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## Urinary Tract Infections

Also called: UTI

The urinary system is the body's drainage system for removing wastes and extra water. It includes two kidneys, two ureters, a bladder, and a urethra. Urinary tract infections (UTIs) are the second most common type of infection in the body.

You may have a UTI if you notice:

- Pain or burning when you urinate
- Fever, tiredness, or shakiness
- An urge to urinate often
- Pressure in your lower belly
- Urine that smells bad or looks cloudy or reddish
- Pain in your back or side below the ribs

People of any age or sex can get UTIs. But about four times as many women get UTIs as men. You're also at higher risk if you have diabetes, need a tube to drain your bladder, or have a spinal cord injury.

If you think you have a UTI it is important to see your doctor. Your doctor can tell if you have a UTI with a urine test [<https://medlineplus.gov/urinalysis.html>]. Treatment is with antibiotics.

*NIH: National Institute of Diabetes and Digestive and Kidney Diseases*

### Start Here

- About Urinary Tract Health [<https://www.nichd.nih.gov/health/topics/urinary/conditioninfo>]  (Eunice Kennedy Shriver National Institute of Child Health and Human Development)  
Also in Spanish [<https://espanol.nichd.nih.gov/salud/temas/urinary/informacion>]
- Bladder Infection (Urinary Tract Infection -- UTI) in Adults [<https://www.niddk.nih.gov/health-information/urologic-diseases/bladder-infection-uti-in-adults>]  (National Institute of Diabetes and Digestive and Kidney Diseases)  
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-urologicas/infecciones-vejiga>]
- Urinary Tract Infection (UTI) [<https://www.mayoclinic.org/diseases-conditions/urinary-tract-infection/symptoms-causes/syc-20353447?p=1>] (Mayo Foundation for Medical Education and Research)
- Urinary Tract Infections [<https://womenshealth.gov/a-z-topics/urinary-tract-infections>]  
(Department of Health and Human Services, Office on Women's Health)  
Also in Spanish [<https://espanol.womenshealth.gov/a-z-topics/urinary-tract-infections>]

### Diagnosis and Tests

- Bacteria Culture Test [<https://medlineplus.gov/lab-tests/bacteria-culture-test/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-cultivo-de-bacterias/>]
- Cystoscopy and Ureteroscopy [<https://www.niddk.nih.gov/health-information/diagnostic-tests/cystoscopy-ureteroscopy>]  (National Institute of Diabetes and Digestive and Kidney Diseases)

Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/pruebas-diagnosticas/cistoscopia-ureteroscopia>]

- Epithelial Cells in Urine [<https://medlineplus.gov/lab-tests/epithelial-cells-in-urine/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-celulas-epiteliales-en-la-orina/>]
- Mucus in Urine [<https://medlineplus.gov/lab-tests/mucus-in-urine/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-moco-en-la-orina/>]
- Nitrites in Urine [<https://medlineplus.gov/lab-tests/nitrites-in-urine/>]  (National Library of Medicine)  
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/prueba-de-nitritos-en-la-orina/>]
- Urinary Tract Imaging [<https://www.niddk.nih.gov/health-information/diagnostic-tests/urinary-tract-imaging>]  
 (National Institute of Diabetes and Digestive and Kidney Diseases)  
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/pruebas-diagnosticas/imagen-vias-urinarias>]
- When You Visit Your Doctor -- Recurrent Urinary Tract Infections [<https://www.health.harvard.edu/diseases-and-conditions/when-you-visit-your-doctor-recurrent-urinary-tract-infections>] (Harvard Medical School)

## Prevention and Risk Factors

- Cranberry [<https://www.nccih.nih.gov/health/cranberry>]  (National Center for Complementary and Integrative Health)

## Related Issues

- Catheter-Associated Urinary Tract Infection Basics [<https://www.cdc.gov/uti/about/cauti-basics.html>]  
(Centers for Disease Control and Prevention)
- Chronic Bladder Infection: Is There a Cure? [<https://www.mayoclinic.org/diseases-conditions/cystitis/expert-answers/bladder-infection/FAQ-20057833?p=1>] (Mayo Foundation for Medical Education and Research)  
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/cystitis/expert-answers/bladder-infection/faq-20057833?p=1>]

