

Hematuria or Blood in Urine

Hematuria is blood in the urine. It may be visible or microscopic. It can be caused by a bleeding disorder or certain medications, or by stones, infection, or tumor. It may be due to injury to the kidneys, urinary tract, prostate, or genitals. Having blood in your urine doesn't always mean you have a medical problem. However, you should contact your doctor right away, especially if you have nausea, vomiting, pain or difficulty urinating.

Your doctor will examine you for signs of injury. The doctor may also use x-ray, MR/CT urography, abdominal ultrasound, or intravenous pyelogram (IVP) to diagnose you. Treatment will focus on the underlying cause of blood in your urine.

What is hematuria?

Hematuria is blood in the urine. It may be:

- **Macroscopic:** blood is visible in the urine, which may look red or brown. Sometimes, clots can be found in the blood.
- **Microscopic:** blood is only visible under a microscope. A urine test will usually detect it.

Stones, infection, tumor, or injury to the kidneys, urinary tract, prostate gland and/or genitals may cause blood in the urine. Bleeding disorders or certain medications also may cause it.

If you find blood in your urine, contact your doctor right away. It is especially important to do so if you have nausea, vomiting, pain or difficulty urinating.

How is hematuria diagnosed and evaluated?

Having blood in your urine does not necessarily mean you have a medical problem. It may be caused by routine activities such as vigorous exercise. However, because it can sometimes involve a serious condition, you should contact your doctor right away.

Your doctor will review your medical history. A physical exam will check for bruising and other signs of injury. If you are male, your doctor may use a digital rectal exam to see if your prostate is causing the hematuria. Tell your doctor about any medications you're taking, including vitamins or supplements.

Your doctor may use one or more of the following exams to assess your condition:

- **X-ray:** Your doctor may use abdominal x-ray to look for stones (<https://www.radiologyinfo.org/en/info/stones-renal>), especially if you have nausea and vomiting. An x-ray will not detect most causes of hematuria. Other exams will likely be needed.
- **MR/CT Urography** (<https://www.radiologyinfo.org/en/info/urography>): Your doctor may use CT or MR urography to



examine your urinary tract, bladder, ureters, and kidneys.

- *Abdominal ultrasound* (<https://www.radiologyinfo.org/en/info/abdominus>) : Your doctor may use ultrasound to examine your kidneys and bladder for potential causes of blood in your urine.
- *Intravenous pyelogram (IVP)* (<https://www.radiologyinfo.org/en/info/ivp>) : An IVP x-ray exam helps your doctor visualize your kidneys, bladder and ureters. It can help detect urinary system abnormalities and show how efficiently your system works. This exam requires an injection of contrast material.
- *MRI of the prostate* (https://www.radiologyinfo.org/en/info/mr_prostate) : If you are male, your prostate may be causing your condition. If so, your doctor may assess your prostate and seminal vesicles using MRI.

How is hematuria treated?

Treatment will focus on the underlying cause of blood in your urine.

If stones are the cause, you may need surgery. If your doctor suspects a tumor in the urinary tract or prostate gland, you may need a biopsy. Possible tumor treatments may include chemotherapy, surgery or radiation therapy.

Which test, procedure or treatment is best for me?

- *Hematuria* (<https://www.radiologyinfo.org/en/info/acs-hematuria>)
- *Hematuria-Child* (<https://www.radiologyinfo.org/en/info/acs-hematuria-child>)
- *Lower Urinary Tract Symptoms-Suspicion of Benign Prostatic Hyperplasia* (<https://www.radiologyinfo.org/en/info/acs-lower-urinary-tract-symptoms>)

Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2024 Radiological Society of North America, Inc.