# Bladder Cancer Treatment

Several new medications for urothelial carcinoma have been developed in recent years.

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Bladder cancer—the sixth most common cancer in the United States—can be difficult to diagnose early, making it hard to catch at a more treatable stage. But treatment has evolved in recent years, and survival rates are improving. (See "The Art of Living With Cancer.")

The most common type of bladder cancer is urothelial carcinoma (also known as transitional cell carcinoma), which originates in the lining of the urinary tract. Urothelial cancer can also start in the lower part of the kidneys, the ureters (which connect the kidneys to the bladder) or the urethra (which excretes urine from the bladder). Noninvasive cancer is limited to the inner layer of the bladder, while invasive cancer has spread to deeper layers.

Bladder cancer may not cause any symptoms in its early stages. If they do occur, symptoms may include blood in the urine, a frequent urge to urinate, pain or burning upon urination, inability to urinate or pain in the lower back. Diagnosis involves urinalysis, examination of tissue biopsy samples and scans to look for tumors.

Treatment Options
Treatment for bladder cancer depends on the size and characteristics of tumors and whether the cancer has spread to other parts of the body.

Many patients are eligible for surgery, which may involve removal of tumors or the entire bladder. In some cases, it is possible to create a "neobladder" using part of the intestine. Radiation therapy may be used with or without surgery.

Traditional chemotherapy works by killing fast-growing cells, including cancer cells. It can also destroy healthy cells, leading to side effects. Platinum-based drugs are often used to treat urothelial carcinoma. For noninvasive cancer, drugs may be administered directly into the bladder via a catheter (intravesical therapy).

Targeted therapies work against cancers with specific characteristics. For example, they may interfere with signaling pathways that regulate cell growth. Balversa (erdafitinib) is an oral drug approved to treat advanced urothelial carcinoma with specific genetic mutations.

Immunotherapy helps the immune system fight cancer. Immune checkpoint inhibitors unleash T

cells to kill cancer. Four checkpoint blockers are approved for urothelial cancer: Bavencio (avelumab), Keytruda (pembrolizumab), Opdivo (nivolumab) and Tecentriq (ateolizumab). An older type of immunotherapy uses BCG bacteria inserted into the bladder to attract immune cells.

Antibody-drug conjugates (ADCs), a newer type of treatment, use targeted monoclonal antibodies to deliver chemotherapy drugs directly to tumors (see “Special Delivery”). Two ADCs, Padcev (enfortumab vedotin) and Trodelvy (sacituzumab govitecan), were recently approved for locally advanced or metastatic urothelial carcinoma.

Systemic medications or radiation may be used to shrink tumors before surgery, kill residual cancer cells after surgery or relieve symptoms of cancer that can’t be removed. Combination therapy often yields better outcomes. Treatment can halt cancer progression, but targeted therapies and ADCs can stop working, and immunotherapy doesn’t work for everyone. Several new therapies are in development for bladder cancer. Ask your doctor whether a clinical trial might be a good option for you.

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