How does the Urinary Tract Work?
Many of our body parts work with each other to form the urinary system. For both men and women, the main parts of the system are kidneys, ureters, bladder and urethra. The kidneys are fist-size organs that make urine. The urine then flows through tubes called ureters, and into the bladder.
The bladder is a hollow, balloon-shaped organ. It is mostly made of muscle. It stores urine until you are ready to go to the bathroom to release it. The bladder helps you urinate. Urine then leaves the body through the urethra.

What is Non-Muscle Invasive Bladder Cancer (NMIBC)?
Non-muscle invasive bladder cancer (NMIBC) is cancer of the bladder. NMIBC is cancer that grows only in the thin tissue on the inside surface of the bladder. With NMIBC, the bladder muscle is not involved and the tumor does not spread outside the bladder.

What Causes NMIBC?
There are a number of things that may increase your risk of getting bladder cancer:
• Smoking
• Workplace exposure to chemicals used to make plastics, paints, leather and rubber
• Cyclophosphamide, a cancer drug
• Radiation to the pelvis
• Genes

What are the Symptoms of Bladder Cancer?
How do you know that you have bladder cancer? Some people may have symptoms that suggest they have bladder cancer. Others may feel nothing at all. Some symptoms should never be ignored.

Blood in the urine is the most common symptom of bladder cancer. It is often painless. Often, you cannot see blood in your urine without a microscope. If you can see blood with your naked eye, then you should tell your health care provider at once. Even if the blood goes away, you should still talk to your doctor about it.

Blood in the urine does not always mean that you have bladder cancer. There are a number of reasons why you may have blood in your urine. You may have an infection or kidney stones. But a very small amount of blood might be normal in some people.

Frequent urination and pain when you pass urine (dysuria) are less common symptoms of bladder cancer. If you have these symptoms, it’s of great value to see your health care provider. He/she will find out if you have a urinary tract infection or something more serious, like bladder cancer.

If your health care provider believes you may have NMIBC, he/she may send you to see a urologist. A urologist is a doctor who specializes in diseases of the urinary tract. The doctor may order these tests:
• Urine cytology
• Blood Tests
• Imaging Tests like x-rays, CT scan or MRI
• Retrograde Pyelogram
How is NMIBC Treated?

Your best chance for healing from NMIBC is early diagnosis and early care. Your treatment will depend on how much your cancer has grown. Your urologist will tell you about your risk for the cancer spreading and what stage the cancer is. Risk may be low, intermediate or high. Treatment also depends on your health and age. Your urologist will talk with you about the choices below:

**Cystoscopic transurethral resection of the bladder tumor (TURBT)**

TURBT is done through the urethra using a cystoscope, so there is no cutting into your abdomen. A cystoscope is a thin tube that has a light and camera at the end. It lets your doctor to see inside the bladder. Your doctor will also resect (cut) away the tumor and do other tests on the tissue. He/she may do a TURBT during cystoscopy. A TURBT may help find out if you have cancer or it may be used as part of your care.

**Intravesical immunotherapy**

You may get this treatment after you are healed from surgery. Bacillus Calmette-Guerin (BCG) is the immunotherapy drug that is used for this treatment. It is one of the better treatments for NMIBC. You may also get this treatment more than once. The treatment is often done in your doctor's office, not in the hospital or operating room.

**Intravesical chemotherapy**

Intravesical therapy is when the drug is put straight into your bladder through a thin tube. Mitomycin C and gemcitabine are the most common chemotherapy drugs used for intravesical therapy. A catheter is a thin tube that is placed through the urethra. You will hold the drug in your bladder for one to two hours and then pass it out. Intravesical chemotherapy is most often given right after the first TURBT to help stop the cancer cells from growing or coming back.

**Cystectomy**

For NMIBC, your doctor may suggest bladder removal if intravesical BCG therapy fails. If you are at a high-risk for the cancer to grow worse or to return, radical cystectomy (total bladder removal) may be the best treatment for you.

Questions to Ask Your Doctor

To get the most from the visit with your doctor, you might want to write down a few questions and take them with you. Below are some ideas:

- What kind of bladder cancer do I have?
- Can my cancer be cured?
- How far has the cancer spread?
- What tests will I have to do before treatment?
- What treatment do you suggest? Why this treatment?
- How do I get ready for my treatment?
- What side effects will I have from this treatment?
- Will I need to see other doctors and specialists?
- Will my cancer return after this treatment?
- Are there support groups that can help me through this?

About the Urology Care Foundation

The Urology Care Foundation is the world's leading urologic foundation – and the official foundation of the American Urological Association. We provide information for those actively managing their urologic health and those ready to make health changes. Our information is based on the American Urological Association resources and is reviewed by medical experts.

To learn more, visit the Urology Care Foundation's website, UrologyHealth.org/UrologicConditions or go to UrologyHealth.org/FindAUrologist to find a doctor near you.

Disclaimer

This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please talk to your urologists or health care provider about your health concerns. Always consult a health care provider before you start or stop any treatments, including medications.

For copies of printed materials about Non Muscle Invasive Bladder Cancer and other urologic conditions, visit UrologyHealth.org/educational-materials or call 800-828-7866.