

# Bladder Cancer

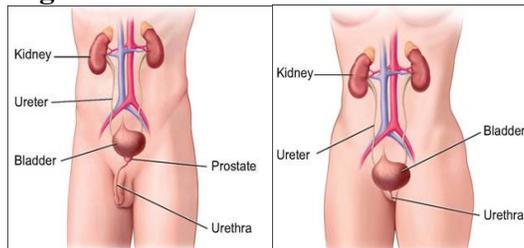
**Definition:** Bladder cancers form in bladder tissue, which is the organ that stores urine. The wall of the bladder has several tissue layers, where cancer can penetrate, and may eventually form in the wall of the bladder.<sup>1</sup>

**Background:** From 2002 to 2006, there was a yearly average of approximately **2,660** newly diagnosed cases of bladder cancer in Ohio.<sup>2</sup> During this same time period, Ohio experienced approximately **624** deaths each year due to bladder cancer.<sup>2</sup>

The mortality rate of people dying from bladder cancer has decreased over the past twenty years.<sup>1</sup> It is possible to find bladder cancer early by using screening tests, such as checking for blood in urine or examining urine for cancer cells.<sup>1</sup>

Bladder cancer is more common in men than women, and risk increases with age.<sup>1</sup> Whites are about twice as likely to develop bladder cancer as African Americans and Hispanics.<sup>1</sup> Asians have the lowest incidence of bladder cancer.<sup>1</sup>

**Figure 2**



## Cuyahoga County Data:

- The average annual number of newly diagnosed bladder cancer cases from 2002-2006 was **354**, with an age-adjusted incidence rate of **21.5** per 100,000 people.
- This is **lower** than the **21.6** incidence rate for Ohio and **higher** than the **21.0** incidence rate for the Nation.
- The average annual number of bladder cancer deaths from 2002-2006 was **87**, with an age-adjusted mortality rate of **5.1** per 100,000 people.
- This is **higher** than the **5.0** mortality rate for Ohio and **higher** than the **4.3** mortality rate for the Nation.

**Table 2a Bladder Cancer**

Average Annual Number of Cancer Cases and Age-Adjusted Incidence Rates\* for 2002-2006

Incidence	Male		Female		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
<b>Cuyahoga County</b>	254	39.1	100	10.2	354	21.5
<b>Ohio</b>	1,972	38.4	688	9.6	2,660	21.6
<b>National SEER</b>		37.1		9.3		21.0

\* Rate is calculated per 100,000 people.