## Specifics

- Cystitis [<https://www.mayoclinic.org/diseases-conditions/cystitis/symptoms-causes/syc-20371306?p=1>]  
(Mayo Foundation for Medical Education and Research)
- Kidney Infection [<https://www.mayoclinic.org/diseases-conditions/kidney-infection/symptoms-causes/syc-20353387?p=1>]  
(Mayo Foundation for Medical Education and Research)  
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/kidney-infection/symptoms-causes/syc-20353387?p=1>]
- Kidney Infection (Pyelonephritis) [<https://www.niddk.nih.gov/health-information/urologic-diseases/kidney-infection-pyelonephritis>]  
 (National Institute of Diabetes and Digestive and Kidney Diseases)  
Also in Spanish [[https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-rinones/infeccion-renal-pielonefritis](https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-urologicas/infeccion-renal-pielonefritis?dkrd=/health-information/informacion-de-la-salud/enfermedades-rinones/infeccion-renal-pielonefritis)]

## Test Your Knowledge

- Test Your Bladder Health Knowledge [[https://medlineplus.gov/ency/quiz/000521\\_50.htm](https://medlineplus.gov/ency/quiz/000521_50.htm)] (Medical Encyclopedia)  
Also in Spanish [[https://medlineplus.gov/spanish/ency/quiz/000521\\_108.htm](https://medlineplus.gov/spanish/ency/quiz/000521_108.htm)]

## Clinical Trials

- ClinicalTrials.gov: Pyelonephritis [<https://clinicaltrials.gov/search?cond=%22Pyelonephritis%22&aggFilters=status:not%20rec>]  
 (National Institutes of Health)
- ClinicalTrials.gov: Urinary Tract Infections [<https://clinicaltrials.gov/search?cond=%22Urinary+Tract+Infections%22&aggFilters=status:not%20rec>]  
 (National Institutes of Health)

## Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: A prospective randomised pilot study evaluating the safety of the novel...  
[<https://www.ncbi.nlm.nih.gov/pubmed/40552721>]

- Article: Efficacy of lactoferrin in preventing recurrent urinary tract infections in pregnant... [<https://www.ncbi.nlm.nih.gov/pubmed/40264102>]
- Article: Effects of Uro-Vaxom vs. placebo on the urinary tract microbiome in... [<https://www.ncbi.nlm.nih.gov/pubmed/40229352>]
- Urinary Tract Infections -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Urinary+Tract+Infections%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND%22last+1+Year%22+%5Bdat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

## Reference Desk

- Kidneys and Urinary Tract (For Parents) [<https://kidshealth.org/en/parents/kidneys-urinary.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/kidneys-urinary.html>]
- Urinary Tract and How It Works [<https://www.niddk.nih.gov/health-information/urologic-diseases/urinary-tract-how-it-works>]  (National Institute of Diabetes and Digestive and Kidney Diseases)  
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-urologicas/aparato-urinario-funciona>]

## Find an Expert

- National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>] 

## Children

- Bladder Infection (Urinary Tract Infection -- UTI) in Children [<https://www.niddk.nih.gov/health-information/urologic-diseases/urinary-tract-infections-in-children>]   (National Institute of Diabetes and Digestive and Kidney Diseases)  
Also in Spanish [<https://www.niddk.nih.gov/health-information/informacion-de-la-salud/enfermedades-urologicas/infeccion-vejiga-ninos/definicion-hechos>]
- Blood in the Urine (Hematuria) (For Parents) [<https://kidshealth.org/en/parents/hematuria.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/hematuria.html>]
- Recurrent Urinary Tract Infections (UTIs) and Related Conditions (For Parents) [<https://kidshealth.org/en/parents/recurrent-uti-infections.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/recurrent-uti-infections.html>]
- Ultrasound: Renal (Kidneys, Ureters, Bladder) (For Parents) [<https://kidshealth.org/en/parents/renal-ultrasound.html>] (Nemours Foundation)
- Urine Tests (For Parents) [<https://kidshealth.org/en/parents/labtest7.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/parents/labtest7.html>]

## Teenagers

- Urinary Tract Infections (For Teens) [<https://kidshealth.org/en/teens/uti.html>] (Nemours Foundation)  
Also in Spanish [<https://kidshealth.org/es/teens/uti.html>]

## Men

- Urinary Tract Infection in Men [[https://www.health.harvard.edu/a\\_to\\_z/urinary-tract-infection-in-men-a-to-z](https://www.health.harvard.edu/a_to_z/urinary-tract-infection-in-men-a-to-z)] (Harvard Medical School)

