

# High Blood Sugar, Low Blood Sugar

## Testing your blood sugar

- Check with your provider to see if and when he/she wants you to check your blood sugar.
- Keep a record of your blood sugar numbers, the date and time of day. Take the record (log) with you to every clinic visit.
- Ask your provider what the numbers should be.
- Ask your provider what to do if the numbers are high or low.
- Test your blood sugar, include a record of the food you eat and your activities in the log, this will help you and your provider control your diabetes.
- A nurse can teach you how to use the glucometer.



## Let's Check our Blood Sugar

### Supplies you will need:

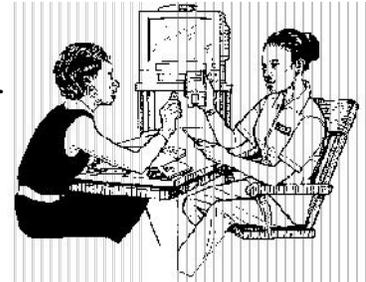
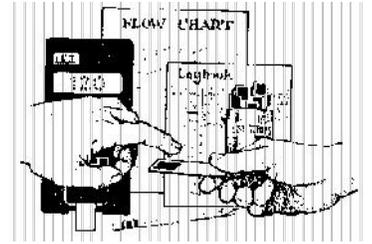
- Glucometer
- Test Strips
- Alcohol wipes or soap and water
- Lancets

### How to test:

- Wash your hands.
- Place the test strip on table top or in the glucometer as directed by instructions with your machine.
- Wipe your finger with an alcohol wipe or wash with soap and water.
- Stick your finger with the lancet.
- Squeeze your finger to get a drop of blood.
- Place the test strip in the center of the drop of blood that is on your finger.
- Read and write down the number (blood sugar) in logbook.

## Tips for testing Blood Sugar

- For more comfort, prick the sides of the tips of your finger, not the fleshy part
- Change where you prick your finger, use all your fingers
- Milk your finger from the base to the tip to get a good drop of blood
- Hold your finger pointing down
- Dispose of lancets and test strips in a safe way (in a plastic milk bottle and tape lid shut when full. Dispose of in the trash.)
- Never share lancets
- Keep your glucometer clean



**Why do you keep a log of your blood sugar numbers?**  
Use your blood sugar number to check how you are doing with your meal plan and exercise plan. Make changes as necessary. Your goal is to keep your blood sugar between 70 and 120.

Always take your blood sugar log with you to your clinic visit. Write down your questions so you do not forget to ask them.



- Clean your glucometer following the manual's instructions
- Have your glucometer checked by the clinic lab a least once a year.
- If you have problems with the glucometer call the "800" number that came with your glucometer

# What should blood sugar levels be?

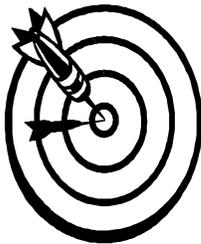
## Here is a good start setting goals.

1. Write the blood sugar number from your home test in the #1's.
2. Ask your provider for your "blood sugar goal". Write the answers in the #2's (You might start with a high number and work to a safe blood sugar goal).

- 70-110 mg/dl before meals
- 140 mg/dl or less at 2 hour after meal
- 100-140 mg/dl at bed time

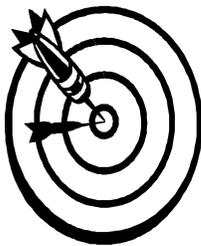


70 - 110 mg/dl before meals



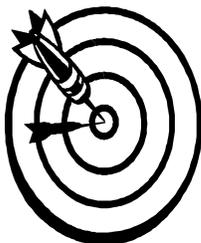
1. My blood sugar before breakfast \_\_\_\_\_
2. My blood sugar goal before breakfast \_\_\_\_\_

140 mg/dl - or less at 2 hours after a meal



1. My blood sugar 2 hours after a meal \_\_\_\_\_
2. My blood sugar goal 2 hours after a meal \_\_\_\_\_

100 - 140 mg/dl at bedtime



1. My blood sugar before bedtime \_\_\_\_\_
2. My blood sugar goal before bedtime \_\_\_\_\_

- Use the blood sugar goal numbers to write your Action Plan

# When should you check your blood sugar?

Ask your provider when to check your blood sugar.

