

My Insulin Basics Toolkit

What do you need to know before you go home?

- What is Insulin
- Types of Insulin
- Injection Sites
- How to Inject Insulin Correctly
- Low Blood Sugar and Treatment
- Sick Day Management
- After leaving the Hospital: Diabetes Supplies
- Who to contact for support

This toolkit is a brief overview of insulin and more education is available from your diabetes centre/support team.

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All About Insulin

What is Insulin?

Insulin is a hormone that helps control the level of sugar in your blood.

Without insulin, sugar builds up in your bloodstream instead of being moved to the cells of your body where it is used for energy.

Types of Insulin

There are many different types of insulin. Your doctor will work with you to decide the type and dose of insulin to take.

Insulin is injected by: insulin pen, insulin pump or syringe.

Types of Diabetes and Insulin

Type 1: People with Type 1 Diabetes will need insulin right away because their body does not produce it.

Type 2: People with Type 2 Diabetes may need insulin added to their oral medicines.

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Type of Insulin

BOLUS: Controls blood sugar after eating		
Insulin type / name	Short Acting (Clear) Humulin R Toronto	Rapid Acting (Clear) Apidra Humalog NovoRapid
When does it start working?	30 minutes	10–15 minutes
When is it the strongest?	2–3 hours	1–2 hours
How long does it last?	6.5 hours	3–5 hours
When do i take it?	30–45 minutes before a meal One or more meals per day	0–15 minutes before meals

BASAL: Controls blood sugar between meals and during sleep		
Insulin type / name	Intermediate Acting (Cloudy) Humulin N NPH	Long Acting (Clear) Lantus Levemir Basaglar
When does it start working?	1–3 hours	1–1.5 hours
When is it the strongest?	5–8 hours	None
How long does it last?	Up to 18 hours	Up to 24 hours
When do i take it?	Once or twice a day	Once or twice a day

PREMIXED: Mixture of the basal and bolus Insulin		
Insulin type / name	Premixed Regular (Cloudy) Humulin 30/70 Novolin ge 30/70	Premixed Analogue (Cloudy) NovoMix 30 Humalog Mix 25
When does it start working?	30–45 minutes	10–15 minutes
When is it the strongest?	30% short acting bolus 70% intermediate acting basal	25–30% rapid bolus 70–75% intermediate acting basal
How long does it last?	12–18 hours	14–18 hours
When do i take it?	30–45 minutes before a meal 1–2 times per day	0–15 minutes before or after a meal 1–2 times per day

CARE AND STORAGE		
Unopened insulin should be stored in the fridge between 2°C–8°C until the expiry date. Once opened insulin can be stored at room temperature for up to 1 month or until its expire date, whichever occurs first.	Levemir can be stored safely at room temperature for 42 days. Do not use insulin after the expiry date.	Keep insulin away from direct light and heat. Any insulin that has been frozen or exposed to temperatures greater than 30°C should not be used.

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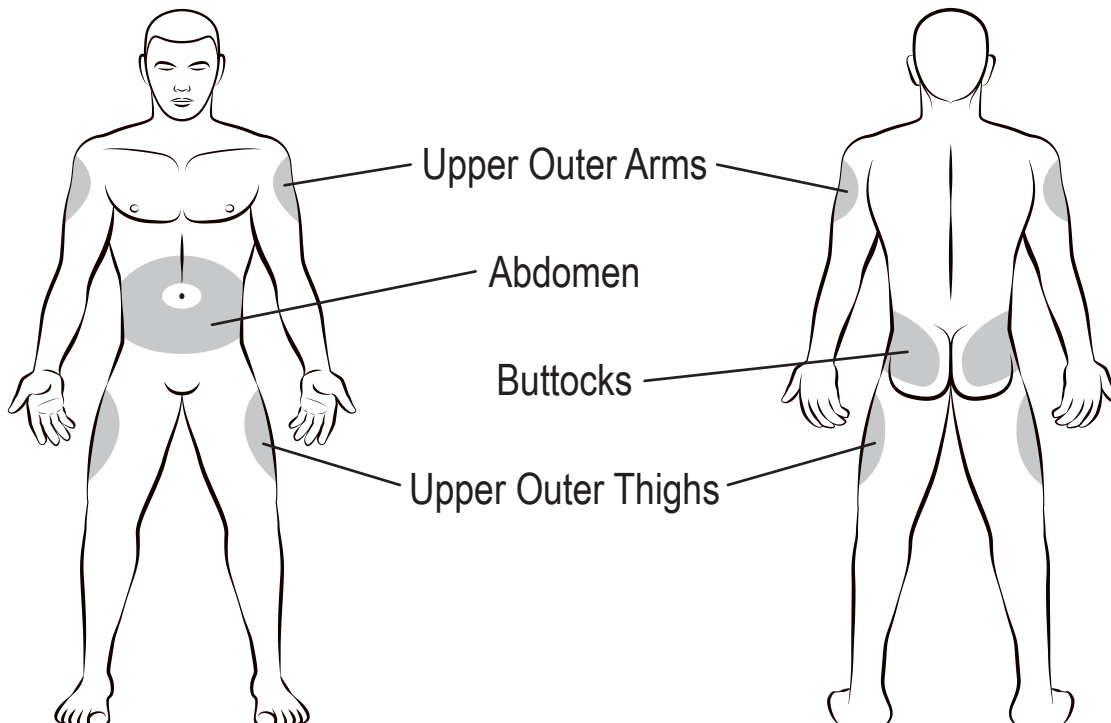
Insulin Injections

