



# Take Your Best Shot

**Slides:** *What You Need to Know  
about Insulin and How to Inject*

- ◆ **Getting Started**
- ◆ **Injecting with a Pen**
- ◆ **Injecting with a Syringe**
- ◆ **About Insulin**
- ◆ **Injecting with Ease**





### **About Joslin Diabetes Center**

Joslin Diabetes Center is the world's preeminent diabetes clinic, diabetes research center and provider of diabetes education. Joslin is dedicated to ensuring people with diabetes live long, healthy lives and offers real hope and progress toward diabetes prevention and a cure for the disease. Founded in 1898 by Elliott P. Joslin, M.D., Joslin is an independent nonprofit institution affiliated with Harvard Medical School. For more information about Joslin, call 1-800-JOSLIN-1 or visit [www.joslin.org](http://www.joslin.org).

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# Take Your Best Shot

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# Starting Insulin – What's on Your Mind?

*I'm afraid  
of needles!*

*I don't have  
time for this!*

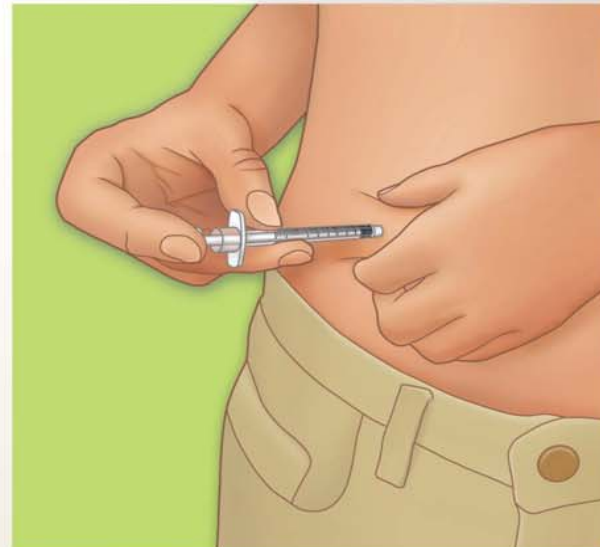
*Is my diabetes  
getting worse?*



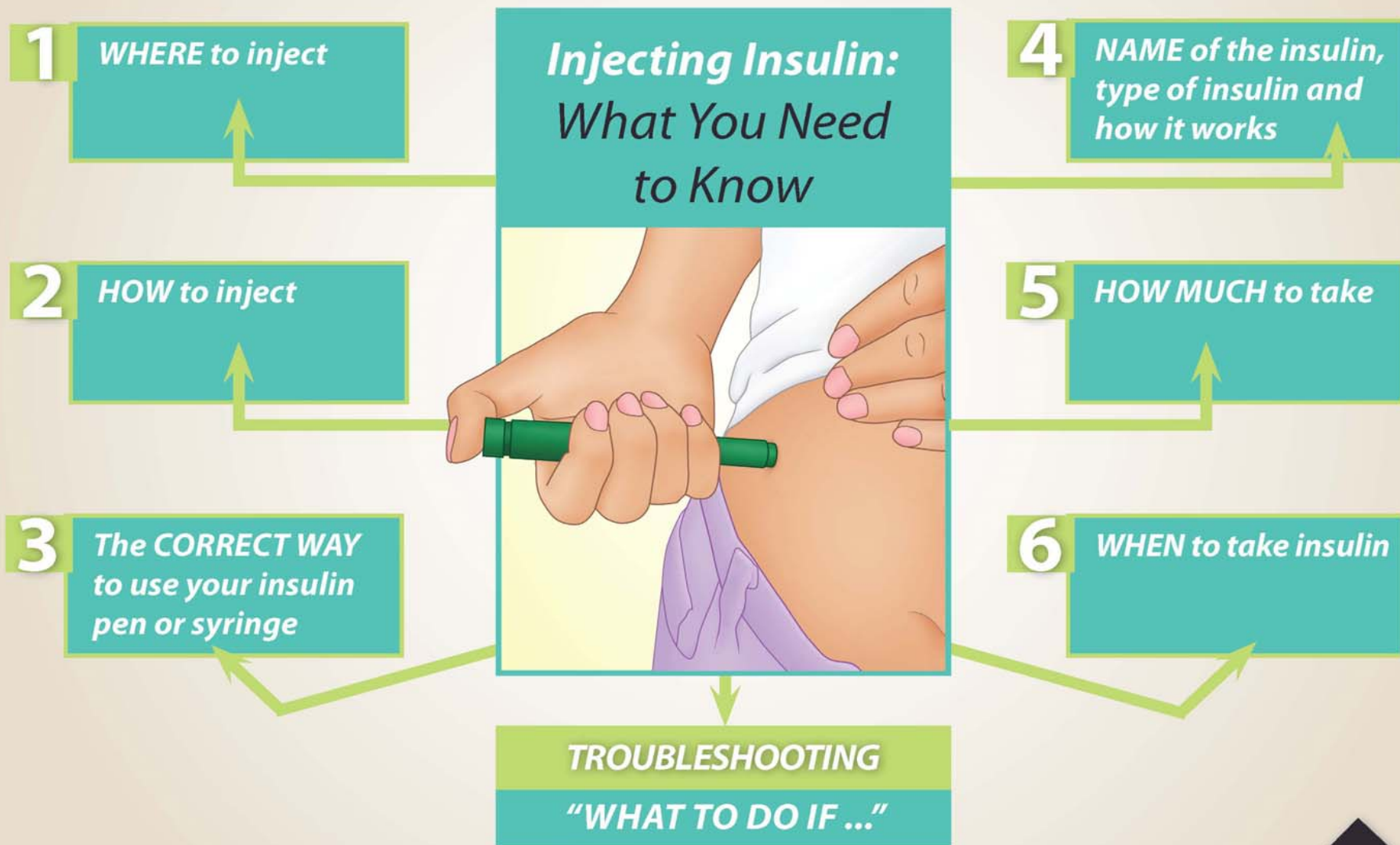


# ***The Good News about Starting Insulin***

- **Insulin is one of the best ways to treat diabetes and lower your risk of getting complications.**
- **Insulin is a “natural” substance made in your body.**
- **Taking insulin doesn’t mean you’ve failed – your body may just need extra help.**
- **Insulin injections shouldn’t hurt. Learn about the choices!**



# Take Your Best Shot: What You Need to Know to Be Successful



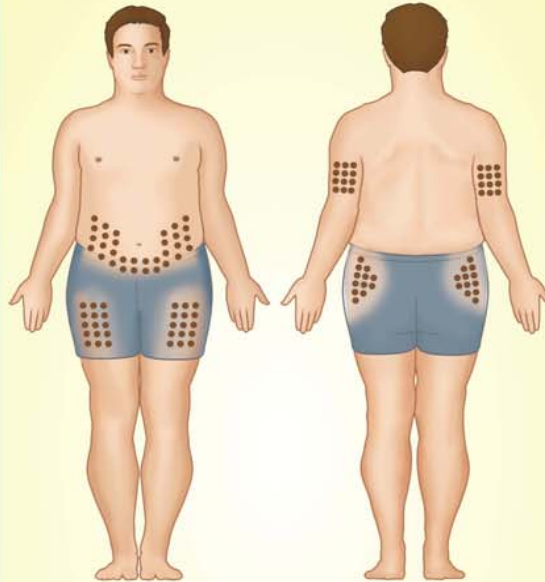
# Using an Insulin Pen: Easy as 1-2-3

## 1 Get Ready



- **Gather your supplies.**
- **"Prime" the pen.**
- **Dial-up your dose.**

## 2 Get Set



- **Select your site.**
- **Make sure it is clean.**

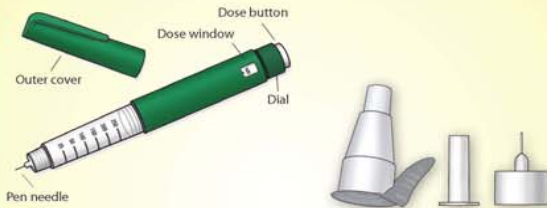
## 3 Go



- **Push needle straight into skin.**
- **Press button down; hold for a count of 10.**



