

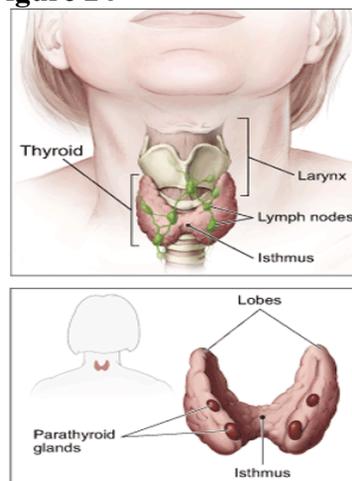
# Thyroid Cancer

**Definition:** Thyroid cancer starts in the thyroid gland.<sup>1</sup> The thyroid is made up of two main types of cells, thyroid follicular cells and parafollicular cells.<sup>1</sup> Different types of cancers can start from these different types of cells. This factor determines the seriousness of the cancer, as well as method of treatment.<sup>1</sup>

**Background:** From 2002 to 2006, there was a yearly average of approximately **977** newly diagnosed cases of thyroid cancer in Ohio.<sup>2</sup> During this same time period, Ohio experienced approximately **60** deaths each year due to thyroid cancer.<sup>2</sup>

Thyroid cancer is frequently diagnosed in younger people, between the ages of 20 to 55.<sup>1</sup> The incidence of thyroid cancer diagnoses have been rising in recent years, which may be the result of increased use of ultrasound.<sup>1</sup> The death rate from thyroid cancer has been stable and is relatively low, as compared to most other cancers.<sup>1</sup>

**Figure 24**



### Cuyahoga County Data:

- The average annual number of newly diagnosed thyroid cancer cases from 2002-2006 was **114**, with an age-adjusted incidence rate of **7.9** per 100,000 people.
- This is **lower** than the **8.3** incidence rate for Ohio and **lower** than the **9.6** incidence rate for the Nation.
- The average annual number of thyroid cancer deaths from 2002-2006 was **8**, with an age-adjusted mortality rate of **0.5** per 100,000 people.
- This is **the same as** the **0.5** mortality rate for Ohio and **the same as** the **0.5** mortality rate for the Nation.

**Table 24a Thyroid 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>	27	4.2	87	11.1	114	7.9
<b>Ohio</b>	227	4.1	750	12.4	977	8.3
<b>National SEER</b>		4.9		14.2		9.6

\* Rate is calculated per 100,000 people.

**Table 24b Thyroid 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>	4	0.6	4	0.4	8	0.5
<b>Ohio</b>	28	0.5	32	0.4	60	0.5
<b>National SEER</b>		0.5		0.5		0.5

\* Rate is calculated per 100,000 people.

