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BLADDER CANCER

What You Should Know

ALSO:

A Bladder Cancer
Survivor Story

Bladder Cancer
Overview & Stats

SPECIAL BLADDER
CANCER EDITION

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SURVIVOR STORY: FRANK SLOAN, PhD

Just over a year after treating his prostate cancer with radiation therapy, Dr. Frank Sloan, a health economist from Duke University, saw blood in his urine. When he told his radiation oncologist, Frank was sent to see a urologist for a biopsy. Unfortunately, that biopsy found bladder cancer.

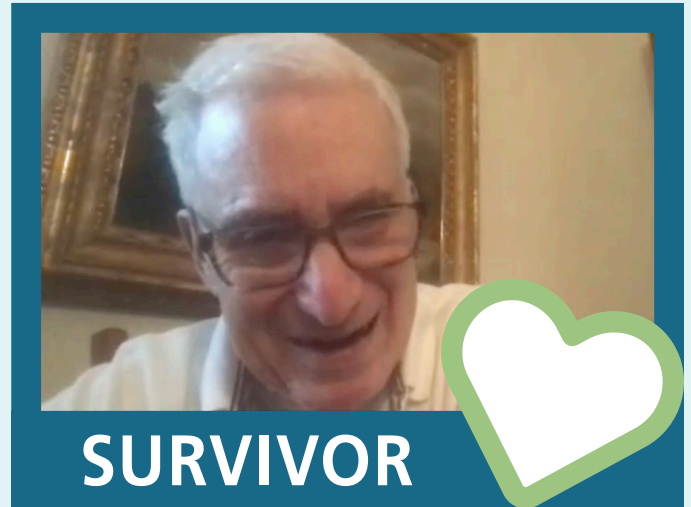
A cystoscopy and subsequent TURP showed two tumors on the surface of his bladder wall. Those early-stage tumors, however, had aggressive cancer cells. This led Frank to a urologist oncologist.

As part of his care, Frank was given BCG (Bacillus Calmette-Guerin) treatment. This is a type of immunotherapy. It's a form of non-active tuberculosis bacteria that's placed in the bladder with a catheter. It's given weekly at first, then monthly to teach your body to stop new bladder cancer cells from forming. Frank did this treatment for about a year and a half until his urologist oncologist had enough time to observe that the cancer had not come back. That was seven years ago.

Frank is happy to report that since BCG treatment and annual cystoscopies, his bladder cancer has not returned. Neither has the prostate cancer. He realizes he's fortunate, but his story is common. He knows he must stay on top of his health since bladder cancer can return.

“What’s most important after treatment,” Frank points out, “is to get tested annually with a cystoscopy.” While testing can be costly, it’s the best way to stop problems early. Once bladder cancer gets past the bladder wall, it’s not easy to treat.

Frank says, “I used to ignore my health but now I try to exercise, eat better and stay on schedule with tests. I just try to be healthy. I can’t control everything, but I’ve learned what signs to look out for. If I see blood in my urine, for example, I’ll call my urologist right away. I trust him. It’s important to find a doctor you can trust.”



Another bit of wisdom from Frank is to find a bladder cancer support group, if one is available.

