FACT SHEET
BLADDER CANCER IN THE US

Bladder cancer is the fifth most commonly diagnosed cancer and is the fourth most common cancer found in men in the United States.\textsuperscript{1,2,3} Even though it is very common, bladder cancer is one form of cancer that most people know very little about. Bladder cancer, also referred to as urothelial carcinoma, begins when the cells in the lining of the bladder start to grow out of control. It may also occur anywhere in the urethra, renal pelvis and ureters.\textsuperscript{2} Early detection is key to increasing survival rates.

**Incidence, Prevalence and Cost**

- 16,390 estimated deaths in 2016\textsuperscript{1,2}
- 76,960 estimated new cases of bladder cancer in the US in 2016\textsuperscript{1,2}
- Over 580,000 people were estimated to be living with a diagnosis of bladder cancer in 2013\textsuperscript{1,2}
- Bladder cancer is one of the most expensive cancers to manage, accounting for almost $3.7 billion in direct costs.\textsuperscript{4,5}

**Lifetime Risk of Developing Bladder Cancer\textsuperscript{2}**

- 1 in 26 chance in men
- 1 in 88 chance in women

**Risk Factors\textsuperscript{2}**

- Cigarette smoking
- Older age (>90% of patients \( \geq 55 \) years)
- Occupational exposure (such as dyes, tar, rubber and solvent)
- Exposure to certain chemicals
- Chronic bladder irritations and infections
- Previous bladder cancer

**Symptoms\textsuperscript{2}**

Blood or blood clots in the urine (hematuria) is the most common symptom of bladder cancer. It is usually not painful and occurs in 8 or 9 out of 10 people who have bladder cancer. Other common symptoms include:

- Pain during urination (dysuria)
- Urinating small amounts frequently
- Frequent urinary tract infections (UTIs)

The symptoms of bladder cancer may be similar to symptoms of other bladder conditions.
**Classification**

Bladder cancer is classified into two types depending on the depth of invasion in the bladder wall:

- **Non-muscle-invasive bladder cancer (NMIBC)** is still in the inner layer of cells. These cancers are the most common (75%) of all BC cases and include the subtypes Ta, carcinoma in situ (CIS) and T1 lesions.

- **Muscle-invasive bladder cancer** is when the cancer has grown into deeper layers of the bladder wall. These are more likely to spread to other organs and are harder to treat. These cancers include the subtypes T2, T3 and T4.

The choice of treatment and the long-term outcome for people who have bladder cancer depend on the stage and grade of the cancer.²,³

- The **stage** is determined by the cancer growth in the bladder wall and how far it has spread to nearby tissues and other organs, such as the lungs, the liver, or the bones.

- The **grade** depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Tumor grade helps determine risk of recurrence and progression in bladder cancer.

**Characteristics of Bladder Cancer**

Bladder cancer has relatively high risk of recurrence and progression of disease:

- **Recurrence**
  - Up to 61% at 1 year
  - Up to 78% at 5 years for non-muscle-invasive bladder cancer (NMIBC)

- **Progression to muscle-invasive disease**
  - Up to 17% at 1 year
  - Up to 45% at 5 years

- **High rate of residual tumor after transurethral resection of bladder tumor (TURBT)**
  - 34-76% of patients have evidence of tumor on repeat TURBT at 2-6 weeks

As patients with incomplete initial resection are at a higher risk of recurrence, there is a significant medical need for improved detection and resection of all tumors.

**Diagnosis**

To **diagnose** bladder cancer based on patient urinary symptoms:

- Compile **medical history**
- Perform urine test and urine culture to check for the presence of blood, infection, and other abnormal cells
If there is a suspicion of bladder cancer or a positive finding from testing, an urologist performs a **cystoscopy** to look into the bladder.

If suspicious lesions are found, the patient is then referred for a cystoscopic examination in an operating room where suspected areas are biopsied for histological confirmation and final diagnosis, including determination of stage and grade of the disease.

Additional information on staging can be found from tests including:
- **CT scan or MRI** to determine if the cancer has spread to lymph nodes, the lungs, the liver, or other abdominal organs.
- **Chest X-ray** to determine if the cancer has spread to the lungs.
- **Bone scan** to determine if the cancer has spread to the bones.

Early detection is key as bladder cancer has a better chance of being treated successfully if it is found at an early stage.

**Treatment**

- **Surgery to remove the cancer**, either alone or along with other treatments, is used in more than 9 out of 10 cases:
  - For Non-Muscle Invasive Bladder Cancer (NMIBC), the procedure performed is called a **transurethral resection of the bladder tumor (TURBT)**. The surgeon performs the TURBT through a rigid cystoscope which can use white light alone or be enabled for Blue Light Cystoscopy (BLC).
  - For Muscle Invasive Bladder Cancer (MIBC), the surgeon usually performs a **cystectomy or bladder removal**. There are different types of bladder removal surgeries depending on the extent of the disease and if there can be a new bladder created from tissue of the GI tract.

The **American Urological Association (AUA) / Society of Urologic Oncology (SUO)** 2016 guideline, which includes an enhanced cystoscopy section, notes that Blue Light Cystoscopy is recommended (Moderate Recommendation; Evidence Strength: Grade B) for use in patients with NMIBC at the time of transurethral resection of bladder cancer tumors (TURBT) to increase detection and decrease recurrence.

The stage and grade of the patient’s bladder cancer are important in choosing the right adjuvant treatments.

- **Adjuvant treatments include**:
  - **Chemotherapy** to destroy cancer cells using medicines, may be given before or after surgery.
  - **Immunotherapy**, which causes the body’s natural defenses, known as immune system, to attack bladder cancer cells.

- **Radiation therapy** to destroy cancer cells using high-dose X-rays or other high-energy rays. Radiation therapy may also be given before or after surgery and may be given at the same time as chemotherapy.

**Additional Resources**

- American Urological Association: [https://www.auanet.org/](https://www.auanet.org/)
References