Figure 24a

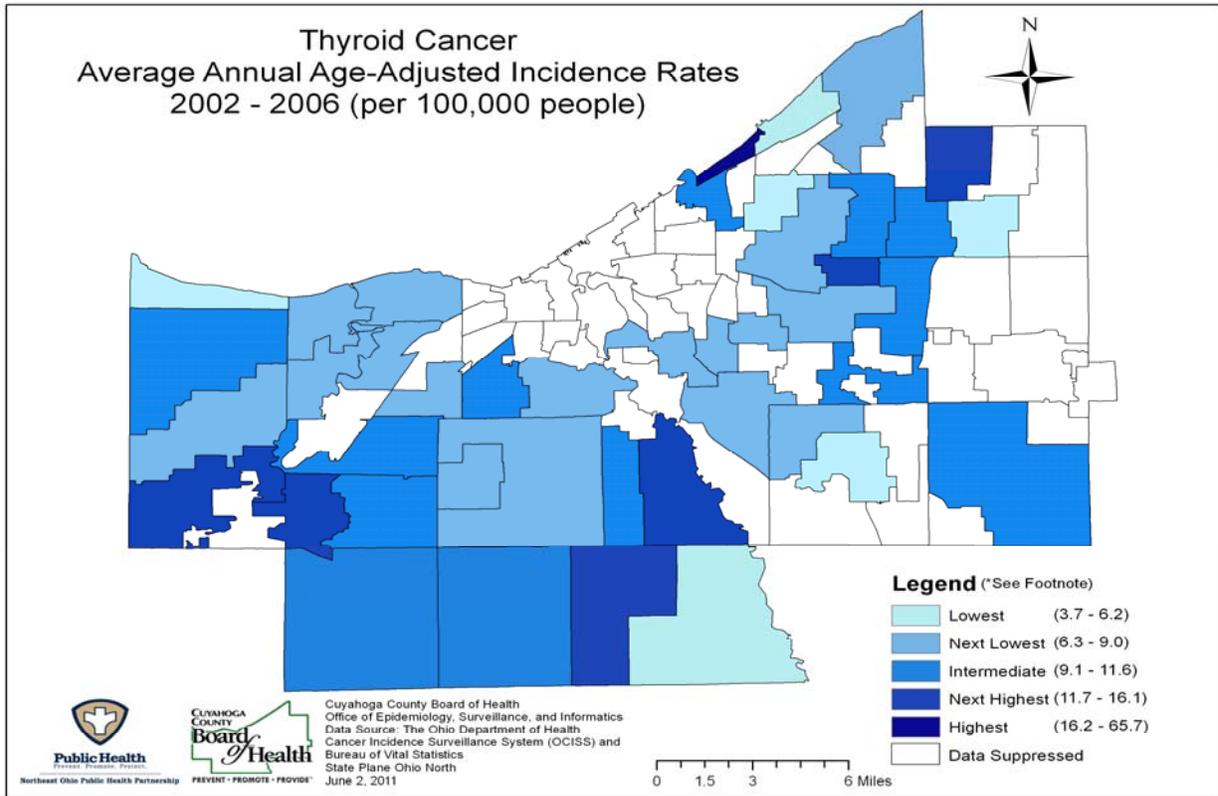
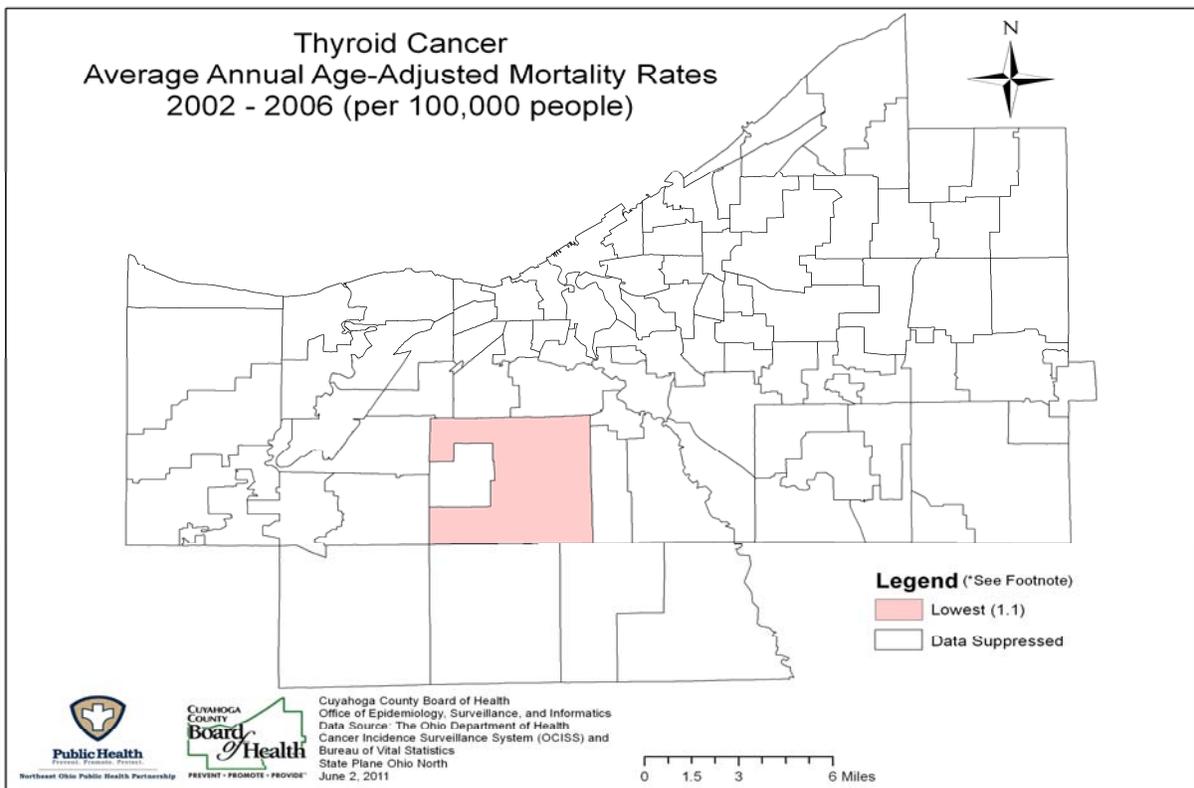
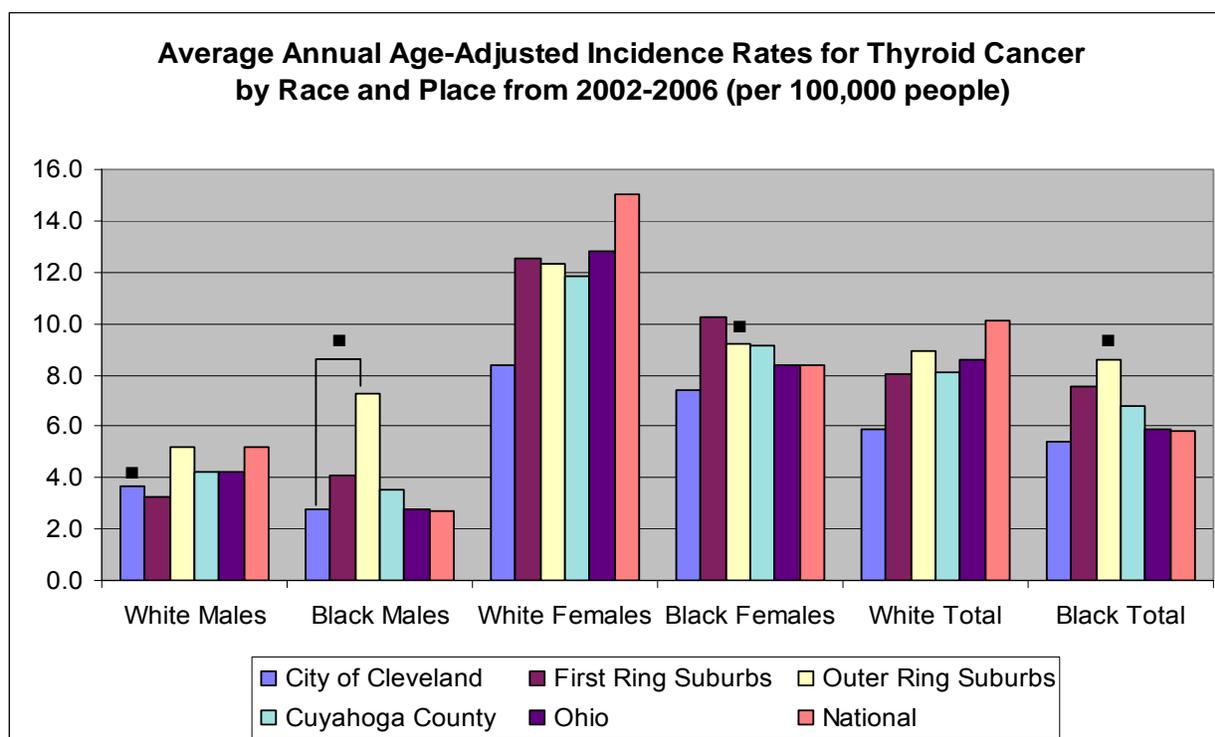


