

# URINARY BLADDER CANCER

Bladder cancer is the 10th most commonly diagnosed cancer worldwide. In Virginia, bladder cancer was the 7th most common cancer diagnosis between 2011 and 2015. The American Cancer Society (ACS) estimates 1,900 bladder cases diagnosed and 420 deaths in Virginia from this cancer in 2018.

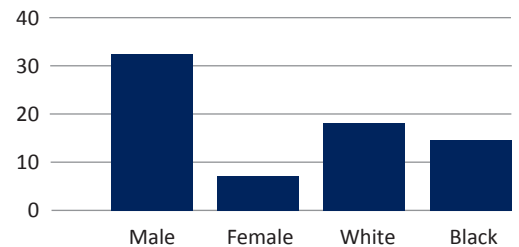
**Figure 1** | Urinary Bladder Cancer Stats by Gender and Race, VA 2011-2015

Gender	Race	Incident Rate	Incident Count	Mortality Rate	Mortality Count
♂	Black	21.8	21.8	6	159
	White	33	33	8.1	1,142
	All Races	31.1	31.1	7.6	1,321
♀	Black	7.2	7.2	2.4	100
	White	8.5	8.5	2.2	428
	All Races	8.1	8.1	2.1	534
♂♀	Black	13	13	3.7	259
	White	9.2	9.2	4.6	1,570
	All Races	18	18	4.3	1,855

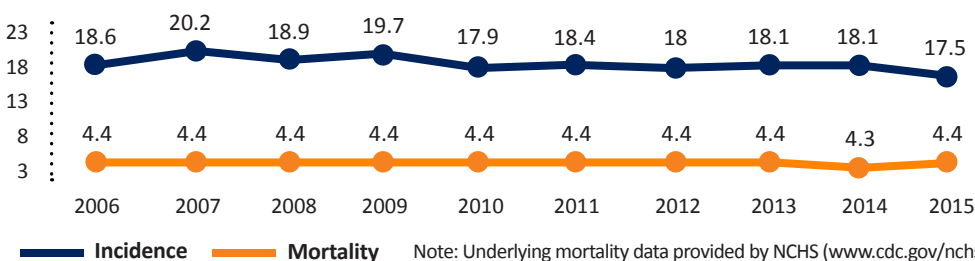
### Incidence and Mortality

White males are four times as likely to be diagnosed with bladder cancer, as females (figure 1 & 2). Overall, it is predominately diagnosed in white males (figure 1 & 2). Virginia's incident rate for bladder cancer has shown a slight decrease in the more recent years (figure 3). Fortunately, Virginia's bladder cancer mortality rate has remained at a very low rate (figure 3).

**Figure 2**  
Urinary Bladder Cancer Incidence Rates by Gender, VA, 2011-2015



**Figure 3** | Urinary Bladder Cancer Incidence And Mortality Trend, VA 2006-2011



Note: Underlying mortality data provided by NCHS ([www.cdc.gov/nchs](http://www.cdc.gov/nchs)).

## Stage at Diagnosis

A low mortality rate for bladder cancer is likely due to the stage at diagnosis. Nearly half of the bladder cancer cases diagnosed in Virginia from 2011 and 2015 were non-invasive, also known as in situ (Cancer is in the outer layer and has not grown any deeper) stage. Figure 4 shows the percentage of bladder cancer cases stage at diagnosis.

Image 1 shows the stages in tumor form.

## New Treatment Possibilities

A group of oncologists in Norfolk, VA created a study in 2015 for bladder cancer patients. Many participants, who had otherwise untreatable bladder cancer, had a positive response to a new immunotherapy treatment. This study helped lead to the FDA's approval of several checkpoint inhibitors to treat bladder cancer.

More information about this study can be found at:

[www.cancer.gov/news-events/cancer-currents-blog/2018/bladder-cancer-checkpoint-inhibitor-change](http://www.cancer.gov/news-events/cancer-currents-blog/2018/bladder-cancer-checkpoint-inhibitor-change)

and

[www.cancertodaymag.org/Pages/Fall2018/New-Tactics-for-Bladder-Cancer.aspx](http://www.cancertodaymag.org/Pages/Fall2018/New-Tactics-for-Bladder-Cancer.aspx)

## Genetics and Immunotherapy

Researchers are finding ways to treat specific cancers, based on the tumors genetic makeup and not just the type of cancer. This creates a more targeted treatment for each patient. Immunotherapy is becoming a more popular choice of treatment for bladder cancer and the center of many clinical trials. According to the ACS, another form of gene therapy, in early stages of development, is a process that includes introducing a virus into the bladder that injects a gene into the tumor cells. The changed cells allow the body's immune system to attack the cancer.

Image 1

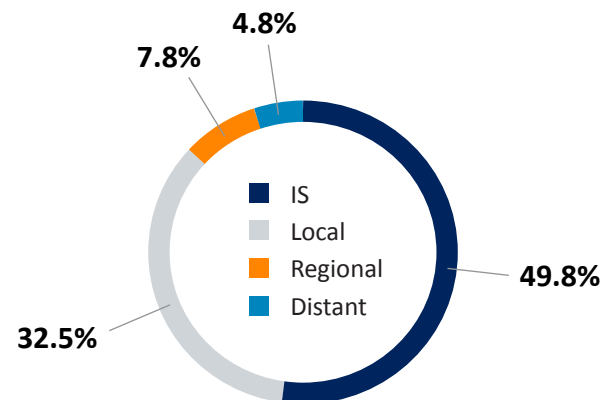
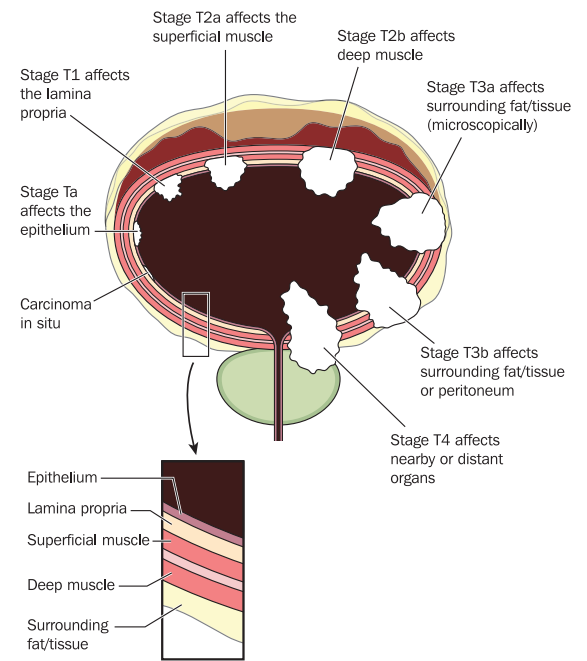


Figure 4

Urinary Bladder Cancer Incidence Pct by Diagnosis Stage, VA 2011-2015

## Resources:

1. <https://www.wcrf.org/dietandcancer/cancer-trends/world-wide-cancer-data>
2. <https://cancerstatisticscenter.cancer.org/#!/state/Virginia>
3. (ACS) American Cancer Society <https://www.cancer.org/cancer/bladder-cancer.html>
4. Charts and Graphs (Figures 1-4) provided by Virginia Cancer Registry Epidemiology