

# Xylose Absorption Test

# XYLOSE ABSORPTION TEST

- It is also known as xylose tolerance test or D-Xylose absorption test.
- D-xylose is a pentose sugar that is not normally found in the blood.
- It can be easily absorbed by healthy intestinal cells without the aid of pancreatic enzymes, and is poorly metabolized so that at least 50% of the dose is excreted in the urine within 24 hours.
- This test is a good general screen for malfunction of absorption, and helps to differentiate intestinal malabsorption syndromes (reduced D- xylose absorption) from pancreatitis (normal D-xylose absorption).

# XYLOSE ABSORPTION TEST

- The xylose absorption test may be ordered to help determine whether a person is absorbing carbohydrates normally and to distinguish between malabsorption disorders caused by insufficient pancreatic enzymes or bile and those due to dysfunction of the intestines.
- It may be ordered as a follow-up test if other test results, such as fecal fat, suggest malabsorption but do not reveal its cause.
- This is not a routine test. Its use and availability has declined over time.

# Why Get Tested?

- To help evaluate the ability to absorb carbohydrates and help determine the cause of malabsorption.



# When To Get Tested?

This test may be performed when a person has signs and symptoms of malabsorption such as:

- Persistent diarrhea
- Abdominal pain, cramps, bloating, and gas
- Fatty stools that are loose and foul-smelling (steatorrhea)
- Weight loss
- Failure to thrive (in children)

Testing may be ordered when a healthcare practitioner wants to determine whether a patient's intestines are absorbing carbohydrates normally and/or wants to distinguish between different possible causes of malabsorption.

# Test Preparation Needed?

- Fast for 8 hours and avoid foods high in pentose, such as jams, fruits, and pastries, for 24 hours prior to the test.
- The patient should consult to his Doctor if there is any changes to his medications that he should make.

# Procedure

- Adults are given an oral dose usually 25 grams of D - xylose.
- A five-hour timed urine sample is collected, and a blood sample is collected two hours after the dose is given.
- Children are given a 5 gram dose of D-xylose, and a blood sample is collected one hour after the dose is given.

# Interpretation

- Adults should excrete at least 25% of the dose in the five-hour urine sample, and have a two-hour blood level of at least 25 mg/dL.
- Children should have a one-hour blood level of at least 20 mg/dL.
- With the xylose absorption testing procedure, high blood and urine levels of xylose are normal. They indicate good xylose absorption by the intestines. This suggests that the tested person's symptoms are likely due to another cause, such as pancreatic insufficiency or bile insufficiency.



# Interpretation

- High blood levels but low urine levels may be seen in someone with kidney dysfunction. In this case, it is the blood levels that will be used to evaluate the individual for malabsorption.
- Low levels of blood and urine xylose indicate poor absorption. A variety of conditions that affect digestion and absorption may cause decreased xylose levels. These may include bacterial overgrowth in the intestines, parasitic infections, a shortened bowel (such as from surgery) and celiac disease.
- Depending upon a person's clinical situation, an abnormal xylose absorption test may be followed by additional blood or stool tests to try to isolate the cause and/or by a small-bowel biopsy to look at intestinal cells.

# Conditions affecting the test results

- Several drugs can affect test results, including aspirin, digitalis, MAO inhibitors, metformin, nalidixic acid, opium alkaloids, atropine, and indomethacin.
- Dehydration, exercise, and the rate that the stomach empties may affect test results.
- Some people may experience nausea, vomiting, or diarrhoea from the xylose dose.

*Thank  
You*