Things to think about before you Inject

- Always inject into a new site to prevent tissue damage (site rotation)
- Inject Insulin into healthy skin

Where to Inject

- Into **fatty tissue** (subcutaneous)
- **Abdomen** (tummy)
 - Stay 2 inches away from your belly button
 - Easy to reach
 - Insulin absorbs fast and consistently
- **Upper Outer Arm**
 - After abdomen, the arm provides the next fastest absorption rate
 - Difficult to reach without assistance
- **Buttock and Thigh**
 - Slower absorption rate than abdomen and arms

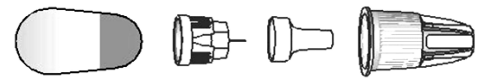


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Step by Step Guide: How to Use an Insulin Pen

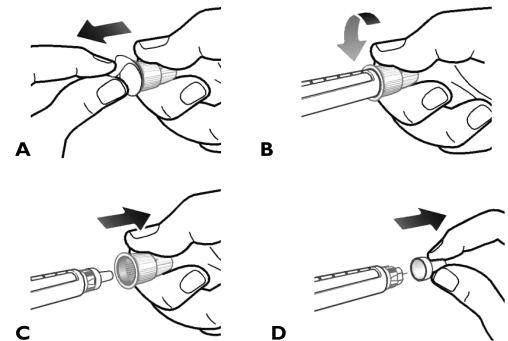
1. Insulin Pen Needles

- In hospital we use a BD safety insulin pen needle.
- At home your insulin pen needle will look different and have an outer and inner cap which both need to be removed.



2. Get your Insulin Pen Ready

- Wash your hands
- If insulin is cloudy ROCK the pen 10 times, then ROLL pen 10 times (do not shake)
- Take paper tab off of pen needle
- Screw the needle on to the pen
- Remove BOTH the outer and inner needle caps



3. Prime your Insulin Pen (to expel air bubbles and make sure your pen is working)

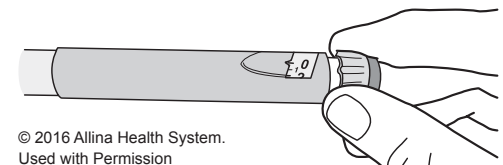
- Turn insulin pen dose button to '2' units
- Hold insulin pen with needle facing up
- Push the dose button on the end on the end of pen
- Look for a drop of insulin at needle tip
- If no drop, repeat "Prime your Insulin Pen" steps



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4. Select your Insulin Dose

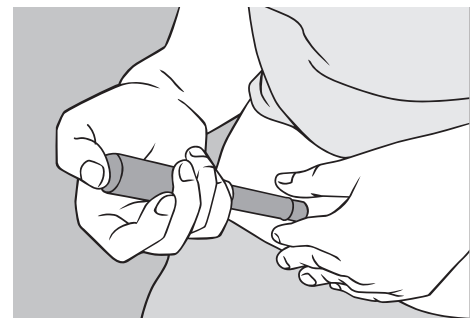
- Turn insulin pen dose button until the required dose lines up with the dose indicator



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5. Inject your Insulin

- Choose a new healthy site
- Push needle straight into skin
- Press dose button in all the way
- Hold for 10 seconds
- Remove needle from skin
- Place large cap on needle



6. Dispose of Pen Needle

- Turn needle counter clockwise to remove needle from pen and place in sharps container

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Hypoglycemia (Low Blood Sugar)

Hypoglycemia is when blood sugar drops **BELOW 4 mmol/L**.

