

KETONES AND KETONE TESTING

Ketones are caused when the body breaks down fat for energy. Normally, the body will use carbohydrates as the main source of energy. However, if the body is not absorbing glucose appropriately, if there's not enough insulin, or if you are on a very low carbohydrate diet, your body will then use fat for fuel instead.

Consequences of High Ketones:

High amounts of ketones in the blood can make the body acidic and can lead to diabetic ketoacidosis (DKA), an acute, life-threatening condition. DKA is an electrolyte imbalance that can cause: flushed, hot, dry skin, a fruity breath odor, restlessness, rapid breathing, and loss of appetite. **DKA can be fatal.** *For more information refer to DKA handout.*

When to Test for Ketones:

Having ketones can cause symptoms such as: nausea, vomiting, abdominal cramps or pain. It is recommended for those who have diabetes to test ketones due to the risk of developing DKA.

- Glucose levels >300 mg/dL (>200 mg/dL if pregnant or >250 mg/dL if non-pregnant on an insulin pump)
- During an illness
- Nausea, vomiting, or have stomach pain
- Thirsty or have very dry mouth
- Fruity smelling breath
- Feeling or appearing flushed

Home Testing:

- Use urine ketone strips. This requires collecting a urine sample from clean container. Follow the manufacturer's instructions on the bottle of test strips. Try to avoid getting toilet paper, hair, stool, menstrual blood or foreign matter in the sample.
- You may also use a blood ketone meter if you have one for more accurate way to check for ketones. All this requires is a finger stick using special test strips.

Results:

	OK	Caution	Danger	Emergency
Blood Ketone Results	<0.6	0.6 – 1.0	1.1 – 3.0	>3.0
Urine Ketone Results	Negative or Trace	Small	Moderate or Large	Very Large
What To Do	If blood glucose levels are high for more than 3 days, the insulin dose may need to be changed. Call 832-822-3670 for a blood glucose log review.	Drink plenty of sugar free fluids or water. Recheck blood glucose and ketones every 3 hours until blood glucose is <300 and ketones <0.6	Rapid Acting insulin is needed. Contact the Diabetes Emergency line at 832-822-3670. Ask for Diabetes doctor on call or diabetes educator.	Call Diabetes Emergency line. Go directly to the Emergency Room if pt is vomiting, has shortness of breath, and/or unable to tolerate fluids.

EMERGENCY CONTACTS

Texas Children's Pediatric Endocrinology: 832-822-3670 option "0"
Texas Children's Pavilion for Women: 832-826-7500