# Step-by-Step: Injecting with an Insulin Pen



## Get the Pen Ready

1. Tear off paper tab from needle.
2. Wipe tip of pen with alcohol.
3. Screw needle onto pen.



## Prime the Pen

4. Turn pen dial until you see a "2" in the dose window.
5. Hold pen with needle facing up. Push button in.

Drop of insulin at needle tip



Press dose button

6. Look for a drop of insulin at tip. If no drop, repeat steps 4 and 5.



## Dial the Dose

7. Turn pen dial to your dose.

## Choose the site

8. Pinch up skin if needed



## Inject

9. Push needle into skin.
10. Press dose button in.
11. Hold for 10 seconds.



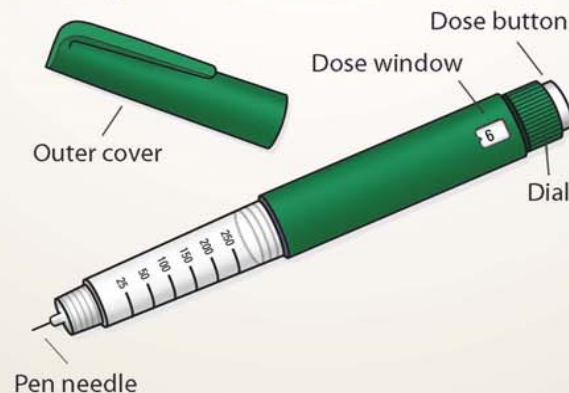
## After Injecting

12. Remove needle from skin.
13. Place large cap on needle; turn counterclockwise to remove needle from pen.



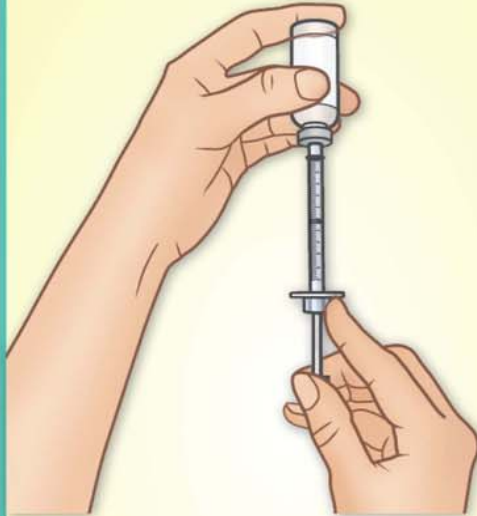
# Insulin Pens: What You Need to Know

- Insulin pens are either disposable or reusable.
  - *What's best for you?*
- You usually need a separate pen for each type of insulin you take.
  - *What types of insulin do you take?*
- Pen needles come in different lengths and gauges (sizes).
  - *What size needle will work best for you?*
  - *Write down the name, length and size of your insulin pen needle.*



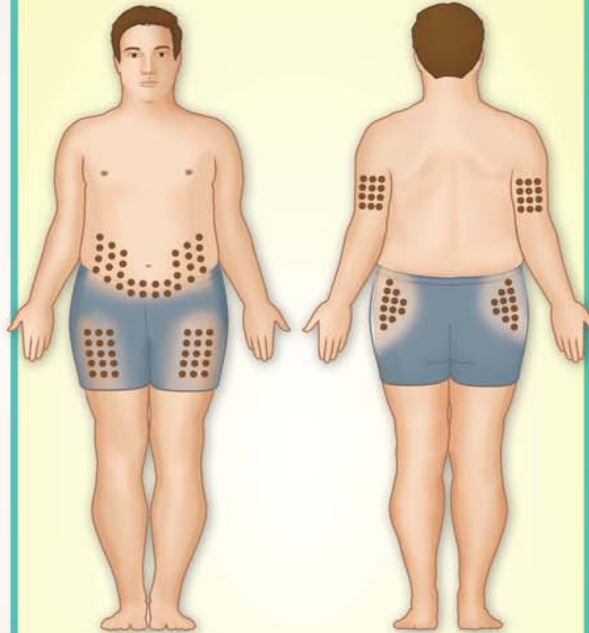
# Using an Insulin Syringe: Easy as 1-2-3

