



Hematuria

Urology Care
FOUNDATION™

*The Official Foundation of the
American Urological Association*

WHAT IS HEMATURIA?

Hematuria is the diagnosis of blood in urine. Sometimes it can simply be seen as pinkish urine, but other times it can only be seen with a microscope. With hematuria, you may not have other symptoms, or you may feel pain. But, it is not normal to find blood in your urine, so it's important to find the cause.

There are two types:

- **Gross Hematuria:** Red blood cells (RBCs) give urine a pinkish, red or cola coloring. Even a small amount of blood can cause urine to change color. Gross hematuria is often from problems in the lower part of the urinary tract, such as the bladder or prostate, but can also come from the kidney. Causes can be from an injury, infection or normal menstruation (a woman's menstrual "period").
- **Microscopic Hematuria:** RBCs may not be seen at all, only under a high-powered microscope. There may be no other signs. Microscopic hematuria could come from anywhere in the urinary tract, from the kidney to the urethra.

To learn if there's a problem, your health care provider will ask you for a urine sample to test. Your urine sample will be checked for sugar (diabetes), bacteria (infection) and blood (hematuria).

WHAT CAUSES HEMATURIA?

It's important to find the cause of hematuria. Most causes are not serious, but some could be, like cancer.

Hematuria can be from a non-serious (benign) cause:

- Menstruation
- Vigorous exercise
- Sexual activity
- Viral illness
- Kidney stones
- Trauma
- Infection (like a bladder infection or urinary tract infection [UTI])

Or from a more serious cause:

- Inflammation of the kidney, urethra, bladder or prostate
- Polycystic kidney disease
- Blood clots or bleeding disorders, such as hemophilia
- Sickle cell disease
- Cancer of the kidney or bladder

WHO IS AT RISK?

There are many reasons why you may have blood in your urine, they can include:

- Cigarette smoking (past or current)
- Exposure to chemicals in the workplace
- Radiation for cancer in the pelvic area
- Ongoing pain, infection or past pelvic disease
- Urinary tract infections that don't go away

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HOW IS HEMATURIA DIAGNOSED?

Health care providers will first ask about your health history. They want to learn about your physical health, symptoms and risks. They'll want to know about infections, menstruation (period), kidney stones, drugs, smoking or a recent injury. Urine tests will be ordered, maybe over a period of time, to see signs of blood in the urine.

A dipstick test will find RBCs. Then the urine must be looked at under a high-powered microscope to diagnose microscopic hematuria.

The next step is to diagnose the cause:

- **Urinalysis.** The urine can be tested to find cancer cells, infection or kidney (renal) disease. For example, this test can find white blood cells to signal a UTI; or odd, clumped RBCs or certain proteins to signal kidney disease.
- **Blood test.** A blood test can show kidney health. For example, high levels of the protein creatinine, shows kidney disease.
- **Cystoscopy.** Cystoscopy looks inside the urethra and bladder to confirm cancer cells or other issues in the bladder. This test should be done with patients who have risk factors for kidney and urinary tract problems.
- **Kidney imaging tests.** Imaging tests with or without contrast dyes. They can show a tumor, a kidney or bladder stone, an enlarged prostate or other urine flow blockage. These tests include ultrasound, multi-phasic computed tomography (CT) urography, retrograde pyelograms (RPGs) and/or magnetic resonance imaging (MRI).

Sometimes it is not clear why microscopic blood is found. In this case, your doctor may test your urine each year. If blood is still seen, tests may be repeated until the cause is found. If no more blood is seen, then testing may only be repeated 4-5 years later.

HOW IS HEMATURIA TREATED?

If you have microscopic hematuria, most causes are not life threatening. It helps to work closely with your health care provider to learn the cause to treat the problem.

Hematuria is managed by treating its underlying cause:

- If no serious condition is causing hematuria, then no treatment is needed.
- Hematuria caused by a UTI is treated with antibiotics. A follow-up urinalysis should be done after treatment. It's important to confirm that the infection is gone.
- If hematuria is caused by kidney disease, kidney stones, or blood disorders, then your treatment plan should be followed carefully. It may take time to manage your health.
- If hematuria is caused by cancer, then more serious treatment will be needed. A second opinion with an oncologist or oncology surgeon may help. If a kidney or bladder tumor is found early, the cancer can often be cured.

RESOURCES

American Urological Association

Asymptomatic Microhematuria Guideline

<http://www.auanet.org/education/guidelines/asymptomatic-microhematuria.cfm>

Bladder Cancer Advocacy Network

<http://www.bcan.org/learn/diagnosing-bladder-cancer/>

National Kidney and Urologic Disorders Information Clearinghouse (NKUDIC)

<http://www.niddk.nih.gov/health-information/health-topics/urologic-disease/hematuria-blood-in-the-urine/Pages/facts.aspx>

National Kidney Foundation

<http://www.kidney.org/>

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You may download this fact sheet and print it at

UrologyHealth.org/Blood

For copies of other printed materials about urologic conditions, visit **UrologyHealth.org/Order** or call 800-828-7866

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