



SOLUTION

Your Pharmacy Friend

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Point wise Lecture along with consisted table, Image and
Schematic diagrams

Urinary Tract Infection

Basic Introduction with causes, Symptoms, Diagnosis and Treatment

References

www.healthline.com & www.mayoclinic.org

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Urinary Tract Infection

Basic Introduction with causes, Symptoms and Treatment

List of Contents we will discuss about

S.N.	Content	Will Discuss About
01	Introduction	Definition of UTI, Composition of Urinary Tracts
02	Symptoms	How we will know that we are having urinary tract infection with special reference to male and female.
03	Cause	What are the main causes of UTI
04	Diagnosis	Simple routine procedure to diagnose UTI and its confirmation
05	Treatment	Precaution and allopathic drugs available for the treatment

Urinary Tract Infection

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Definition- A urinary tract infection (UTI) is an infection from microbes. These are organisms that are too small to be seen without a microscope. Most UTIs are caused by bacteria, but some are caused by fungi and in rare cases by viruses. UTIs are among the most common infections in humans.

Urinary Tract- A UTI can happen anywhere in our urinary tract. Our urinary tract is made up of kidneys, ureters, bladder, and urethra. Most UTIs only involve the urethra and bladder, in the lower tract. However, UTIs can involve the ureters and kidneys, in the upper tract. Although upper tract UTIs are more rare than lower tract UTIs, they're also usually more severe.

URINARY TRACT INFECTION

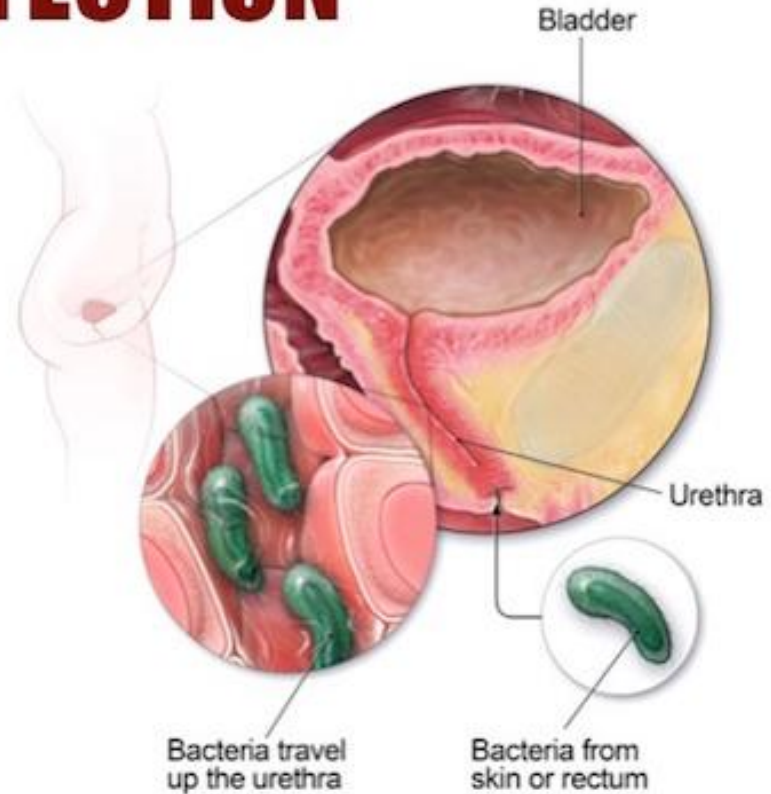
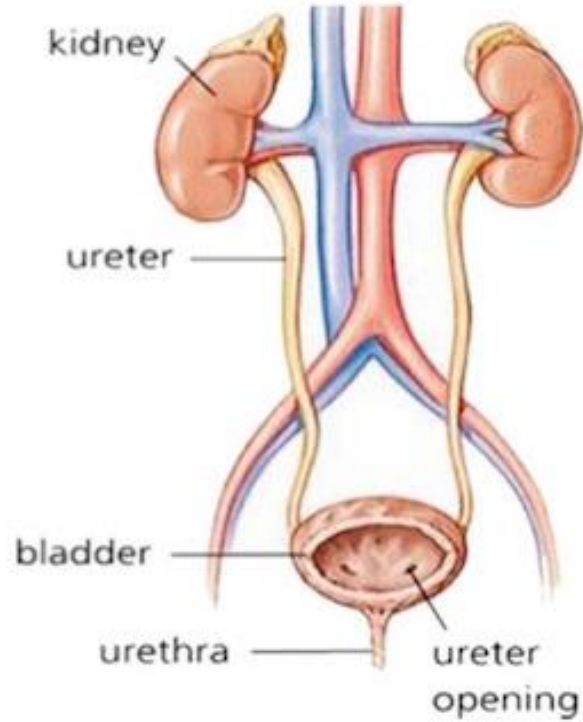