You may feel:






- shaky & weak
- sweaty
- anxious
- hungry
- nauseous
- tired
- dizzy or confused

You may have:

- tingling
- a headache
- a fast heartbeat
- a hard time:
 - seeing
 - focusing
 - speaking





Treatment of Hypoglycemia: Take 15 – Wait 15

If blood sugar is less than 4 mmol/L: **TAKE 15 grams FAST ACTING SUGAR**

	OR		OR		OR		OR	
15 g of glucose 3–5 tablets (check label) Best Choice		$\frac{2}{3}$ cup (150 mL) of juice (not orange juice) OR Regular soft drink		3 teaspoons (15 mL) or 3 packets of sugar		1 tablespoon (15 mL) of honey		6 LifeSavers®

WAIT 15 Minutes: Test blood sugar again

- If still less than 4 mmol/L (or you still have symptoms): **Repeat (Take 15, Wait 15)**
- Once blood sugar is above 4 mmol/L, eat a snack if your meal is more than 1 hour away.

	OR		OR		OR	
$\frac{1}{2}$ nut butter sandwich Best Choice		$\frac{3}{4}$ cup (175 mL) yogurt		1 cup (250 mL) milk		6 soda crackers and cheese

Note: If you take insulin or pills that cause hypoglycemia, treat your low blood sugar and do not drive until your blood sugar is greater than 5 mmol/L. Wait at least 40 minutes after treating a low blood sugar before driving.

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Sick Day Management

A bad cold, the flu or serious injury can affect your blood sugar. Speak with your health care team about how to prepare for sick days.

<p>Diabetes medications</p>	<p>If you are taking insulin and become ill continue to take your insulin and test more often. Your insulin dose may need to be adjusted based on your blood sugar results.</p> <p>When you are sick, some of your medications may need to be stopped or changed especially if you become dehydrated (vomiting, diarrhea or fever). Contact your healthcare team member (on page 8) for advice about how to take your medications when you are sick.</p>
<p>Blood sugar testing</p>	<p>Type 1 Diabetes: Test you blood sugar and ketones every 4 hours. Type 2 Diabetes: Test your blood sugar 4 times per day (before meals and at bedtime).</p>
<p>See your doctor today or go to Emergency for help if:</p>	<ul style="list-style-type: none"> • You take pills or insulin and are unable to eat or drink due to vomiting or have vomited twice or more in 12 hours • You have had diarrhea lasting longer than 24 hours • Type 1 Diabetes: your blood sugar is greater than 14 mmol/L before meals or bedtime on 2 tests in a row and your urine ketones are moderate to large • Type 2 Diabetes: your blood sugar is greater than 20 mmol/L for more than 8 hours
<p>Foods and drinks for sick days</p>	<p>Drink at least 8–10 cups per day of sugar-free fluids such as water, caffeine-free tea, sugar-free soda or broth.</p> <p>If you are not able to eat your regular diet, try have one of the following every 1 to 2 hours:</p> <ul style="list-style-type: none"> • 1/2 cup (125 mL) regular juice or pop • 1/2 cup (125 mL) regular Jell-O • 1 Twin popsicle • 1 cup (250 mL) milk or yogurt • 6 soda crackers • 1/2 cup (125 mL) ice cream or pudding • 1 cup (250 mL) cream soup • 1 slice toast • 1/2 cup (250 mL) cup applesauce • 1/2 cup (125 mL) milk shake or liquid meal replacement

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Hospital to Home: What You Need to Know

Medication and Supply Costs

Pharmacare application: Web <https://pharmacare.moh.hnet.bc.ca/>
 Phone 1-800-663-7100

Not all insulins and pills are covered by Pharmacare (discuss with your health care team)

Diabetes Supplies

If you have third party coverage or social assistance, please request the pharmacy supplies be written in a prescription by your doctor.

- Insulin Pen- recommend prefilled disposable pen initially (same as used in hospital)
- Insulin Pen needles (4–5 mm) (the needle will be different than the safety needles used in hospital)
- Blood glucose meter and test strips
- Lancets
- Sharps container
- Fast acting sugar such as glucose tablets (check label for dose)
- Medic Alert information –ask your pharmacist
- Your doctor may also prescribe:
 - Glucagon kit
 - Urine Ketone strips

Who Can Help	Name	Phone
Pharmacist		
Doctor		
Diabetes Clinic		
Other		

Additional Information

- Diabetes Canada: www.diabetes.ca
- BC Healthlink: Call 811 for a 24 hour hotline