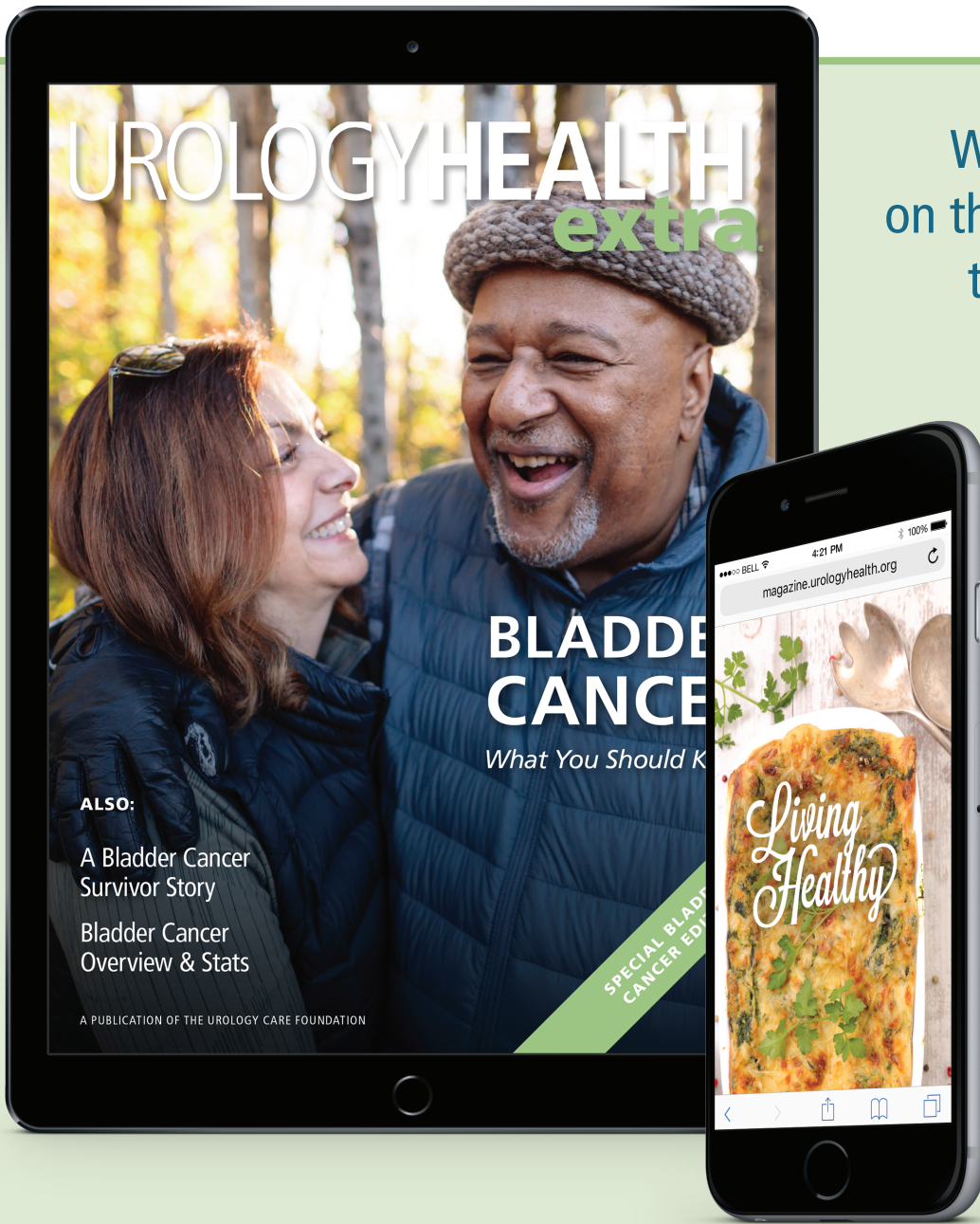
It is one of the few places people can open up comfortably, privately and find compassion. He recognizes that it's hard to talk about these subjects, but bladder cancer support groups can help with that. New friendships form and tips are shared to make life better. Often caregivers join too, as Frank's wife did. With virtual access, it's easier these days to connect.

Frank's involvement with his support group introduced him to the Bladder Cancer Action Network (BCAN). He truly values BCAN, and now he and his wife commit their time and research to support others with bladder cancer.



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What You Should Know About

BLADDER CANCER

In 2021, almost 83,000 Americans are expected to have developed bladder cancer, the majority of them men. Bladder cancer is the fourth most common cancer in men. Many people with the disease don't know they have it until they go for a routine checkup. Catching bladder cancer early can give you more treatment options and better outcomes.