Image Credit- <http://globeunified.com/wp-content/uploads/2018/02/urinary-tract-infection.jpg>

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Symptoms of a UTI depend on what part of the urinary tract is infected

Lower Urinary Tract Infection	Upper Urinary Tract Infection
Increased frequency of urination without passing much urine	Pain and tenderness in the upper back and sides
Burning with urination	Chills with unusual headache
Increased urgency of urination	Fever which follow come and go pattern
Bloody urine	Nausea
Cloudy urine	Vomiting
Urine that looks like cola or tea	
Urine that has a strong odor	
Pelvic pain in women	
Rectal pain in men	E Mail- solutionpharmacy@gmail.com & Reach solution at- www.facebook.com/pharmavideo/

Urinary Tract Infection

Part wise infection and their respective symptoms

S.N.	Part of UT Infections	Symptoms
1	Kidneys (acute pyelonephritis) E Mail- solutionpharmacy@gmail.com & Reach solution at- www.facebook.com/pharmavideo/	Upper back and side (flank) pain
		High fever
		Shaking and chills
		Nausea and Vomiting
2	Bladder (cystitis)	Lower abdomen discomfort
		Frequent, painful urination
		Blood in urine
3	Urethra (Urethritis)	Burning with urination

What causes

Urinary Tract Infection in Woman

UTIs are a key reason we're often told to wipe from front to back after using the toilet. **That's because the urethra is located relatively close to the anus.** Bacteria from the large intestine, such as E. coli, are in the perfect position to escape from the anus and invade the urethra. From there, they can travel up to the bladder, and if the infection isn't treated, continue on to infect the kidneys. Infection of the bladder is the commonest cause of cystitis - inflammation of the bladder. **Women may be especially prone to UTIs because they have a shorter urethra, which allow bacteria quick access to the bladder.**

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Reference- <https://www.webmd.boots.com/women/guide/urinary-tract-infection-women>

Causes and risk factors of Urinary Tract Infection

Urinary tract infections typically occur when bacteria enter the urinary tract through the urethra and begin to multiply in the bladder. Although the urinary system is designed to keep out such microscopic invaders, these defenses sometimes fail. When that happens, bacteria may take hold and grow into a full-blown infection in the urinary tract.

Cause of urinary tract infection	Description
Female anatomy	A woman has a shorter urethra than a man does, which shortens the distance that bacteria must travel to reach the bladder.
Certain types of birth control	Women who use diaphragms for birth control may be at higher risk, as well as women who use spermicidal agents.
Menopause E Mail- solutionpharmacy@gmail.com & Reach solution at- www.facebook.com/pharmavideo/	After menopause, a decline in circulating estrogen causes changes in the urinary tract that make you more vulnerable to infection.

Cause of urinary tract infection	Description
Infection of the bladder (cystitis)	This type of UTI is usually caused by <i>Escherichia coli</i> a type of bacteria commonly found in the gastrointestinal (GI) tract.
Infection of the urethra (Urethritis)	This type of UTI can occur when GI bacteria spread from the anus to the urethra. Also, because the female urethra is close to the vagina, sexually transmitted infections, such as herpes, gonorrhea, can cause Urethritis.
Blockages in the urinary tract	Kidney stones or an enlarged prostate can trap urine in the bladder and increase the risk of UTIs.
A suppressed immune system	Diabetes and other diseases that impair the immune system — the body's defense against germs — can increase the risk of UTIs.
Catheter use	People who can't urinate on their own and use a tube (catheter) to urinate have an increased risk of UTIs

Prevention of **Urinary Tract Infection**

1. Drink plenty of liquids, especially water.

Drinking water helps dilute your urine and ensures that you'll urinate more frequently allowing bacteria to be flushed from your urinary tract before an infection can begin.

2. Drink cranberry juice.

Although studies are not conclusive that cranberry juice prevents UTIs, it is likely not harmful.

3. Wipe from front to back.

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Doing so after urinating and after a bowel movement helps prevent bacteria in the anal region from spreading to the vagina and urethra.

