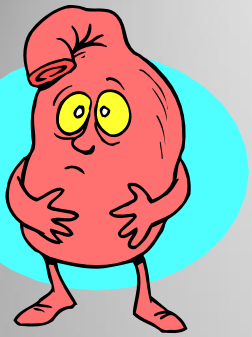


KETONES

What are Ketones?

- Acids that result when the body does not have enough insulin and uses fats for energy
- May occur when insulin is not given, during illness, extreme bodily stress or dehydration
- Can cause abdominal pain, nausea and vomiting, flu-like symptoms

Without sufficient insulin, ketones continue to build up in the blood and result in diabetic ketoacidosis (DKA)



Why Test for Ketones?

DKA is a critical emergency situation

- Early detection and treatment of ketones prevents DKA and hospitalizations
- Untreated, progression to DKA may lead to severe dehydration, coma, permanent brain damage or death
- DKA is the number one reason for hospitalizing children with diabetes

When Should Ketones be Checked?

Follow the medical orders.

In general, check ketones:

- When blood glucose (BG) remains elevated
- During acute illness, infection, vomiting or fever

While most students test urine for ketones, others may test blood for ketones

When Should Ketones be Checked?

Follow the medical orders.

- Symptoms of DKA include:
 - Nausea and vomiting
 - Rapid breathing
 - Abdominal pain
 - Fruity breath odor
 - Fatigue or lethargy
 - Thirst and frequent urination



How quickly does DKA progress?

*An occasional high blood glucose reading, in the absence of other symptoms, is **not** cause for alarm.*

- DKA usually develops over hours or even days
- DKA can progress much more quickly for students who use insulin pumps, or those who have an illness or infection
- DKA symptoms may be mistaken for flu-like illness
- High BG and ketones that are unchecked and untreated may lead to DKA

How to Test Urine Ketones

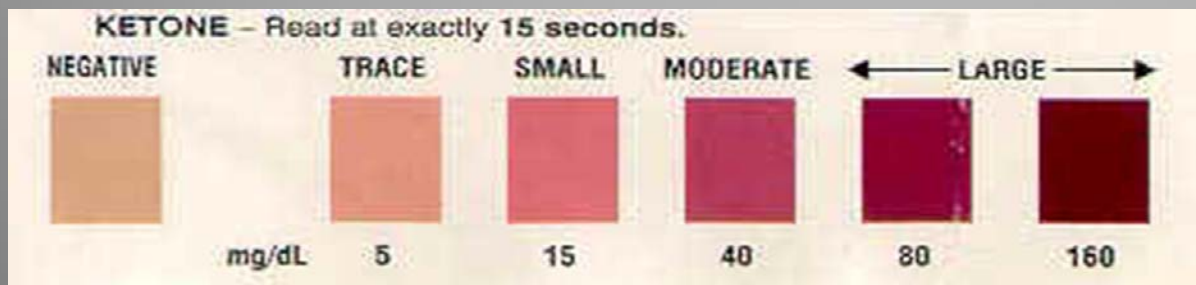
1. Gather supplies
2. Have student urinate in clean cup
3. Put on gloves, if performed by someone other than the student
4. Dip the ketone test strip in the cup containing urine. Shake excess urine off the strip



How to Test Urine Ketones

(continued)

5. Wait the instructed amount of time, usually 15 seconds (varies by brand—read the instructions)
6. Read results at designated time
7. Record results
8. Take action per medical orders



Steps for Blood Ketone Testing

1. Gather supplies
2. Have student wash and dry hands
3. Load lancet device and insert ketone test strip in blood ketone meter
4. Using lancet device, prick side of finger
5. Gently squeeze the finger to obtain a drop of blood
6. Hold ketone strip to blood drop to absorb blood
7. Record ketone value displayed on meter
8. Discard lancet and used strip in sharps container

Treatment for Positive Ketones

Follow the medical orders.

In general, treatment for positive ketones involves:

- Unlimited access to drinking water and restroom
- Insulin administered as per medical orders
- Limit physical activity
- If vomiting or lethargic, contact parent/guardian

GO TO THE AMERICAN DIABETES ASSOCIATION
SAFE AT SCHOOLS VIDEO- CHAPTER 11
KETONES

at:

<http://www.youtube.com/watch?v=TXYMMguSDxs&feature=share&list=EC3DE9DDE8EB2A2E56>