

Water Deprivation Test

What is a water deprivation test?

This test is ordered for people who are suspected of having a condition called diabetes insipidus, which causes a very high urine output, day and night, that does not stop, even if the individual stops drinking. With this test, your endocrinologist will be able to tell if you have a problem with urine concentration. This could be due to a lack of anti-diuretic hormone (ADH), which is produced in the pituitary gland.

The pituitary gland is a small, pea-sized gland located below the brain, behind the bridge of the nose. It produces many of the body's hormones (chemical 'signals' that help control and regulate processes in the body). ADH is a hormone released by the pituitary gland that enables the kidneys to retain water in the body. It's important to know if ADH is lacking because it can cause dehydration.

If the test shows you have diabetes insipidus, medication can be prescribed to help your body concentrate your urine. Sometimes the test tells us that your kidneys are not working properly. Once the test results are available, your physician will speak to you about next steps.

How is the test performed?

An appointment will be scheduled for you to have the test performed. You will be provided with the location and arrival time. Please plan for up to 8 hours of testing. The actual length of testing time will depend on how quickly your body responds to withholding fluids. You will be required to stay in the clinic for the duration of the test so that regular blood and urine samples can be taken.

An intravenous (IV) cannula will be inserted into a vein in one of your arms and will remain there for the duration of the test. All of your blood samples will be drawn through this catheter, so you will not require any further needle pokes.

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Blood and urine samples will be collected frequently. Your weight and blood pressure will also be checked. The total urine output will be calculated at the end of the test. Once the blood or urine tests, weight or blood pressure meets the criteria determined by the physician, the test will be stopped. Your physician will assess you throughout the test.

During the test, you may be administered a nasal spray of ADH, which will help us determine whether there is a problem with the pituitary gland or the kidneys. You will be allowed to drink at this point. Blood and urine samples will be collected for one hour after administration.

Prior to discharge, your IV will be removed and you will be given something to eat and drink before you go home.

Are there any risks or side effects to this test?

As with any blood test or IV insertion, you may have some bruising or redness at the site where the catheter was inserted. There is also a very small risk of infection.

You may experience feelings of hunger or thirst as you will not be allowed to eat or drink anything during the test. Some people develop a headache as a result of not eating or drinking.

How do I prepare for the test?

To prepare for the test, your endocrinologist will tell you when to stop eating and drinking. This is a decision made based on their assessment of your symptoms for your safety.

What should I do if I need to cancel?

If you need to cancel your appointment, please call 519-646-6000 ext. 64424 and state your name and test date. It's important to know that there may be a delay in rescheduling your appointment as the availability of test times are limited. If you need to cancel, we ask that you call as soon as possible.