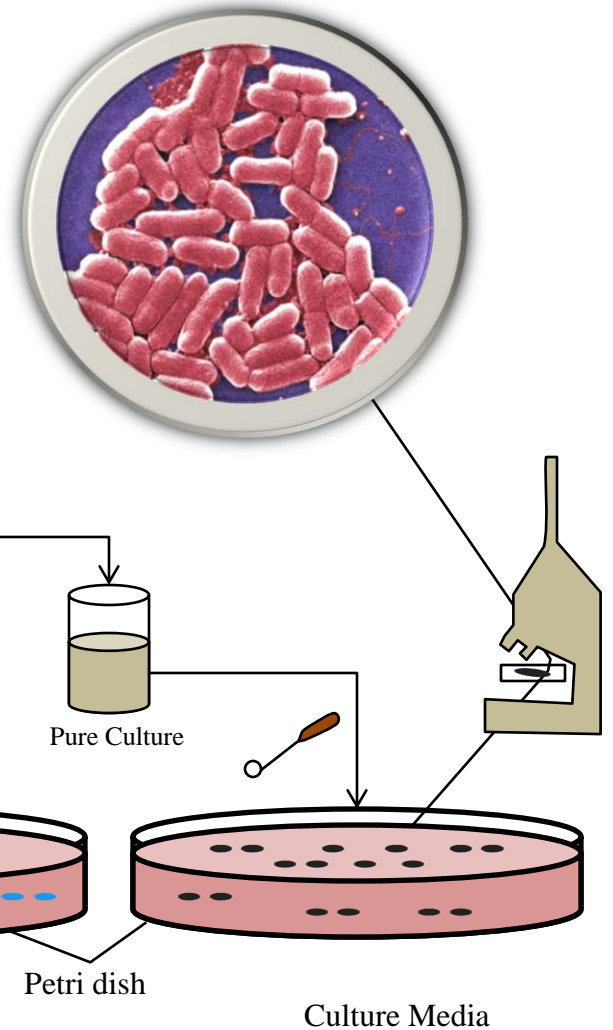
4. Empty your bladder soon after intercourse. Also, drink a full glass of water to help flush bacteria.

5. Avoid potentially irritating feminine products. Using deodorant sprays or other feminine products, such as douches and powders, in the genital area can irritate the urethra.

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*E.Coli Present In Patient's urine
sample . Presence of UTI is
confirmed.*



Suspected patient's urine
sample

Culture Media

E. coli

Culture Media

Petri dish

Culture Media

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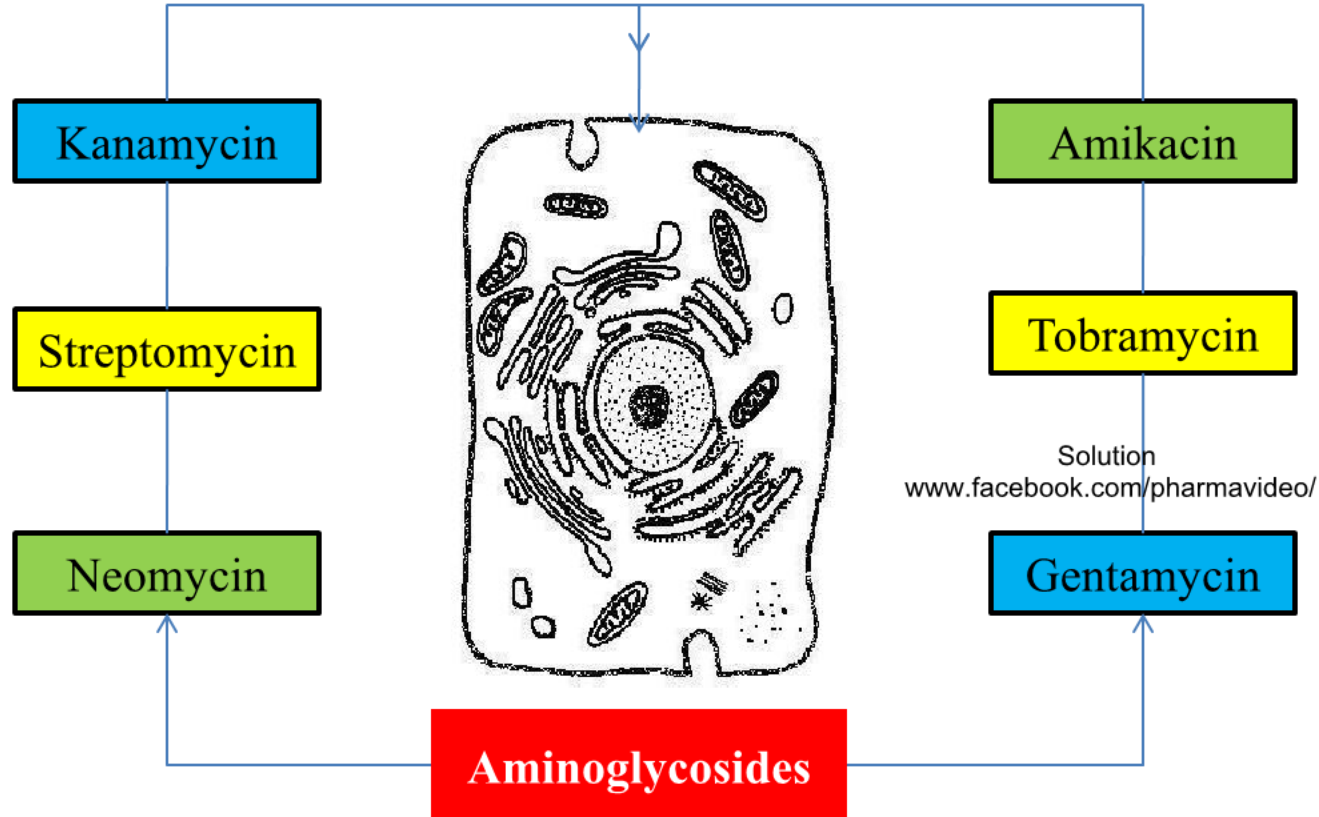
Antibiotics used to treat Urinary tract Infections

