



*Promoting Health and  
Preventing Complications  
Through Exercise*

*Rehabilitation Research and Training Center on Spinal Cord Injury*

# Bladder Cancer and SCI

2005

## What is Bladder Cancer?

**T**he bladder is an organ located in the lower belly. Its function is to store urine that is produced by the kidneys and release the urine at an appropriate time. The bladder is actually a large muscle that is able to stretch to accommodate large amounts of urine. When the time comes to empty, the bladder muscle contracts to help push the urine out.

Bladder cancer is cancer that develops somewhere in the lining or muscle of the bladder. It may extend into the bladder or affect the outer portion of the bladder, including the connections between the kidneys and bladder, or bladder and urethra (tube leading out of the bladder). Bladder cancer can be superficial (mild, usually just affecting the lining of the bladder) or deep (extending into the muscle layers or outside of the bladder).

## Am I at risk for Bladder Cancer?

**Y**es, you may be! Some factors that contribute to bladder cancer include:

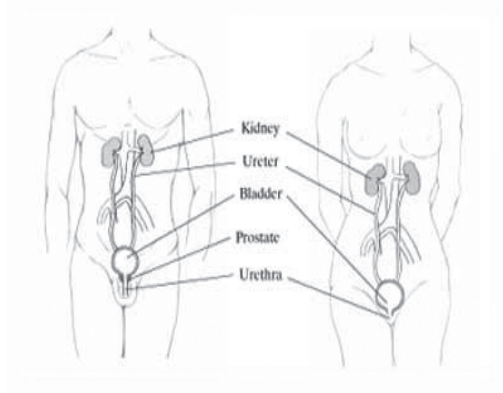
- Age (older than 60 years)
- Smoking (especially cigars and pipes) and exposure to second-hand smoke
- Male
- Family history of bladder cancer
- Diet high in saturated fats
- Treatment with certain drugs used to fight cancer
- Repeated exposure to certain chemicals found in hair dyes or other dyes containing alinine, or chemicals found in certain rubbers, leathers, etc.

## What role does my SCI play?

Spinal cord injury (SCI) often causes changes in the bladder and its functions. You may not be able to hold urine and/or you may not be able to push the urine out like you did before you acquired your SCI. For this reason, people with SCI often use a variety of other methods to remain continent. These might include:

- A catheter that remains in the bladder at all times (suprapubic or foley catheter)
- Intermittent catheterization
- A catheter attached to a condom collector
- Tapping on the bladder while attempting to void
- Any combination of the above

### Male and female urinary tracts



Courtesy of NIDDK, NIH

We know that some of the factors that are related to the SCI and its effect on the bladder, or the catheters used to treat bladder problems, or both, are more likely to cause long-term bladder irritation, which may lead to bladder cancer. These include:

- Repeat bladder infections
- Repeat bladder stones
- Irritation due to the catheter itself

There are several important points we have learned about the bladder cancer that occurs in people after SCI. Although bladder cancer is still quite rare after SCI, when it does occur, it is more often a different and more aggressive type of cancer than is seen in people who don't have a SCI, or who don't use a bladder catheter. It also tends to strike people with SCI as early as 10-20 years after the SCI and when they are in their 40's and 50's.

## How do I know I have Bladder Cancer?

Usually, the only sign that you may have bladder cancer is blood in the urine (either seen with the naked eye or through a microscope). Unfortunately, blood in the urine often occurs as a result of using a bladder catheter. Differentiating between blood due to cancer or blood due to other causes is the challenge. If you have blood in your urine, it is important to speak with your doctor about it and to discuss the possible causes. It could be some minor irritation due to the catheter, or it could be due to another cause such as an infection, stones, or even cancer.

In any case, the best way to check your bladder for irritation, stones, AND cancer is a test called a cystoscopy. During this test a urologist will insert a small and often flexible tube similar to a telescope through your urethra (the passageway that takes urine out of your body) and into your bladder. The urologist will be able to see the lining of the bladder and check for any abnormalities. If there is a suspicious area, your urologist can even remove it at the time of the test.

## How can I work with my doctor?

Since excess bladder irritation leads to some cases of bladder cancer, it is best to speak with your doctor about the likelihood of developing bladder cancer based on your risk factors. Also, you may want to discuss how you manage your bladder.

For example, if you have a permanent catheter, you are at more risk than if you use intermittent catheterization. It is also important to discuss with your doctor how many bladder infections and stones you have had in the past. If you manage your bladder with any type of catheter, it is probably wise to get your bladder checked routinely by a urologist. If you use a permanent catheter, such as a foley or suprapubic, you may want to consider asking your urologist to check your bladder with cystoscopies starting approximately 5-10 years after your SCI, and then every several years thereafter.

If you have other risk factors, such as being a smoker or having frequent bladder infections or stones, you should have this test done even more often. Other tests are being developed that may be able to be used for bladder cancer screening in the future.

## How can I reduce my risk?



To reduce your risks, consider taking some of the following steps:

- Stop smoking
- Eat a healthy diet high in fruits and vegetables
- Drink lots of water
- Consider supplementing your diet with certain vitamins (these include Vitamins C, E, and other antioxidants)
- Avoid bladder infections if possible and treat infections when they do occur
- Consider having your doctor routinely check for bladder stones
- If you do have repeat bladder infections or bladder stones, you may want to change your catheter more often (you should change it every 4 weeks, but more often is probably better)
- Consider changing from a permanent catheter to a type of system that is less irritating to the bladder

Keep in mind that this last recommendation has many repercussions. For example, while we are fairly confident that changing to a different type of catheter system will decrease bladder irritation, and hence risk, you need to remember that doing so may change other factors as well, such as how much water you drink, equipment that is needed, scheduling bladder emptying, and how much assistance you might need from others.

## Take Home Tips

1. Although still fairly rare, bladder cancer is more common after SCI, and this is due to bladder irritation from infections, stones, and permanent catheters.
2. Blood in the urine should be addressed by a doctor and bladder infections should always be treated.
3. If you have a SCI and use a permanent catheter, routine screening for bladder cancer should be done by a urologist starting 5-10 years after injury.

For more information or alternative formats, please visit our website at [www.sci-health.org](http://www.sci-health.org) or call 1-866-380-4344.

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