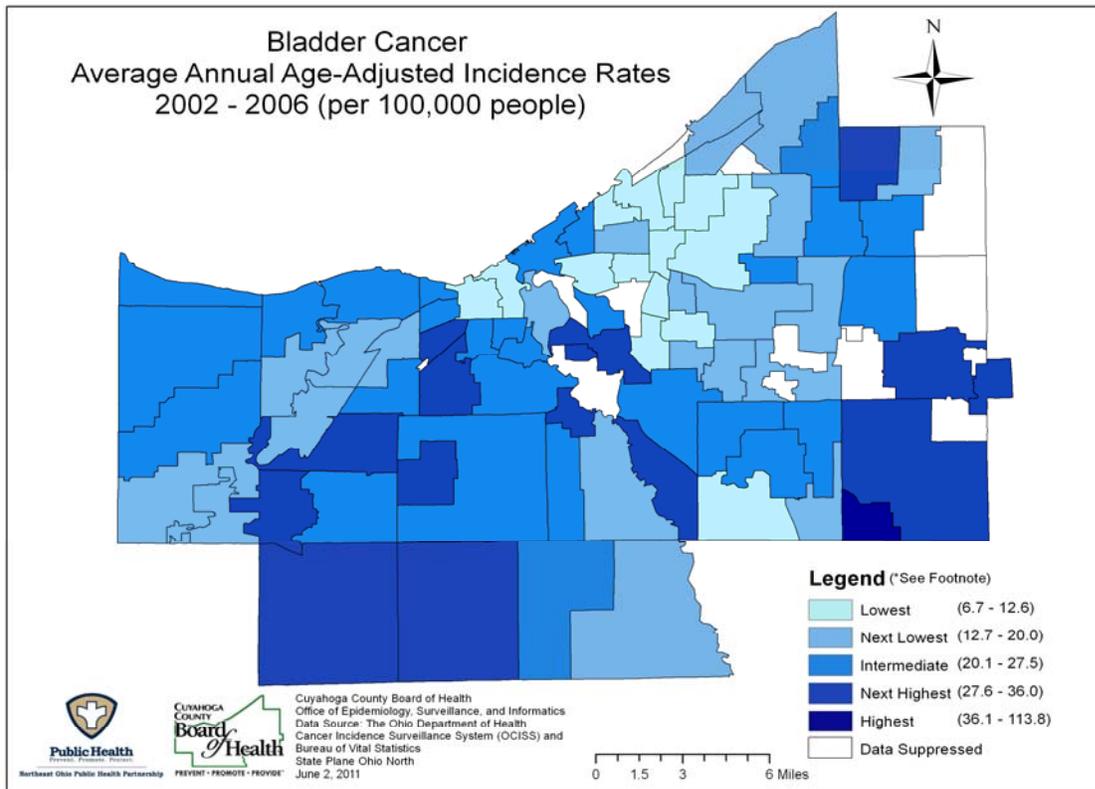
**Table 2b Bladder Cancer**

Average Annual Number of Cancer Deaths and Age-Adjusted Mortality Rates\* for 2002-2006

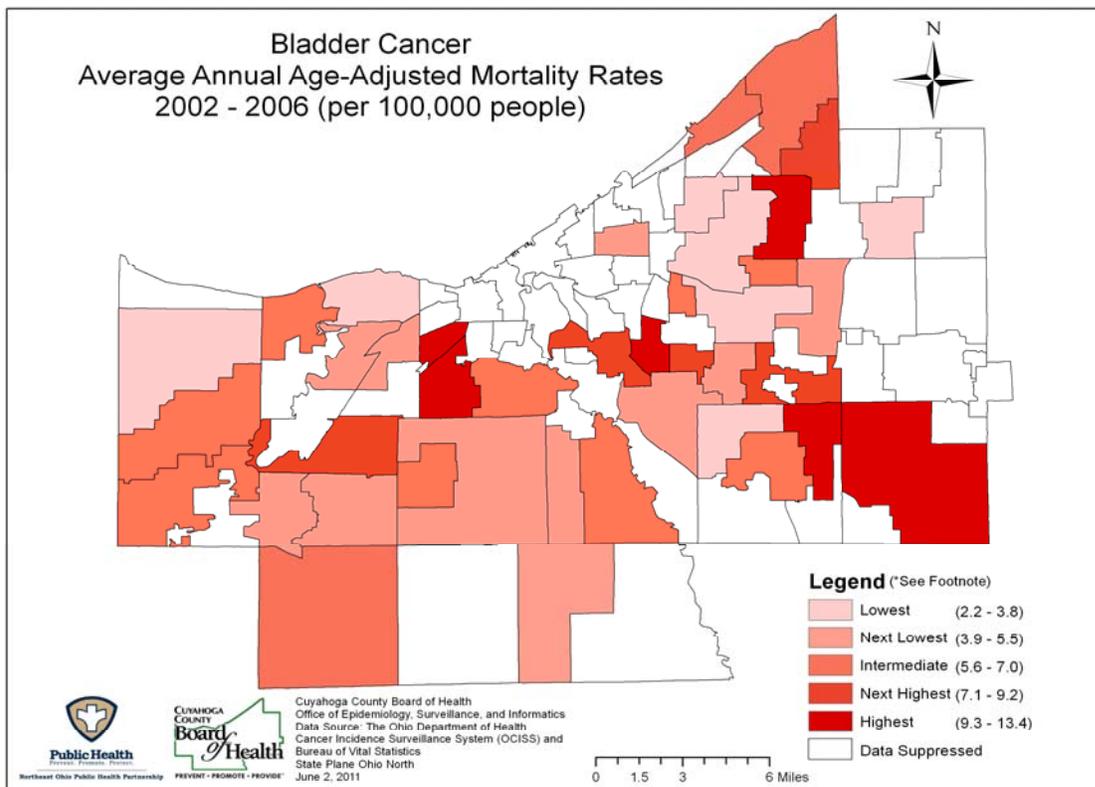
Mortality	Male		Female		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
<b>Cuyahoga County</b>	60	9.7	27	2.5	87	5.1
<b>Ohio</b>	434	9.0	189	2.5	624	5.0
<b>National SEER</b>		7.5		2.2		4.3

\* Rate is calculated per 100,000 people.