1. Sulfamethoxazole
2. Nitrofurantoin
3. Fosfomycin
4. Amoxicillin
5. Certain cephalosporins
6. Ciprofloxacin
7. Levofloxacin
8. Ceftriaxone
9. Gentamicin
10. Tobramycin

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Drug which cause Misreading and affect Permeability

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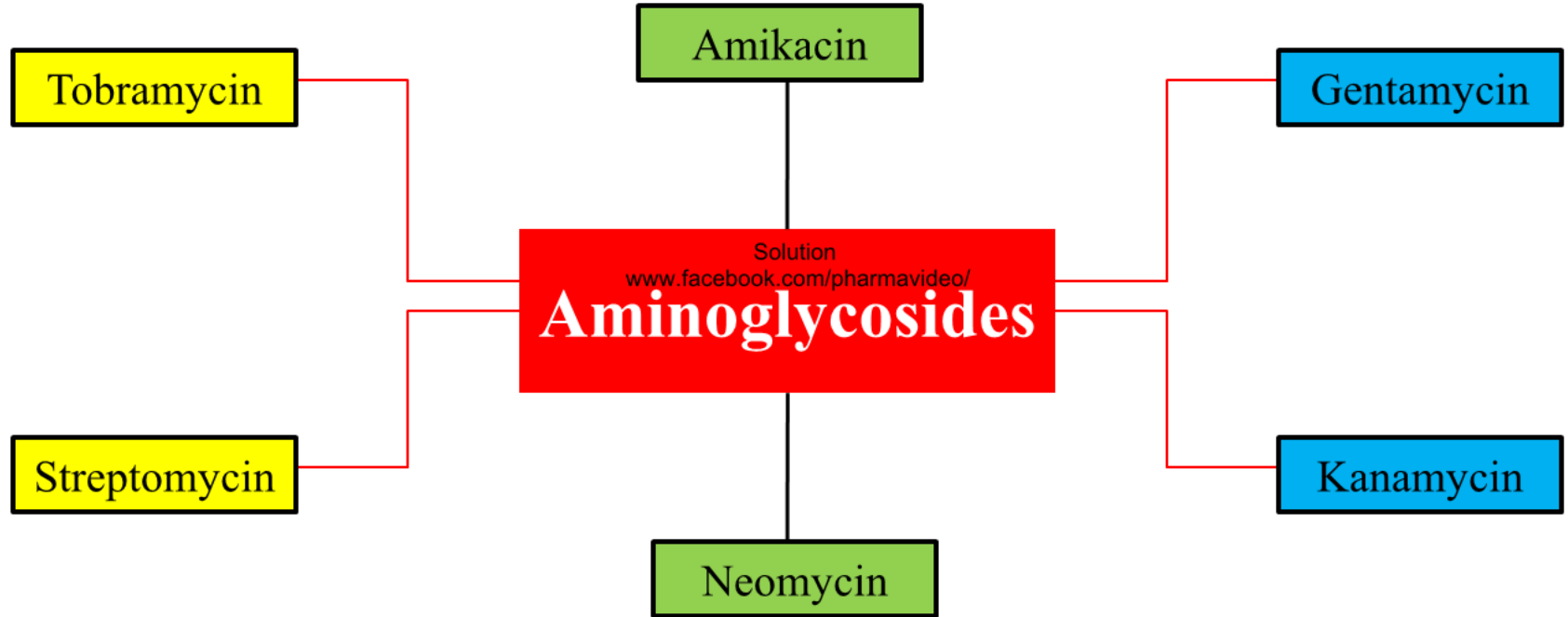


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