## Patient Handouts

- Asymptomatic bacteriuria [<https://medlineplus.gov/ency/article/000520.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000520.htm>]
- Catheter-related UTI [<https://medlineplus.gov/ency/article/000483.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000483.htm>]
- Cystitis - acute [<https://medlineplus.gov/ency/article/000526.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000526.htm>]

- Leukocyte esterase urine test [<https://medlineplus.gov/ency/article/003584.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003584.htm>]
- Urinary tract infection - adults [<https://medlineplus.gov/ency/article/000521.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000521.htm>]
- Urinary tract infection - children [<https://medlineplus.gov/ency/article/000505.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000505.htm>]
- Urine - bloody [<https://medlineplus.gov/ency/article/003138.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003138.htm>]
- Urine culture [<https://medlineplus.gov/ency/article/003751.htm>] (Medical Encyclopedia)  
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003751.htm>]



## MEDICAL ENCYCLOPEDIA

[Asymptomatic bacteriuria](https://medlineplus.gov/ency/article/000520.htm) [<https://medlineplus.gov/ency/article/000520.htm>]

[Catheter-related UTI](https://medlineplus.gov/ency/article/000483.htm) [<https://medlineplus.gov/ency/article/000483.htm>]

[Cystitis - acute](https://medlineplus.gov/ency/article/000526.htm) [<https://medlineplus.gov/ency/article/000526.htm>]

[Cystoscopy](https://medlineplus.gov/ency/article/003903.htm) [<https://medlineplus.gov/ency/article/003903.htm>]

[Frequent or urgent urination](https://medlineplus.gov/ency/article/003140.htm) [<https://medlineplus.gov/ency/article/003140.htm>]

[Leukocyte esterase urine test](https://medlineplus.gov/ency/article/003584.htm) [<https://medlineplus.gov/ency/article/003584.htm>]

[Perirenal abscess](https://medlineplus.gov/ency/article/001274.htm) [<https://medlineplus.gov/ency/article/001274.htm>]

[Radionuclide cystogram](https://medlineplus.gov/ency/article/003832.htm) [<https://medlineplus.gov/ency/article/003832.htm>]

[Retrograde cystography](https://medlineplus.gov/ency/article/003783.htm) [<https://medlineplus.gov/ency/article/003783.htm>]

[Ureteroscopy](https://medlineplus.gov/ency/article/007593.htm) [<https://medlineplus.gov/ency/article/007593.htm>]

[Urinary casts](https://medlineplus.gov/ency/article/003586.htm) [<https://medlineplus.gov/ency/article/003586.htm>]

[Urinary tract infection - adults](https://medlineplus.gov/ency/article/000521.htm) [<https://medlineplus.gov/ency/article/000521.htm>]

[Urinary tract infection - children](https://medlineplus.gov/ency/article/000505.htm) [<https://medlineplus.gov/ency/article/000505.htm>]

[Urination - painful](https://medlineplus.gov/ency/article/003145.htm) [<https://medlineplus.gov/ency/article/003145.htm>]

[Urine - bloody](https://medlineplus.gov/ency/article/003138.htm) [<https://medlineplus.gov/ency/article/003138.htm>]

[Urine culture](https://medlineplus.gov/ency/article/003751.htm) [<https://medlineplus.gov/ency/article/003751.htm>]

[Urine culture - catheterized specimen](https://medlineplus.gov/ency/article/003752.htm) [<https://medlineplus.gov/ency/article/003752.htm>]

[Urine odor](https://medlineplus.gov/ency/article/007298.htm) [<https://medlineplus.gov/ency/article/007298.htm>]

Urine protein dipstick test [<https://medlineplus.gov/ency/article/003580.htm>]

Urine protein electrophoresis test [<https://medlineplus.gov/ency/article/003589.htm>]

Voiding cystourethrogram [<https://medlineplus.gov/ency/article/003784.htm>]

## Related Health Topics

Bladder Diseases [<https://medlineplus.gov/bladderdiseases.html>]

Urinalysis [<https://medlineplus.gov/urinalysis.html>]

## National Institutes of Health

The primary NIH organization for research on *Urinary Tract Infections* is the National Institute of Diabetes and Digestive and Kidney Diseases [<https://www.niddk.nih.gov>]

## Other Languages

Find health information in languages other than English [<https://medlineplus.gov/languages/urinarytractinfections.html>] on *Urinary Tract Infections*

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