**Figure 2a**

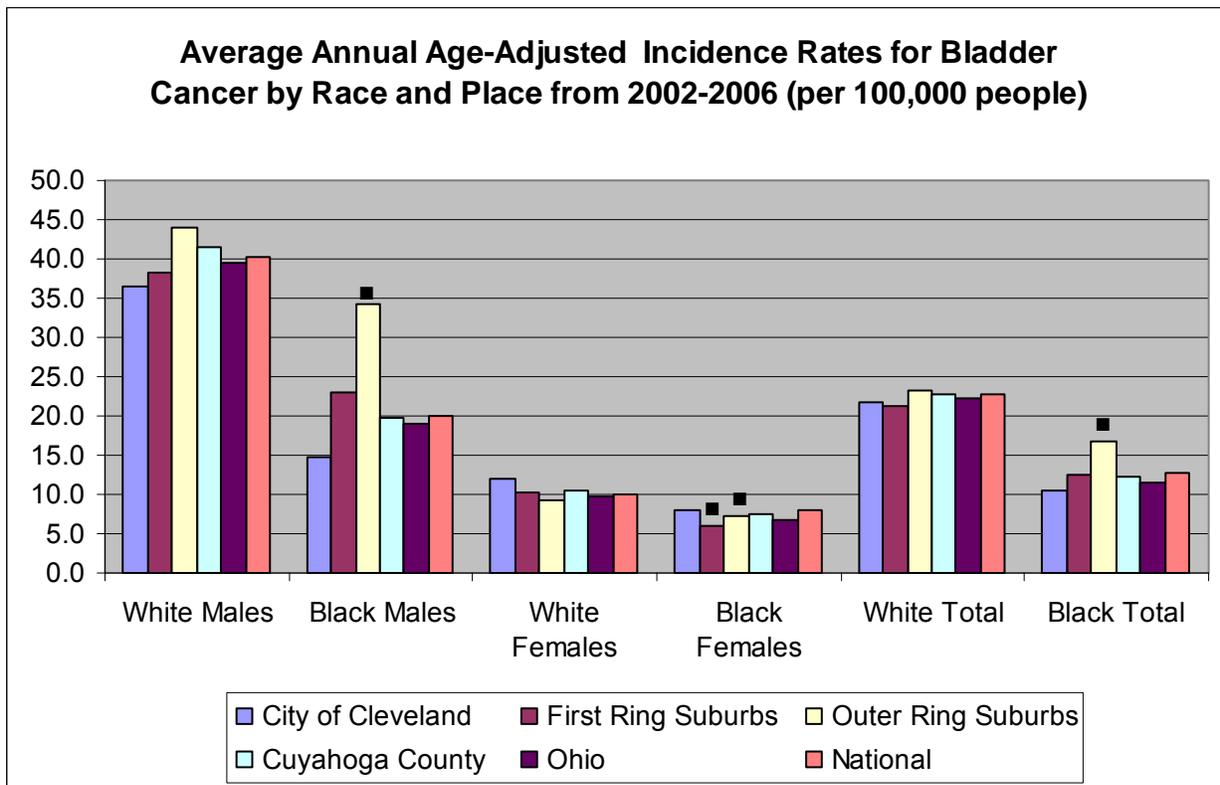


**Figure 2b**

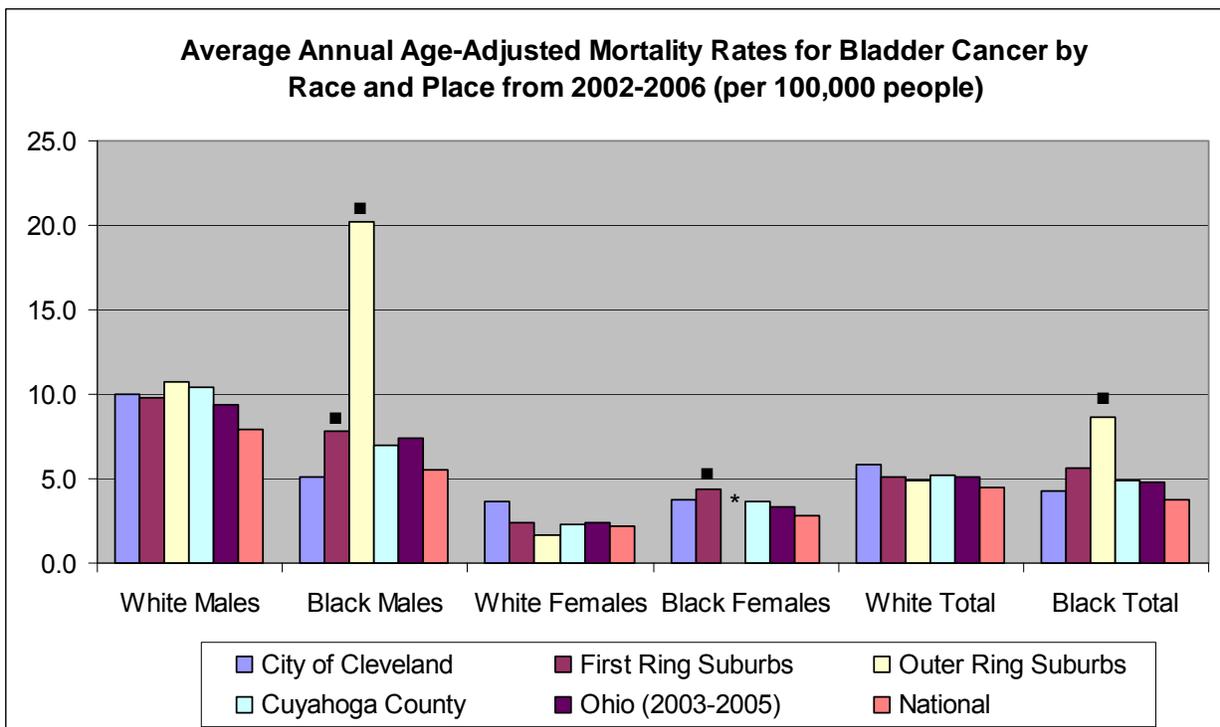


\*Data were suppressed to help maintain confidentiality and /or due to concerns over unstable numbers. See methods/limitations section for additional details.

**Chart 2a**



**Chart 2b**



▲ Rates are statistically significantly higher when compared to Cuyahoga County.

▼ Rates are statistically significantly lower when compared to Cuyahoga County.

■ Rates are not compared to Cuyahoga County when there are <20 cases total for 2002-2006 due to instability.

\* Data were suppressed to help maintain confidentiality and /or due to concerns over unstable numbers.

See methods/limitations section for additional details.

## Risk Factors

**Males:** In the United States, 1 in 26 males will develop bladder cancer and 1 in 118 males will die from bladder cancer.<sup>3</sup>

**Females:** In the United States, 1 in 86 females will develop bladder cancer and 1 in 303 females will die from bladder cancer.<sup>3</sup>

Several risk factors may contribute to the development of bladder cancer. They include:<sup>1</sup>

- **Smoking-** The greatest risk factor for bladder cancer is smoking. Smokers are twice as likely to develop bladder cancer as non smokers. Smoking causes about half of bladder cancer deaths among men and about a third of bladder cancer deaths among women.
- **Age-** More than 70% of bladder cancers occur in individuals 65 and older.
- **Gender-** Bladder cancer is more common in men than women.