## 1 Get Ready



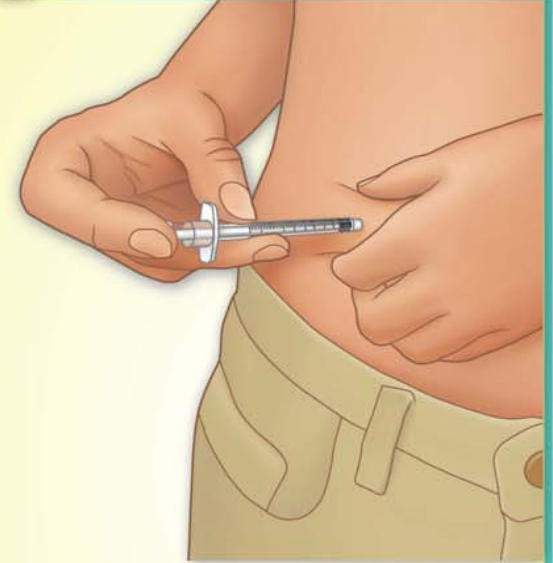
- Gather your supplies.
- Determine your dose.
- Draw it up.

## 2 Get Set



- Select your site.
- Make sure it is clean.

## 3 Go



- Hold syringe like a pencil. Pinch up. Push straight into skin.
- Push plunger in.
- Let go of pinch and remove needle.

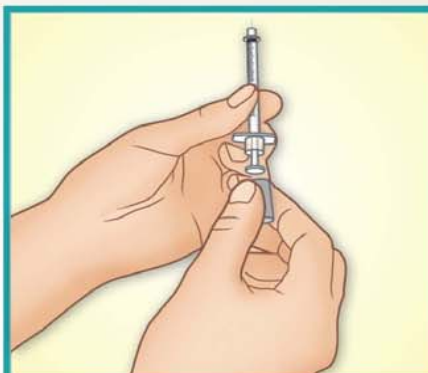
# Drawing Up Insulin – Single Dose



1. Roll the bottle, if using cloudy insulin, until insulin is mixed.



2. Wipe top of bottle with alcohol swab.



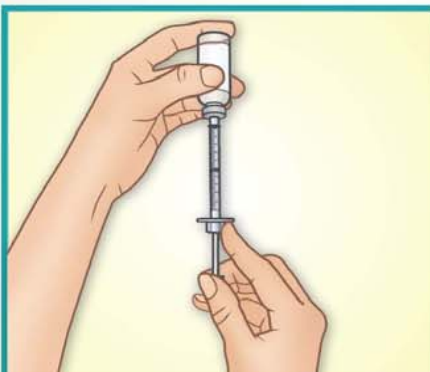
3. Take caps off of needle and plunger. Pull plunger down to \_\_\_\_\_ units.



4. With bottle on table, put needle into bottle. Push plunger down to push air into bottle.



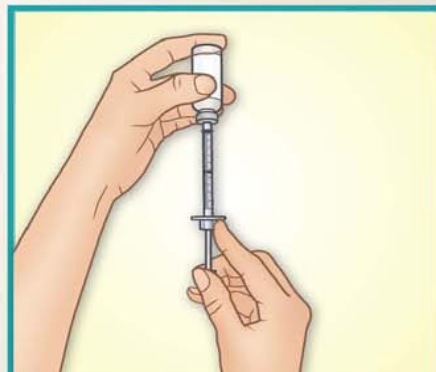
5. Turn bottle upside down.



6. Pull plunger half-way down to draw insulin into the syringe.



7. Push insulin back into bottle.



8. Pull plunger to \_\_\_\_\_ units. Check for air bubbles. If air bubbles are present, push insulin back into bottle and repeat steps 7 & 8.



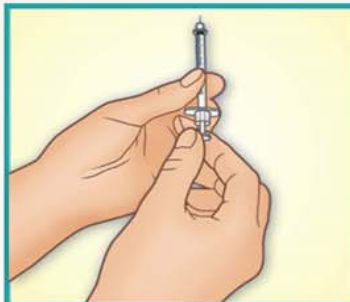
# Drawing Up Insulin – Mixed Dose



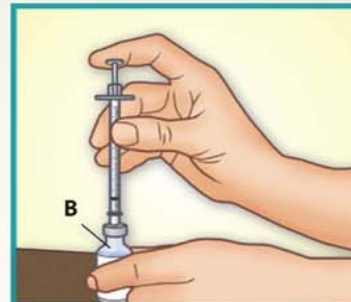
1. Gather insulin supplies.