If your provider does not tell you, a good rule of thumb is to check blood sugar levels at least 3 times a week, for example:

- Monday before breakfast  
Blood sugar should be 70-110 mg/dl
- Wednesday 2 hours after lunch  
Blood sugar should be 140 mg/dl or less
- Friday at bedtime  
Blood sugar should be 100-140mg/dl
- When you have symptoms of high or low blood sugar
- When you are sick or feel bad



Day	Time	Medicine/ Insulin	Blood Glucose Test Number					Comments	
			Before Breakfast	Before Lunch	After Lunch	Before Dinner	2 hours After Dinner		Bedtime
Mon									
Tues									
Wed									
Thurs									
Fri									
Sat									
Sun									

## High Blood Sugar (Hyperglycemia)

High Blood Sugar is a reading of  
**200 mg/dl** or greater!

Blood sugar readings help you know when you are in **danger**.  
If your blood sugar is usually under control, and suddenly goes  
**above 200** or you have **symptoms of hyperglycemia**.



**DANGER!** Call your provider.  
4 C's Clinic Patients call  
409-943 -3430  
After hours, call the UTMB Health  
Care Hotline at 409-772-222.



### Is High Blood Sugar Dangerous? **YES!**

- High blood sugar can cause problems with your heart, eyes, kidneys and nerves
- In some people it could result in diabetic coma

### Signs and Symptoms of High Blood Sugar

- Increased thirst
- Hunger
- Frequent urination
- Dry mouth
- Feeling tired
- Blood sugar higher than 140 before meals
- Blurry vision
- Irritable and grouchy feelings

## Reasons Blood Sugar May be High

- You forgot to take your insulin or diabetes medicine
- Medicine may not be strong enough
- You ate more than usual
- You exercised less than usual
- You are not feeling well
- You have increased stress in your life

Can you identify behaviors that caused your blood sugar to be high? Add positive behaviors that control blood sugar to your action plan.

### **Always call your provider if:**

- **Your blood sugar is 400 mg/dl or more**
- **Your blood sugar is 200-400 mg/dl or if you have symptoms**
- **You are unsure about high or low blood sugar**

### **Treat High Blood Sugar**

- Exercise can help, but pace yourself and be smart!
- Decrease the amount of food you eat
- Drink water—the higher your blood sugar, the more water you should drink!
- Take medication as directed by your provider
- Recheck blood sugar in an hour
- Do not exercise if your blood sugar is 400 mg/dl or higher

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# HYPERGLYCEMIA

(High Blood Glucose)

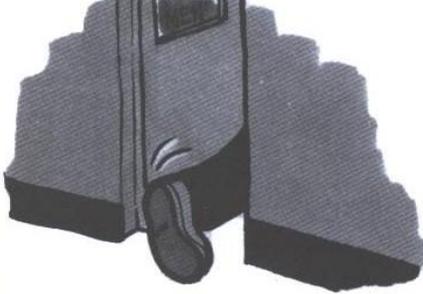
**Causes:** Too much food, too little insulin or diabetes medicine, illness or stress.

**Onset:** Gradual, may progress to diabetic coma.



**EXTREME THIRST**

## SYMPTOMS



**FREQUENT URINATION**



**DRY SKIN**



**HUNGER**



**BLURRED VISION**



**DROWSINESS**



**NAUSEA**

**WHAT CAN YOU DO?**



**TEST BLOOD GLUCOSE**  
**TEST KETONES**



If over 250 mg/dL for several tests  
**CALL YOUR DOCTOR**

Concept developed by Rhonda Rogers, RN,BSN,CDE, Sunrise Community Health Center, Northern Colo. Medical Center

## Low Blood Sugar (Hypoglycemia)

A blood sugar of **less than 70** is usually a low blood sugar.

### **Is Low Blood Sugar Dangerous? YES!**

- You could pass out
- It could cause damage to your brain

**Low blood sugar happens to every one with diabetes from time to time.**

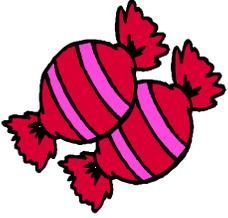
### **Signs and Symptoms of Low Blood Sugar**

- Shakiness
- Dizziness
- Tiredness/sleepiness
- Moodiness
- Fast heart rate
- Sweating
- Hunger
- Headache
- Pale skin
- Numbness and tingling around the mouth and tongue
- Confusion
- Clumsy or jerky movements

### **Reasons Your Blood Sugar May be Low**

- Taking medicine without food
- Medicine may be too strong
- Not eating enough food
- Eating later than usual
- More activity or exercise than usual
- Taking too much diabetes medicine
- Drinking beer, wine or liquor

## Treat Low Blood Sugar The Rule of 15's



- Always carry a high sugar food with you—to prevent an emergency
- If you have symptoms of low blood sugar, check your blood sugar
- If your blood sugar is 70 mg/dl or lower or you cannot check your blood sugar, take a high-sugar food (15 grams of carbohydrate).