"It can be scary to be diagnosed with any type of cancer, including bladder cancer, but it's important to know you're not alone. Your doctor will be with you step by step, and will talk you through your treatment options so you get the best outcome," said Sima P. Porten MD, MPH, a urologist at the University of California, San Francisco.

CONTINUED ON PAGE 6 ►



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What is Bladder Cancer?

Bladder cancer often starts in the lining of the bladder. A person with bladder cancer has one or more tumors made up of abnormal and unhealthy cells.

There are two main categories of bladder cancer:

- **Non-muscle invasive bladder cancer (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. The tumor is not likely to spread outside the bladder. About 70% of bladder cancers are NMIBC.
- **Muscle invasive bladder cancer (MIBC)** is cancer that spreads into the thick muscle deep in the bladder wall.

Another category of bladder cancer includes:

- **Advanced metastatic bladder cancer** which happens over time as the tumor may grow outside the bladder into tissues close by. The cancer may then spread to lymph nodes, the lungs, the liver and other parts of the body.

Bladder cancer can also be described based on stage, from stage 1 to 4. Earlier stages are easier to cure. Knowing the stage of a cancer helps your doctor decide the best way to treat it.

“However, non-muscle invasive bladder cancer, or stage 1 disease, is best described by risk group: low, intermediate or high risk,” Dr. Porten said. “These groups more accurately reflect the chance of the cancer’s recurrence and progression.”

Smoking is the most important risk factor for bladder cancer. The best way to prevent bladder cancer is to quit smoking, or never start. Other risk factors include:

- A family history of bladder cancer
- Age and gender
 - Men in the age group 75-84 are at a higher risk
- The cancer drug cyclophosphamide
- Radiation to the pelvis
- Workplace exposure
 - Chemicals used to make plastics, paints, leather and rubber.
 - Vietnam veterans who were exposed to Agent Orange may be at increased risk of bladder cancer.
 - Firefighters may have an increased risk from inhaling a number of combustible products in fires.

Symptoms of Bladder Cancer

Not everyone with bladder cancer has symptoms. The most common sign of bladder cancer is blood in the urine. If you see blood in your urine, tell your doctor right away.

Blood in the urine does not always mean you have bladder cancer. There are many other possible causes, like a urinary tract infection. It is important to be evaluated by your doctor to find out the cause.

Other signs of bladder cancer can include:

- Frequent and urgent need to pass urine
- Pain when you pass urine
- Pain in your lower abdomen
- Back pain

Treatment for Bladder Cancer

If you are diagnosed with bladder cancer, your doctor will recommend treatment based on many factors. These include the stage of your cancer (the depth of the tumor and how far it has spread), your general health and your age. “Ask about side effects of treatment and what the treatment will involve,” Dr. Porten said. “Your doctor will help you choose a treatment that will get you the best balance of quantity and quality of life.”

Treatment for NMIBC

If you have NMIBC, the doctor will do a surgical procedure called transurethral resection of the bladder tumor

“Bladder cancer is often a treatable disease. It’s important to learn as much about your diagnosis as you can, and understand your options.”

- Sima P. Porten MD, MPH

(TURBT). With a TURBT, the surgeon uses a cystoscope, which passes through your urethra (the tube that brings urine from the bladder to the outside of the body). The cystoscope has a light at the end so your doctor can look into your bladder and see well enough to take tumor samples and remove the tumor.

Many patients are treated with TURBT in combination with intravesical therapy to lower the risk the cancer will return. With this treatment, the doctor puts medicine in a liquid form directly into the bladder, through a catheter. The drug works on the cells that line the bladder, without having major effects on other parts of the body. This avoids the types of side effects, such as hair loss, often caused by other types of chemotherapy.

There are two types of intravesical therapy: immunotherapy and chemotherapy.