- **Race-** Whites are twice as likely to develop bladder cancer as African Americans and Hispanics. Asians have the lowest incidence of bladder cancer.
- **Workplace exposures-** Some industrial chemicals have been linked with bladder cancer, such as aromatic amines (i.e. benzidine, beta-naphthylamine)
- **Chronic bladder inflammation**
- **Personal history of bladder cancer**
- **Bladder birth defects**
- **Genetics**
- **Chemotherapy and radiation therapy**
- **Arsenic**
- **Low fluid consumption**

## Symptoms<sup>1</sup>

- Blood in the urine
- Change in bladder habits or irritative symptoms

## Screening, Prevention and Early Detection<sup>1</sup>

### Screening:

The American Cancer Society suggests that screening helps to decrease mortality due to early detection and subsequent treatment. Some doctors recommend bladder cancer screening for people at very high risk, but overall screening for the general public is not recommended. One way to screen for bladder cancer is to check for blood in the urine (*hematuria*), however blood in the urine can be caused by benign conditions. Another way to screen for this cancer is by conducting a urinalysis that includes urine cytology to look for cancerous cells.

### Prevention:

There is no sure way to prevent bladder cancer. Lowering risk factors such as not smoking, drinking plenty of fluids, eating a diet rich in fruits and vegetables, and following safe work standards when using chemicals (such as aromatic amines), can help decrease the risk of bladder cancer.

