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## Catecholamine blood test

This test measures the levels of catecholamines in the blood. Catecholamines are hormones made by the adrenal glands. The three catecholamines are epinephrine (adrenaline), norepinephrine, and dopamine.

Catecholamines are more often measured with a urine test than with a blood test.

### How the Test is Performed

A blood sample is needed.

### How to Prepare for the Test

You will likely be told not to eat anything (fast) for 10 hours before the test. You may be allowed to drink water during this time.

The accuracy of the test can be affected by certain foods and medicines. Foods that can increase catecholamine levels include:

- Coffee
- Tea
- Bananas
- Chocolate
- Cocoa
- Citrus fruits
- Vanilla

You should not eat these foods for several days before the test. This is especially true if both blood and urine catecholamines are to be measured.

You should also avoid stressful situations and vigorous exercise. Both can affect the accuracy of the test results.

Medicines and substances that can increase catecholamine measurements include:

- Acetaminophen
- Albuterol

- Aminophylline
- Amphetamines
- Buspirone
- Caffeine
- Calcium channel blockers
- Cocaine
- Cyclobenzaprine
- Levodopa
- Methyldopa
- Nicotine
- Nicotinic acid (large doses)
- Phenoxybenzamine
- Phenothiazines
- Pseudoephedrine
- Reserpine
- Tricyclic antidepressants

Medicines that can decrease catecholamine measurements include:

- Clonidine
- Guanethidine
- Monoamine oxidase (MAO) inhibitors

If you take any of the above medicines, check with your health care provider before the blood test about whether you should stop taking your medicine.

## How the Test will Feel

When the needle is inserted to draw blood, some people feel slight pain. Others feel a prick or stinging. Afterward, there may be some throbbing or a slight bruise. This soon goes away.

## Why the Test is Performed

Catecholamines are released into the blood when a person is under physical or emotional stress. The main catecholamines are dopamine, norepinephrine, and epinephrine (which used to be called adrenalin).

This test is used to diagnose or rule out certain rare tumors, such as pheochromocytoma or neuroblastoma. It may also be done in people with those conditions to determine if treatment is working.

## Normal Results

The normal range for epinephrine is 0 to 140 pg/mL (764.3 pmol/L).

The normal range for norepinephrine is 70 to 1700 pg/mL (413.8 to 10048.7 pmol/L).

The normal range for dopamine is 0 to 30 pg/mL (195.8 pmol/L).

Note: Normal value ranges may vary slightly among different laboratories. Some labs use different measurements or test different samples. Talk to your provider about the meaning of your specific test results.

## What Abnormal Results Mean

Higher-than-normal levels of blood catecholamines may suggest:

- Acute anxiety
- Ganglioblastoma (very rare tumor)
- Ganglioneuroma (very rare tumor)
- Neuroblastoma (rare tumor)
- Pheochromocytoma (rare tumor)
- Severe stress

Additional conditions under which the test may be performed include multiple system atrophy.

## Risks

There is little risk in having your blood taken. Veins and arteries vary in size from one person to another and from one side of the body to the other. Taking blood from some people may be more difficult than from others.

Other risks associated with having blood drawn are slight, but may include:

- Excessive bleeding
- Fainting or feeling lightheaded
- Multiple punctures to locate veins
- Hematoma (blood accumulating under the skin)
- Infection (a slight risk any time the skin is broken)

## Alternative Names

Norepinephrine - blood; Epinephrine - blood; Adrenaline - blood; Dopamine - blood

## References

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Updated by: Jacob Berman, MD, MPH, Clinical Assistant Professor of Medicine, Division of General Internal Medicine, University of Washington School of Medicine, Seattle, WA. Also reviewed by David C. Dugdale, MD, Medical Director, Brenda Conaway, Editorial Director, and the A.D.A.M. Editorial team.

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