- **Intravesical immunotherapy** is a treatment that boosts the ability of your immune system to fight the cancer. Bacillus Calmette-Guerin (BCG) is an immunotherapy drug used for bladder cancer. You may get this treatment more than once. Some patients need many courses. The first course will likely last for about six weeks. The treatment is usually done in your doctor's office. After the bladder is free of disease, your doctor may suggest more treatment with the same drugs to keep the tumor from coming back.
- **Intravesical chemotherapy** can be given right after surgery, or after recovery from TURBT. The chemotherapy drugs are placed directly into the bladder to reduce the risk of your cancer returning or slow cancer growth. They help stop cancer cells from going to another place in the body and growing. Some people need more than one course.

Treatment for MIBC

If you have MIBC, there are two common treatment options. The most common treatment option is bladder removal, with or without chemotherapy. The second common treatment option is chemotherapy with radiation.

Removing the entire bladder is called radical cystectomy. In men, the doctor will remove the bladder, nearby lymph nodes, part of the urethra and the prostate. In women, the surgeon may remove the uterus and ovaries along with the bladder. "Aside from typical side effects associated with major surgery, both men and women can have sexual side effects and impaired fertility," Dr. Porten said. It is of great

value to note that not all patients are able to have bladder removal surgery. Radiation may help treat those patients who are not eligible for full bladder removal.

For MIBC, chemotherapy is usually given before a radical cystectomy. Removing the bladder plus chemotherapy raises the survival rate for bladder cancer patients. Most of the time, chemotherapy will be offered before bladder removal. Not all patients are able to have chemotherapy and some patients may choose not to have chemotherapy before surgery. You may still need to have it after surgery based on the tumor stage. It is likely that bladder surgery will take place about six to eight weeks after you have finished treatment. If you did not have chemotherapy before surgery, you may receive chemotherapy or immunotherapy after.

Urinary Diversion after Bladder Removal

When your bladder is removed or partly removed, your urine will be stored and made to leave your body by a different route (called urinary diversion).

There are several types of urinary diversion:

- **Ileal conduit or urostomy:** To make an ileal conduit, the surgeon will take a piece of your upper intestine to make a passageway for urine. It is attached to the surface of your abdomen through an opening called a stoma. The ureters (tubes that carry urine from the kidneys to the bladder) are joined to this so the urine leaves your body by the opening. A small bag is attached to the outside of your abdomen to collect the urine. You can empty the bag throughout the day.
- **Continent cutaneous reservoir:** Your surgeon makes a pouch inside your body. You will learn to use a catheter to remove your urine through a channel that is accessed from the surface of your abdomen.
- **Orthotopic neobladder:** Your surgeon makes an internal pouch to store urine. Your ureters are joined to this new "bladder." You are able to empty through your urethra similar to before surgery. Some people may need to use a catheter to remove the urine.

"Bladder cancer is often a treatable disease," Dr. Porten said. "It's important to learn as much about your diagnosis as you can, and understand your options. Ask for help from your family and friends as you work with your doctor to make decisions about the treatment that will be best for you."

Did You Know?

BLADDER CANCER RISK FACTORS

There are many risk factors for getting bladder cancer. Some you can change, while others you can't.

The biggest risk factor for bladder cancer, **smoking**, is something you can change. Half of all bladder cancer cases in the U.S. are caused by cigarette smoke. **Bladder cancer is two to three times more likely to develop in smokers than in nonsmokers.**

Certain types of long-term chemical exposures at work may also increase the risk of bladder cancer. These include chemicals used to make plastics, paints, textiles, leather and rubber.

**HAIRDRESSERS,
MACHINISTS, PRINTERS,
PAINTERS AND TRUCK
DRIVERS MAY BE AT RISK
FOR BLADDER CANCER.**



Risk factors you can't change include race and ethnicity, age, gender and family history of bladder cancer.

Firefighters may have a greater risk from inhaling a number of combustible products in fires.

Vietnam veterans who were exposed to Agent Orange may be at increased risk of bladder cancer.

**OTHER
RISK FACTORS
INCLUDE:**

Frequent or long-lasting bladder infections.

Radiation to the pelvis for cervical cancer or prostate cancer.