## Staging

Stage at Diagnosis describes the severity of a person’s cancer and the extent to which it has or has not spread throughout the body.<sup>4</sup> Cancer staging is important in helping physicians plan appropriate treatment, as well as to estimate a patient’s prognosis.<sup>4</sup> Cancer diagnosed in the *in situ* and localized stages are generally referred to as early-stage tumors, whereas regional and distant tumors are referred to as late-stage tumors.<sup>2</sup> Detecting cancers at an early stage may increase long-term survival and can lead to a reduction in mortality.<sup>2</sup>

The National Cancer Institute groups staging into five main categories:<sup>4</sup>

- ***In situ***: Abnormal cells are present only in the layer of cells in which they developed. In this report, *in situ* cases are only included for bladder cancer.
- **Localized**: Cancer is limited to the organ in which it began, without evidence of spread.
- **Regional**: Cancer has spread beyond the primary site to nearby lymph nodes or organs and tissues.
- **Distant**: Cancer has spread from the primary site to distant organs or distant lymph nodes.
- **Unstaged/Unknown**: There is not enough information to determine the stage.

Chart 2c

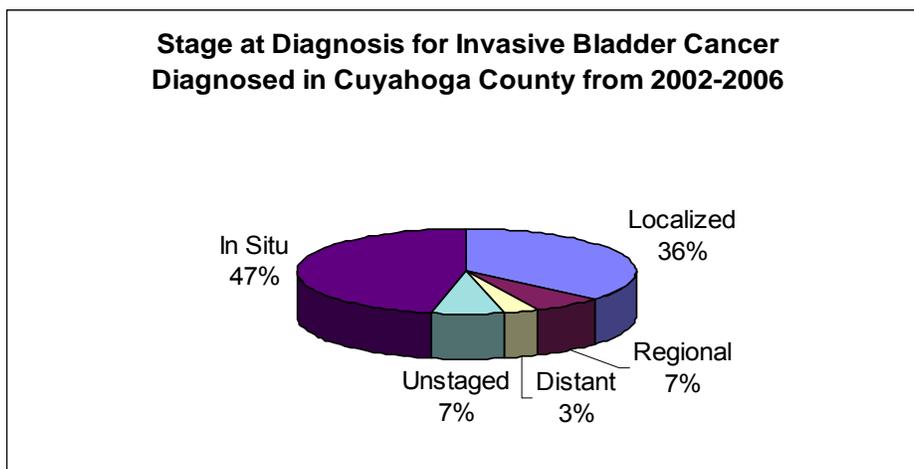


Table 2c

<b>5-year Relative Survival* by Stage at Diagnosis for Bladder Cancer in the United States for 1999-2006, All Races, Both Sexes<sup>4</sup></b>	
<b>Stage at Diagnosis</b>	<b>5-year Relative Survival (%)</b>
In situ (only in the layer of cells in which it began)	96.6
Localized (confined to primary site)	73.3
Regional (spread to regional lymph nodes)	36.1
Distant (cancer has metastasized)	5.6
Unknown/Unstaged	55.3

\*Relative survival compares observed survival for those with cancer to the expected survival for those without cancer.

## More Information

National Cancer Institute <http://www.cancer.gov/>

American Cancer Society <http://www.cancer.org>

Ohio Department of Health <http://www.odh.ohio.gov/>

### Resources

1. The American Cancer Society. Bladder Cancer Detailed Guide. <http://www.cancer.org/Cancer/BladderCancer/DetailedGuide/index>. (Accessed December 9, 2010).
2. *Cancer Incidence and Mortality among Ohio Residents, 2002-2006*. Ohio Cancer Incidence Surveillance System, Ohio Department of Health and The Ohio State University, Columbus, Ohio, December 2009. [http://www.odh.ohio.gov/ASSETS/79F9E92E210F477D885F8EAC864E2F27/0206Monograph\\_Final.pdf](http://www.odh.ohio.gov/ASSETS/79F9E92E210F477D885F8EAC864E2F27/0206Monograph_Final.pdf).
3. The American Cancer Society. Lifetime Risk of Developing or Dying From Cancer. <http://www.cancer.org/Cancer/CancerBasics/lifetime-probability-of-developing-or-dying-from-cancer>. (Accessed January 10, 2011).
4. National Cancer Institute. Cancer Staging. <http://www.cancer.gov/cancertopics/factsheet/Detection/staging>. (Accessed December 23, 2010).
5. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Bladder. <http://seer.cancer.gov/statfacts/html/urinb.html>. (Accessed December 9, 2010).
6. National Cancer Institute. What you need to know about cancer of the bladder. Bladder images from <http://www.cancer.gov/cancertopics/wyntk/bladder/page2>. (Accessed December 9, 2010).