



## Condition Spotlight

### Bladder Cancer

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It is estimated that 68,810 new cases of bladder cancer will be diagnosed in the U.S. in 2008. Approximately 890 new cases will be diagnosed in Colorado. Men are diagnosed with the disease at a rate four times that of women.

When caught early, bladder cancer can be cured. When it is diagnosed later in its progression, it is treatable.

The greatest risk factor for bladder cancer is a history of smoking. Smokers are at twice the risk for the disease than nonsmokers. Additional risk factors include exposure to harmful chemicals at work. Common high-risk occupations include textile workers, tire and rubber workers, boot makers, truck drivers, chemical workers, hairdressers, dye workers, leather workers, painters, drill press operators, petroleum workers and dry cleaners.

The most common bladder cancer symptom is painless hematuria (urinating blood). This occurs in 80 percent of patients who are diagnosed with the disease. Other symptoms include urinary frequency, urgency or painful urination - especially in patients with a long history of smoking.

Bladder cancer is commonly diagnosed via cystoscopy (fiber-optic scope into the bladder), CT scan and special tests to evaluate the urine for cancer cells. Screening is not routinely recommended unless a patient is at high risk for the disease, has an extended smoking history or high-risk work environment. When a patient comes in for a hematuria evaluation at TUCC, we typically try to perform a cystoscopy, CT scan and urine tests all on the same day. This provides the patient with an accurate and fast evaluation. Our CT scan images provide three-dimensional imaging of the kidney and ureter (tubes bringing urine to the bladder), so we can more accurately evaluate for a source of bleeding. During a cystoscopy, digital cameras allow our urologists to demonstrate findings to the patient in real time.

If a patient is diagnosed with bladder cancer, initial treatment involves transurethral resection of the bladder tumor (TURBT). This involves the placement of a rigid scope into the bladder via the urethra to cut the tumor out with an electrical cutting loop while the patient is under general anesthesia. Treatment after TURBT is dependent upon what the tumor looks like under the microscope when evaluated by a pathologist. One of the most important questions answered by pathologists is the tumor stage. Bladder cancer stages can be defined as superficial, middle and deep.

Seventy-five percent of newly diagnosed bladder cancer patients have superficial bladder cancer. These patients are routinely seen by urologists for re-checks and may require a series of medications instilled into the bladder. Middle stage bladder cancer tumors typically require repeat TURBT, instilled medications and, sometimes, surgical removal of the bladder. Patients with deep stage bladder cancer require surgical removal of the bladder and may also require chemotherapy. Patients who are not fit for surgery may instead be treated with radiation and chemotherapy.

For more than two decades, a tuberculosis bacterium in the form of BCG (Bacillus Calmette-Guerin) has been used to fight bladder cancer. BCG is administered in the form of a liquid directly into the bladder to stimulate the immune system to destroy tumor cells. It has been shown to reduce bladder cancer recurrence and in some cases may prevent the progression of the disease to a higher stage.

When bladder cancer patients are diagnosed with a deep staged tumor, they will most commonly undergo surgical removal of the bladder. Several bladder replacement options are available to patients involving the reconstruction of the urinary tract using a short segment of the small or large intestine. This surgery is typically performed through an open incision, but several medical literature reports demonstrate a possible role for the da Vinci robot to make the procedure less invasive.

Bladder cancer tends to recur at a high rate and can, on occasion, progress to a higher stage. All bladder cancer patients should be routinely followed by their urologists.