History of bladder cancer. *If you have had bladder cancer in the past, you should be closely monitored after treatment to make sure you don't develop another tumor.*

The risk of bladder cancer goes up as you get older. Most people with bladder cancer are older than 55. Men are much more likely than women to develop the disease. People who have family members with bladder cancer are at a higher risk of getting it as well.

For more information about Bladder Cancer, visit UrologyHealth.org



*Living
Healthy*

Three Cheese Veggie Lasagna

Healthy meals can provide your body with energy to function. Lasagna with healthy vegetables can be easy on the bladder and may satisfy your hunger.

Lasagna is a food that Americans have adopted from Italy as a family favorite. This three cheese veggie lasagna uses a rich white sauce to add a creamy taste with added calcium. The healthy vegetables are mixed within. This hearty meal is easy on the bladder and may satisfy your hunger, which may also help maintain a healthy weight.

Three Cheese Veggie Lasagna

🕒 Total: 1 h 🍴 Prep: 15 m 👤 Serves: 8

447 calories, 9.5 g fat, 38 mg cholesterol, 150 mg sodium, 70.3 mg carbohydrates, 4.2 g fiber, 19.6 g protein, 352 mg calcium

INGREDIENTS

2 teaspoons olive oil	1/2 cup low fat shredded Swiss cheese
1 onion, diced	3 tablespoons parmesan cheese
1 yellow squash, cubed	3 cups fat free milk
3 cloves garlic, crushed	3 tablespoons all-purpose flour
5 ounce bag of kale-broccoli slaw (or shredded kale)	1 package no-boil lasagna; divided into thirds
1 15-ounce container fat free ricotta cheese	Ground green or black pepper to taste as garnish

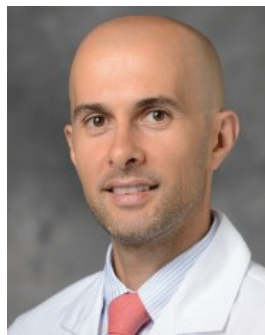
PREPARATION

1. Preheat the oven to 375 degrees.
2. Spray 9x13-inch baking dish with nonstick spray (olive oil spray is great).
3. Heat oil in large non-stick skillet over medium-high heat. Add onion and squash; cook, stirring occasionally, until lightly browned, about 8 minutes. Stir in kale and garlic; cook, stirring constantly, until wilted, about 3 minutes. Remove from heat; let cool 5 minutes. Stir in ricotta, Swiss & parmesan cheeses until well mixed. Set aside.
4. To make sauce, whisk together milk and flour in medium saucepan until smooth. Cook over medium heat whisking constantly, until sauce comes to a boil and thickens, about 8 minutes.
5. Layer ingredients into baking dish: 1/2-cup sauce in bottom of dish, top with 1/3 of noodles (3-4 noodles), overlapping slightly and then top with 1/2 of veggie mixture over noodles. Repeat. The top layer will include last 1/3 of noodles and the remaining sauce.
6. Cover lasagna loosely with foil. Bake 45 minutes. Remove foil, bake until hot and bubbly, about 10 minutes. Let stand 10 minutes before serving.

SERVE & ENJOY!

ASK THE EXPERTS

Q&A



Dr. Ali A. Dabaja is the Vice-Chair of Clinical Affairs, Director of Male Reproductive & Sexual Medicine and Associate Director of Urology Residency at the Vattikuti Urology Institute at Henry Ford Hospital. He is also the Clinical Associate Professor at the Wayne State School of Medicine. His clinical focus includes male infertility and sexual medicine.

WILL BLADDER CANCER CAUSE URINE LEAKS?

DR. ALI A. DABAJA

The most common symptom for bladder cancer is blood in the urine but, when the bladder gets irritated, it can lead to pain or, on a rare instance, some urgency to urinate that might lead to urinary leaking. Incontinence is the term used when your bladder causes urine leaks when it shouldn't.

Bladder cancer and certain cancer treatments that are within the pelvis may cause urine leaking. For example, radiation used to treat prostate cancer in the pelvic area can irritate the bladder and might lead to leaking urine when you feel urgency. Some surgery in the pelvic area can cause the muscle that controls urine to weaken and can lead to incontinence.