*\* If blood sugar is below 40, eat or drink 30 grams of carbohydrates.*

- Check your blood sugar again in 15 minutes. If it is still low or you do not feel better take more of the high-sugar food
- If you can't check your blood sugar but still have symptoms, take more of the high-sugar food

Repeat until your blood sugar returns to normal. Be careful not to over treat.

- If your next meal is more than one hour away, eat a peanut butter sandwich, tortilla with cheese, one cup of skim milk, or cheese and crackers
- When traveling, have a snack plan in case you get delayed

### What high sugar foods\* do you keep handy?

- $\frac{1}{2}$  cup of juice or regular soda
- 1 small box of raisins
- 6-7 hard candies
- 3 glucose tablets
- 8 ounces of skim milk
- 1 tablespoon of honey or sugar *\*Each of these have 15 grams of carbohydrate*



### Call your provider if:



- If you treat more than two times and your sugar is still low
- If you cannot check your blood sugar with a glucometer, and continue to have symptoms
- If you have low blood sugar three or more times a week or if you pass out

# HYPOGLYCEMIA

(Low Blood Glucose)

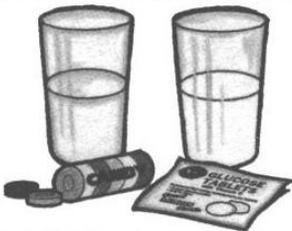
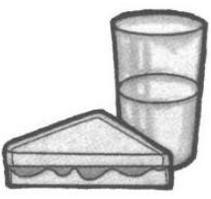
**Causes:** Too little food, too much insulin or diabetes medicine, or extra exercise.

**Onset:** Sudden, may progress to insulin shock.

## SYMPTOMS

			
<b>SHAKING</b>	<b>FAST HEARTBEAT</b>		
			
<b>SWEATING</b>	<b>ANXIOUS</b>	<b>DIZZINESS</b>	<b>HUNGER</b>
			
<b>IMPAIRED VISION</b>	<b>WEAKNESS FATIGUE</b>	<b>HEADACHE</b>	<b>IRRITABLE</b>

## WHAT CAN YOU DO?

		
Drink 1/2 glass of orange juice or skim milk, or eat several hard candies.	<b>TEST BLOOD GLUCOSE</b> If symptoms don't stop, call your doctor.	Within 30 minutes after symptoms go away, eat a light snack (a 1/2 peanut butter or meat sandwich and a 1/2 glass of milk).
Treatment may vary with different medications.		

# Ketoacidosis

Ketoacidosis is when you have ketones (waste products) in your urine

Ketoacidosis is a life-threatening condition

Usually, only people with type 1 diabetes can get it

It can lead to Diabetic Coma or death

## Signs and Symptoms of Ketoacidosis:

- Thirsty or very dry mouth
- Frequent urination
- High blood sugar levels
- High levels of ketones in the urine

## Then other symptoms appear:

- Feeling very tired
- Dry or flushed skin
- Hard time breathing
- Breath that smells fruity
- Nausea, vomiting, and abdominal pain
- Unable to pay attention



## Reasons you may have ketones in your urine:

- You forgot to take your insulin or diabetes medicine
- Medicine may not be strong enough
- You ate more than usual
- You exercised less than usual
- You are not feeling well
- You have increased stress in your life

## To test for ketones:

- Use test strips that you can buy to test your urine. Ask your provider about them. (Results show small, moderate or large amount of ketones in the urine).
- People with Type 1 diabetes should check for ketones every four to six hours when:
  - Blood sugar is higher than 240
  - Feeling sick (even colds and flu)



- Ask your provider when you should call if you have ketones in your urine
- If you have not talked to your provider about ketones, call when you have had moderate amounts of ketones more than once



**Here are some ideas for your action plan. Pick things you are willing to try. Good luck. Share these with your educator and provider!**

- **WHAT** you are going to do
- **HOW MUCH** you will do
- **WHEN** you will do it
- **HOW OFTEN** you will do it

**Treating low blood sugar**

I will carry (*what*) with me at all times to treat my low blood sugar.

**Preventing low blood sugar**

I will (*what*) (*when*) (*how much*) for (*how long*).

**Treating high blood sugar**

I will (*what*) each time my blood sugar is greater than (*#*) or I have symptoms of high blood sugar. I will decide what caused my blood sugar to be high.

**Lowering high blood sugar**

I will lower my blood sugar to (*#*) by (*doing what*), (*how often*) for (*how long*).