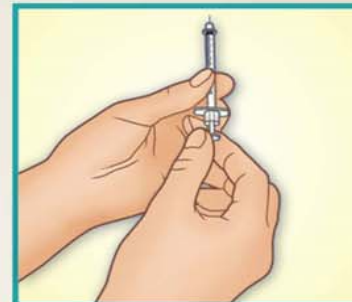
2. Roll **NPH insulin (cloudy)**.  
Wipe top of bottle with alcohol.



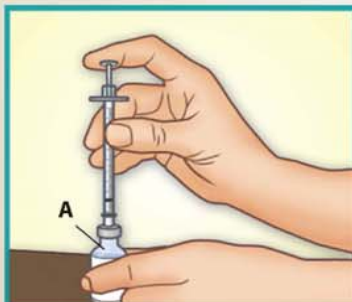
3. Pull plunger down to \_\_\_\_ units  
equal to **NPH** insulin dose.



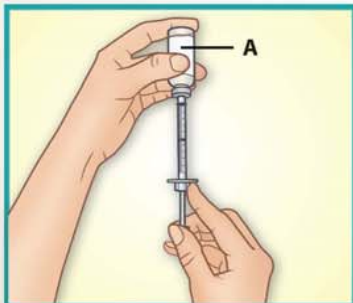
4. With bottle on table, put needle  
into bottle of **NPH** insulin  
and push air into bottle. Then  
remove needle.



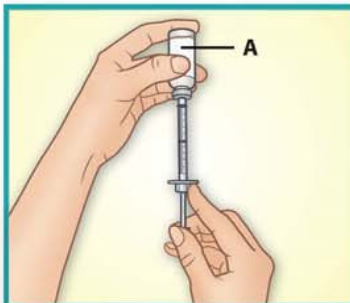
5. Pull plunger to \_\_\_\_ units  
equal to **clear** insulin.



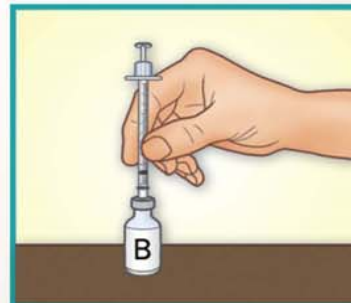
6. Put needle into bottle of **clear**  
insulin. Push air into bottle  
and leave in.



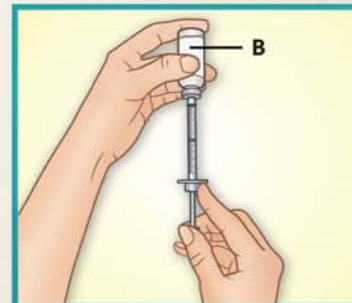
7. Turn bottle upside down.  
Pull plunger half way down  
the syringe. Then push insulin  
back into bottle.



8. Pull plunger down to \_\_\_\_ units  
of **clear**. Check for air bubbles.  
If air bubbles are present, push  
insulin back into bottle and  
repeat step 7.



9. Put needle into **NPH** bottle  
and turn upside down.



10. Slowly pull plunger down  
to the **TOTAL** dose. **Total  
dose equal to \_\_\_\_ units**  
(clear \_\_\_\_ + cloudy \_\_\_\_).

# Insulin Syringes: What You Need to Know

- Insulin syringes come in 3 different sizes and 2 different needle lengths.
  - *What's best for you?*
- The size syringe you use is based on your insulin dose. Using the right syringe helps you draw up the correct dose.
  - *Write down the name and size of the syringe you use.*