Urinary leaking is not specific to bladder or pelvic cancers. There are many other causes of urinary leaking. Causes may include medicines that cause your body to make more urine leading to urgency and urge incontinence, bladder irritants like coffee or spicy foods and other conditions like disease that damages the nerves or diabetes.

If you feel like your bladder isn't holding your urine well, there are treatments that may help. Talk to your doctor about what is best for you. Certain questions and tests can help your doctor learn more and provide the best treatment plan. Some treatments work better than others based on why leaking is happening. Some strategies include bladder training (going to the bathroom at specific times), physical therapy (Kegel exercises), medication, medical devices (like a pessary for women), surgery or using support devices.

Before using some of the more invasive treatments, lifestyle changes may help. The first step may be to limit what you drink and when. For example, coffee and alcohol can cause your body to make more urine. Or, you can avoid foods that may irritate the bladder. These could be dairy products, citrus or sugary things like soda or chocolate. As a quick-fix, you can wear an absorbent pad. Maintaining a healthy weight also helps.





Dr. Landon Trost, a urologist at Brigham Young University, focuses on male infertility, vasectomy reversal and Peyronie's disease.

HOW DOES SEXUAL HEALTH AND INTIMACY CHANGE WITH BLADDER CANCER?

DR. LANDON TROST

You likely ask your doctor lots of questions about how to save your life after getting a cancer diagnosis, but do you ask how to protect your sexual health? Too often, conversations about sex and sexual health are not talked about enough. Whether you need surgery or something else for bladder cancer, you should ask your doctor about your sexual health before treatment starts.

With the bladder located so close to reproductive organs, there are many ways treatment can make an impact. For example, if BCG is recommended for non-invasive bladder cancer, you'll want to protect your partner from the live bacteria. It is key to stay clean and use a condom in this case. Or if you need surgery, there are nerve-sparing options that may help reduce sexual side effects. If you're a woman, you should know that treatment can lead to menopause. The point is, ask questions about your sexual health in advance. This way you can take positive steps to protect your physical and mental health.

Beyond physical issues from treatment, many people lose the mood or self-confidence for sexual activity after dealing with cancer. Even so, it is still of great value to feel good about your body and feel close to someone you love. You can still explore ways to be intimate, like kissing, cuddling or massages. Stay open and share your feelings with your partner. If you need help, ask your urologist if their urologic practice has a sexual medicine specialist on hand. A specialist may be able to help your specific concerns and needs.

If you are concerned about your sexual health after a bladder cancer diagnosis, you are not alone. Start by asking your doctor questions and take one positive step at a time from there.



Dr. Kristen Scarpato, a urologic oncologist at Vanderbilt University Medical Center, focuses on genitourinary cancers including bladder and prostate cancer.

DOES HAVING A UROSTOMY BAG AFFECT QUALITY OF LIFE?

DR. KRISTEN SCARPATO

For people with bladder cancer, your treatment may involve removing your bladder. Your surgeon will create a new way for your urine to leave your body. One option is for your surgeon to create a small, spout-like hole called a stoma in your abdomen. Your urine will pass out of your body through the stoma into a pouch called a urostomy bag. You will get instructions about how to empty and care for the pouch.

You should be able to wear your normal clothing with a urostomy bag. Some people buy different clothes or undergarments that can help hold the bag in place.

You can do many activities with a urostomy bag, including running, swimming, golfing and sexual activity. A special belt or binder may be used to hold your urostomy bag in place for running or swimming. If you lift weights, your doctor may suggest a device to support your abdomen.

Contact sports with a high risk of injury aren't recommended for a person with a urostomy bag. Talk to your doctor before you start any new activity to see if it's safe for you.

To reduce anxiety about having a urostomy in social situations, empty your pouch before activities.

Some people find it useful to join a support group for people with ostomies. People in the group can help answer questions and provide emotional support.

