

Insulin Injection Instructions

Insulin Administration

- Different types of insulin have different pharmacological properties.
- Rapid-, short-, intermediate- and long-acting insulins are available.
- Insulin type, injection technique and individual patient response are variables that can affect the onset, peak and duration of the insulin.
- Imperative that patients receive education as to the name, action and correct administration of the specific insulin they are prescribed.
- Insulin is available in various delivery devices (depends on the type and manufacturer). Two most common: Vial/syringe and disposable pen. (Also available, cartridge pens.)
- Certain insulins CANNOT be mixed in the same syringe and in the subcutaneous tissue.
- Size of the syringe and size of the needle is important:
 - Syringe size: 30, 50, 100 units
 - Needle length: 5-6 mm, 8 mm, 12 mm

Insulin Injection Site Selection

- Insulin must be injected into the subcutaneous, fatty tissue.
- Recommended sites: Upper, back of arm; anterior, lateral aspect of thigh; upper, fatty area of buttocks; abdomen (except 2 inch radius around navels). See supplemental handout.
- No intramuscular injections (insulin absorbed incorrectly).
- Rotation within one site is recommended rather than rotating to a different site with each injection (decreases variability in absorption day to day).
- Rate of absorption: Fastest from abdomen, followed by arms, thighs and buttocks.
- Exercise increases rate of absorption.
- Stay away from areas of lipohypertrophy, which have slower and decreased absorption.

Insulin Injection

- Make sure site is clean.
- Inspect insulin for correct clearness, color and clarity; no clumping, particles, discoloration, frosting or precipitation.
- Syringe and vial: Inject air into vial equal to amount of insulin being withdrawn.
- Pen: 1-2 unit air shot prior to dialing the dose.
- Verify dose after drawing up or dialing dose; check for air bubbles.
- After choosing site (see slide), pinch fold of fat.
- Inject at 90 degree angle (no slant); if extremely thin, may need to use 45 degree angle.
- After injecting the insulin, hold needle in tissue for 5-10 seconds (a must for pens).
- Let go of the pinch of skin BEFORE removing the needle.
- Check site for leakage.
- Dispose of needle/syringe.

Insulin Storage Guidelines

- Whenever possible, insulin should be self-administered. Before the new analog insulin, pre-filling syringes by family members often helped a situation where the family member could inject the dose, but could not see to draw up the insulin.
- Storage guidelines and ability/inability for pre-filling is determined by the type of insulin and the delivery device.
- Helpful to mark date opened on vial/pen to track length it has been in use.

Clinical Practice Recommendations. Diabetes Care 2004; Supplement 1.

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