cause irregular insulin absorption and have an impact on your blood glucose characterized by slower absorption and delayed peak effect.²

Talk to your doctor or diabetes educator if you think you have lipohypertrophy at your injection sites.

1. Vardar B, Kizilc S. Incidence of lipohypertrophy in diabetic patients and a study of influencing factors. *Diabetes Res Clin Pract* 2007; 77:231-236.
 2. Famulla, S, Hovelmann 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;39:1486-1492
 3. De Coninck C, et al. Results and analysis of the 2008-2009 Insulin Injection Technique Questionnaire Survey. *J Diabetes* 2010;2(3):168-79.
 4. Frid A, et al. New injection recommendations for patients with diabetes. *Diabetes & Metabolism* 2010; 36: 53-518.
 5. Berard L, et al. FIT Forum for Injection Technique Canada. Recommendations for Best Practice in Injection Technique. October 2011.