By the Numbers

BLADDER CANCER OVERVIEW & STATS

About
83,730
new cases will be
diagnosed in 2021

Smoking accounts for
47%
of all these new cases

For
85%
of people, blood in the
urine is the first sign of
bladder cancer

About 17,200 people will die from bladder cancer this year*
**mortality rates are going down*


In the U.S., bladder cancer is the
4th most common
cancer in men
6th most common
cancer overall

White people are
2X more likely
to get bladder cancer
than any other race

75% of patients with bladder cancer have NMIBC vs. 25% MIBC

64,280
men will be diagnosed in 2021
(with a 19% death rate)

19,450
women will be diagnosed in
2021 (diagnosed later, with a
25% death rate)



About
90%
of people with bladder cancer are older than 55, average age is 73

3,200 VETERANS
are diagnosed with bladder cancer each year*

**Agent Orange increases a veteran's risk of bladder cancer*



FIREFIGHTERS ARE 2X
more likely to have bladder cancer than general population

**High concentrations of chemicals in urine can damage the bladder lining*

UROLOGY MYTHBUSTERS



FACT OR FICTION:

Sugar strengthens cancer

Myth, but...

Sugar itself does not strengthen cancer. BUT, cancer cells, like all cells in the body, use glucose and insulin to function. Our intestines break down all foods we eat, especially carbohydrates, into these and other simple sugars. Most simple sugars serve our body in many positive ways.

The problem is when we have excess body fat. Often, this results from eating too many high-sugar foods. In many cases, being a healthy body weight is one of the best things we can do to prevent cancer or slow cancer growth.

FICTION



FACT OR FICTION:

Tobacco causes bladder cancer

Fact. Smoking is a major risk factor for bladder cancer. Cigarette, cigar and pipe smoking increases your risk two to three times more than nonsmokers. Initial evidence suggests e-cigarette smoking may also increase your risk.

The chemicals inhaled from tobacco move from your lungs to your blood. Your kidneys filter your blood and send those chemicals to your bladder in urine. Over time, these chemicals injure the cells that line the bladder. This damage increases the chances that cancer will form in the bladder.

FACT



FACT OR FICTION:

Only men get bladder cancer

Myth. While bladder cancer affects men more often, about 20% of all cases in the U.S. are women. Bladder cancer can affect women at any age. If it's caught early, it has the highest chance of recovery.

Most women, however, don't know the signs of bladder cancer. One of the most common signs for women is blood in their urine. Unfortunately, most women ignore this, thinking it's a period or sign of menopause. If a woman has any back pain or burning with blood, it is of great value to see a doctor as soon as possible.

FICTION



GENETIC TESTING FOR BLADDER CANCER

WHAT IS GENETIC TESTING?

Our genes are passed to us from our parents and grandparents, etc. They define how we look and how our bodies respond to health conditions. Our genes, which sit in the DNA of our cells and are packed with information, offer clues about cancer.

In the cancer world, genetic and molecular tests look for many things. They can find biomarkers, which are genetic or molecular clues. Certain biomarkers are known to suggest increased cancer risks, point to an aggressive cancer or show doctors if one treatment could work better than another.

WHY IS GENETIC TESTING OF GREAT VALUE?

Genetic/molecular testing may help a doctor know if risks for bladder cancer can be found before it starts or gets bad. Genetic testing may also help find treatments that could stop or kill your specific cancer cells. This means testing helps avoid a “one-size-fits-all” approach. It leads to precision or tailored therapy.

HOW CAN GENETIC TESTING HELP WITH TREATMENT CHOICES?

Certain bladder cancer biomarkers can tell a urologist what treatment may help the most based on a patient’s health status and type of cancer. For example, some patients may do well in clinical trials and other patients may do well with FDA-approved drugs.

It is always best to talk to your doctor about which treatment option is best for you.

For more information on genetic testing for bladder cancer, visit [UrologyHealth.org](https://www.UrologyHealth.org)

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