3/10  
ml/cc  
30 units



1/2  
ml/cc  
50 units



1  
ml/cc  
100 units



8 mm



12.7 mm

# Step-by-Step: Injecting Insulin with a Syringe



**Hold syringe  
like a pencil.**



**Pinch up skin  
and inject.**



**Let go of pinch and  
remove needle.**



# Types of Insulin

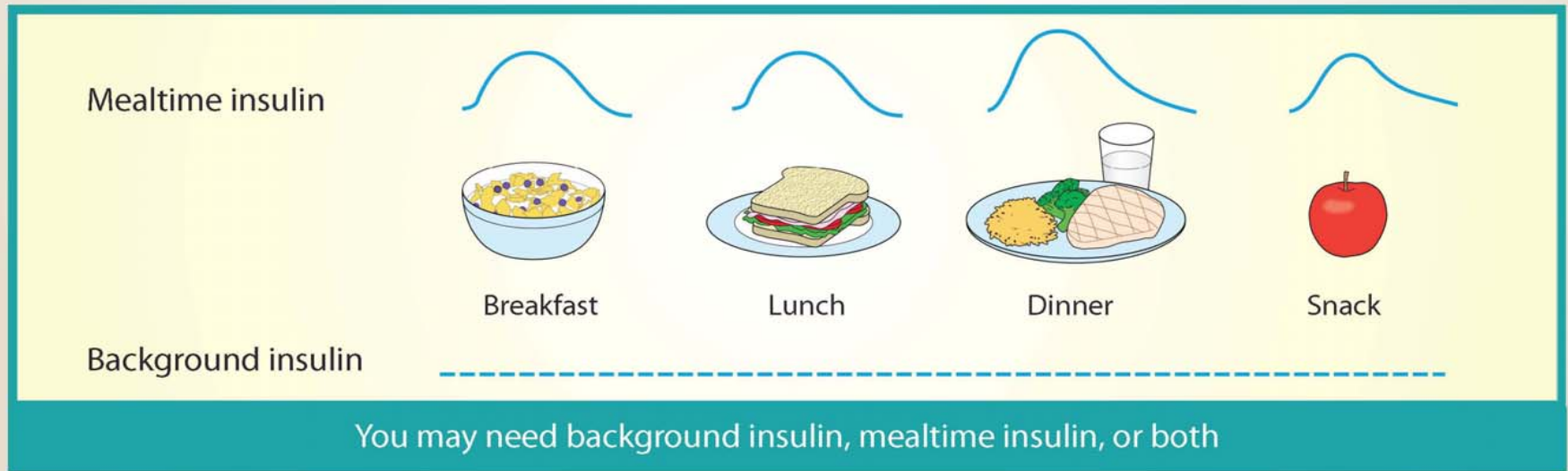
**There are two types of insulin, each with a different purpose:**

## 1) Background insulin

- Helps control glucose during the night and between meals.
- Take 1-2 times each day.

## 2) Mealtime insulin

- Helps control glucose after eating a meal or a snack.
- Take before meals.



# Measuring Success: Is Your Insulin Working?

## CHECK your blood glucose often

- Check 2–4 times per day.
- Check before meals and at bedtime.
- Write your numbers in a log book.

## KNOW your blood glucose goals

- **Before meals:**  
70-130
- **2 hours after meals:**  
less than 180
- **Before bed:**  
90-150

## KNOW when to call your healthcare provider

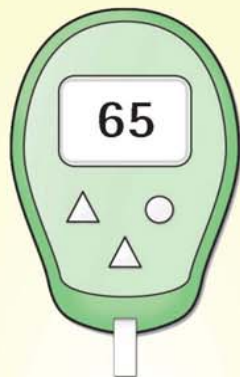
**Call if your blood glucose is:**

- below 70
- 250 or higher more than once

**or if you are unsure what to do.**

# Low Blood Glucose (less than 70)

## Check



**Check blood glucose if you feel:**

- shaky
- sweaty
- weak
- dizzy

**or if you are unable to concentrate.**

## Treat



**Eat or drink something with about 15 grams of carb such as:**

- 4 oz. of juice
- 6 oz. of soda
- 4 glucose tablets

**Wait 15 minutes, then check again.**

## Prevent



- **Figure out why you went low.**
- **Always carry enough carb to treat a low.**
- **Let your healthcare provider know.**



