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Medical Encyclopedia: 5-HIAA

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Alternative names

HIAA; 5-hydroxyindole acetic acid; Serotonin metabolite

Definition

This is a test that measures the amount of 5-HIAA in urine.

How the test is performed

The health care provider will instruct you, if necessary, to discontinue drugs that may interfere with the test. A 24-hour urine sample is needed:

- On day 1, urinate into the toilet upon arising in the morning.
- Collect all subsequent urine (in a special container) for the next 24-hours.
- On day 2, urinate into the container in the morning upon arising.
- Cap the container. Keep it in the refrigerator or a cool place during the collection period. Label the container with your name, the date, the time of completion, and return it as instructed.

For a infant, thoroughly wash the area around the urethra. Open a urine collection bag (a plastic bag with an adhesive paper on one end), and place it on your infant. For boys, the entire penis can be placed in the bag and the adhesive attached to the skin. For girls, the bag is placed over the labia. Place a diaper over the infant (bag and all). The infant should be checked frequently and the bag changed after the infant has urinated into the bag. For active infants, this procedure may take a couple of attempts -- lively infants can displace the bag, causing an inability to obtain the specimen. The urine is drained into the container for transport to the laboratory.

Deliver it to the laboratory or your health care provider as soon as possible upon completion. The lab analyzes the sample for the amount of 5-HIAA.

How to prepare for the test

The health care provider will instruct you, if necessary, to discontinue drugs that may interfere with the test. Refrain from eating foods that contain interfering substances for 3 days before the test. (see Special Considerations.)

How the test will feel

The test involves only normal urination, and there is no discomfort.

Why the test is performed

This test is performed to evaluate the amount of 5-HIAA excreted by the body.

Serotonin is synthesized from the amino acid tryptophan by hormone-producing enterochromaffin cells in the gut and bronchi (airways of the lung). Serotonin increases dilation of blood vessels and platelet aggregation (clumping of platelets). It is metabolized in the liver to 5-HIAA and eventually ends up in the urine.

Normal Values

The normal range is 3 to 15 mg/24 hr (milligrams per 24 hours)

What abnormal results mean

5-HIAA levels are usually measured to detect carcinoid tumors and follow the clinical course of patients, and to diagnose certain medical conditions such as systemic mastocytosis and endocrine tumors.

What the risks are

There are no risks.

Special considerations

Drugs that can increase 5-HIAA measurements include acetanilid, phenacetin, glyceryl guaiacolate (found in many cough syrups), methocarbamol, and reserpine.

Drugs that can decrease 5-HIAA measurements include chlorpromazine, heparin, imipramine, isoniazid, levodopa, monoamine oxidase inhibitors, methenamine, methyldopa, phenothiazines, promethazine, and tricyclic antidepressants.

Foods that can interfere with 5-HIAA measurements include plums, pineapples, bananas, eggplant, tomatoes, avocados, and walnuts. Do not eat them for 3 days before the test.

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