

LOS ANGELES UNIFIED SCHOOL DISTRICT
Office of the Chief Medical Director
District Nursing Services

DIABETES: KETONE TESTING

I. GENERAL GUIDELINES

A. PURPOSE

To detect the presence of ketones in urine and to prevent development of Diabetic Ketoacidosis (DKA).

B. GENERAL INFORMATION

1. Ketone is a chemical produced when there is a shortage of insulin in the blood and the body breaks down body fat for energy.
2. Diabetic Ketoacidosis is an emergency condition caused by accumulation of ketones in the blood.
3. Untreated DKA can lead to a life-threatening condition.
4. DKA is the number one reason for hospitalization of children with diabetes.
5. Signs and symptoms of DKA:
 - a. Excessive thirst or dry mouth
 - b. Frequent urination
 - c. Fruity breath odor
 - d. Nausea and vomiting
 - e. Abdominal pain
 - f. Confusion
 - g. Rapid breathing
 - h. Fatigue
 - i. Lethargy
6. Students self-managing their diabetic care may independently test their ketones. Notify school nurse or trained school personnel of results.

C. PRECAUTIONS

1. DKA can progress much more quickly for students who use insulin pumps, or those who have an illness or infection.
2. If the test shows moderate to high ketones, the student should not exercise.
3. The student is at the highest risk when symptoms of DKA are mistaken for flu and high blood glucose is unchecked and untreated.

D. PERSONNEL

1. Licensed Nursing Provider or school physician.
2. Trained designated school personnel under supervision of the school nurse.

E. EQUIPMENT

1. Parent provided
 - a. Testing strips
 - b. Disposable cup for urine collection
2. Provided by school
 - a. Disposable non-latex gloves
 - b. Cleansing soap

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II. PROCEDURE FOR KETONE TESTING

ESSENTIAL STEPS	KEY POINTS AND PRECAUTIONS
1. Wash hands.	
2. Assemble equipment.	Check expiration date of test strips. Follow package instructions regarding expiration date and discard date.
3. Collect a sample of urine in a clean cup.	Put on gloves, if performed by someone other than student.
4. Dip the ketone test strip in the cup containing urine. Gently shake off excess urine.	Make sure to clean any spillage.
5. Wait for the test strip to change color.	
6. Compare the test strip to the color chart on the strip bottle.	Colors on test strips and timing vary according to manufacturer's instructions. The color on the test strip indicates the amount of ketones in the urine.
7. Follow treatment for ketones per Diabetes Management Plan (DMP).	
8. Dispose of waste materials.	Follow Universal Precautions.
9. Wash hands.	
10. Document procedure electronically. If not available, use Nursing Protocol Log indicating: <ul style="list-style-type: none"> a. Reason for testing b. Time of test c. Result d. Intervention/s taken 	

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Date



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