# Injecting with Ease – What's on Your Mind?

*My glucose levels aren't getting any better.*

*The skin where I inject looks a little funny...*

*I'm not sure if I'm doing it right.*

*I can't see the expiration date.*



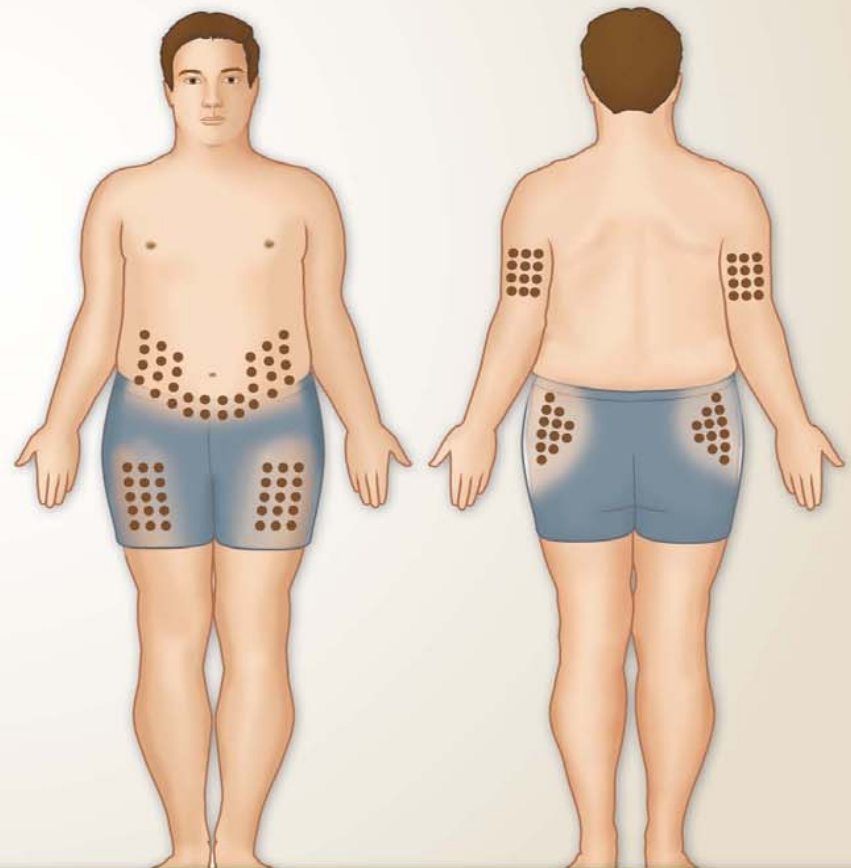
# ***Common Injection Issues***

- **Insulin drips from needle**
- **Insulin leaks from injection site**
- **Bubbles in syringe or pen**
- **Pen or syringe becomes clogged**
- **Difficulty seeing marks or lines on syringe**
- **Pain with injection**
- **Skin problems**



# ***Tips for Choosing Your Injection Sites***

- **Use your stomach, arms, thighs or buttocks**
- **Change your sites regularly**
- **Avoid your navel and 2 inches around it; avoid scars, moles**
- **Watch out for skin changes**





# Factors that Affect Insulin Absorption

## *These **speed up** absorption*

- Injecting into stomach or arms
- Injecting into an exercised arm or leg
- Applying heat
- Taking smaller doses of insulin
- Massaging the area of injection

## *These **slow down** absorption*

- Injecting NPH or Regular insulin into thighs or buttocks
- Injecting into scarred or lumpy tissue
- Applying a cold compress
- Taking larger doses of insulin
- Smoking



Lipohypertrophy

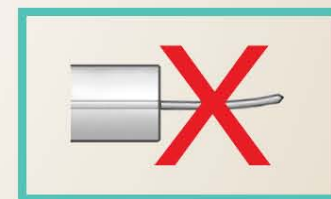
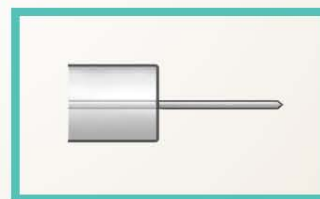
# Injectations Shouldn't Hurt!

## *If they do hurt, are you:*

- Using alcohol to clean the injection site?
- Injecting cold insulin?
- Re-using needles or using a bent needle?
- Not using a thin-enough needle?
- Tensing up before injecting?
- Injecting into muscle?



Re-used needle tip may become worn



Re-used needle tip may bend

# Injection Site Difficulties

Sometimes injections can lead to skin problems at the injection site.



**Bruising**



**Lipoatrophy**  
(Pitting of the skin)



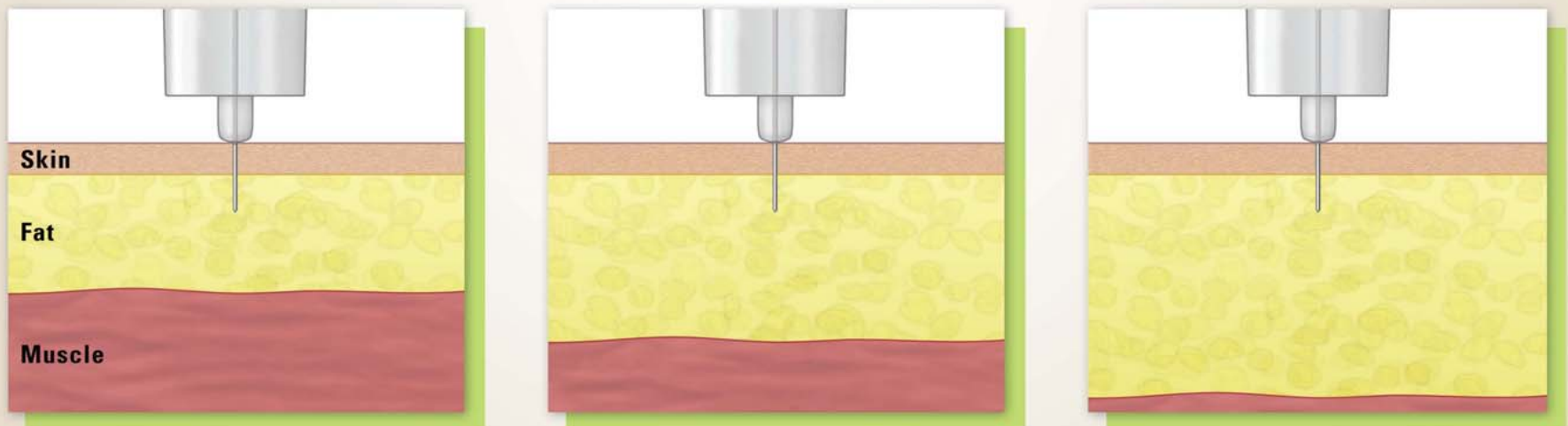
**Lipohypertrophy**  
(Build up of fat)



# Skin Thickness and Needle Size

## True or False?

- Insulin is injected into the fatty layer right below the skin. **TRUE**
- The more you weigh, the thicker your skin. **FALSE**
- Older people have thinner skin than younger people. **FALSE**
- Most people can use the shorter length pen needles. **TRUE**
- You don't have to "pinch up" when using short needles. **TRUE**



*Skin thickness remains the same regardless of the amount of fat under the skin.*

# Syringe and Needle Disposal

*Syringe and pen needles are designed for one-time use.*

## **Safely disposing of needles:**

- Check with your local or state health department.
- Do not recap or break needles.
- Do NOT label as “needles.”
- Do NOT put in recycle bins.



# ***For More Information***

**Diabetes is a self-managed disease. Learn as much as you can.  
Explore all the resources available to you.**

**Joslin Diabetes Center:**

**[www.joslin.org](http://www.joslin.org)** or 888-JOSLIN-1

**National Diabetes Education Program:**

**[www.ndep.nih.gov](http://www.ndep.nih.gov)** or 888-693-6337

**A Registered Dietitian:**

**[www.eatright.org](http://www.eatright.org)** or 800-877-1600 ext. 5000

**A Diabetes Educator:**

**[www.diabeteseducator.org](http://www.diabeteseducator.org)** or 800-832-6874

**A Diabetes Education Program “recognized”  
by the American Diabetes Association or  
“accredited” by the American Association  
of Diabetes Educators:**

**[www.diabetes.org](http://www.diabetes.org)** or 888-232-2822

**[www.diabeteseducator.org](http://www.diabeteseducator.org)** or 888-338-3633

**American Diabetes Association:**

**[www.diabetes.org](http://www.diabetes.org)**