Figure 24b



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

Chart 24a



- ▲ Rates are statistically significantly higher when compared to Cuyahoga County.
- ▼ Rates are statistically significantly lower when compared to Cuyahoga County. <sup>1</sup> Mortality Rates were unavailable and not presented for the State of Ohio from 2003-2005
- Rates are not compared to Cuyahoga County when there are <20 cases total for 2002-2006 due to instability.

**Table 24c**  
Average Annual Age-Adjusted Mortality Rates for Thyroid Cancer by Race and Place from 2002-2006 (per 100,000 people)

Race/Gender	Place				
	City of Cleveland	First Ring Suburbs	Outer Ring Suburbs	Cuyahoga County	National
White Males	*	0.70	0.75	0.72	0.50
Black Males	*	0.00	0.00	*	0.30
White Females	0.00	0.56	0.33	0.37	0.50
Black Females	*	*	*	0.51	0.50
White Total	*	0.67	0.52	0.53	0.50
Black Total	*	*	*	0.35	0.50

\*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 217 males will develop thyroid cancer and 1 in 2,000 males will die from thyroid cancer.<sup>3</sup>

**Females:** In the United States, 1 in 75 females will develop thyroid cancer and 1 in 1,429 females will die from thyroid cancer.<sup>3</sup>

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

- **Gender-** Women are three times more likely to develop thyroid cancer than men.
- **Age-** Although thyroid cancer can occur at any age, women are at higher risk between the ages of 45-49 and men are at higher risk between the ages of 65-69.
- **Diet low in iodine**
- **Radiation**
- **Hereditary conditions**
  - Medullary thyroid cancer may result from abnormal gene inheritance
  - Familial adenomatous polyposis
  - Cowden disease
  - Carney complex, type 1

## Symptoms<sup>4</sup>

- Lump in front of the neck
- Hoarseness or voice changes
- Swollen lymph nodes in neck
- Trouble swallowing or breathing
- Pain in the throat or neck that does not go away

## Screening, Prevention and Early Detection

### Screening:<sup>1</sup>

Most thyroid cancers are detected early, usually by patients finding lumps or nodules and notifying a physician. Physicians also find thyroid cancer during routine checkups.

It is advised by the American Cancer Society that if a lump is detected, an appointment to see a physician should be made right away. Also, asking a physician to perform a cancer-related checkup that includes an examination of the thyroid is recommended.

### Prevention:<sup>1</sup>

It is not possible to prevent most thyroid cancers, because there are no well-documented risk factors. Radiation exposure is a potential risk factor, and therefore it is advised that children avoid unnecessary x-rays.

There are blood tests available to look for gene mutations found in familial medullary thyroid carcinoma. Blood tests may be helpful in preventing this specific form of thyroid cancer because the thyroid gland can be treated early or removed.

## Staging

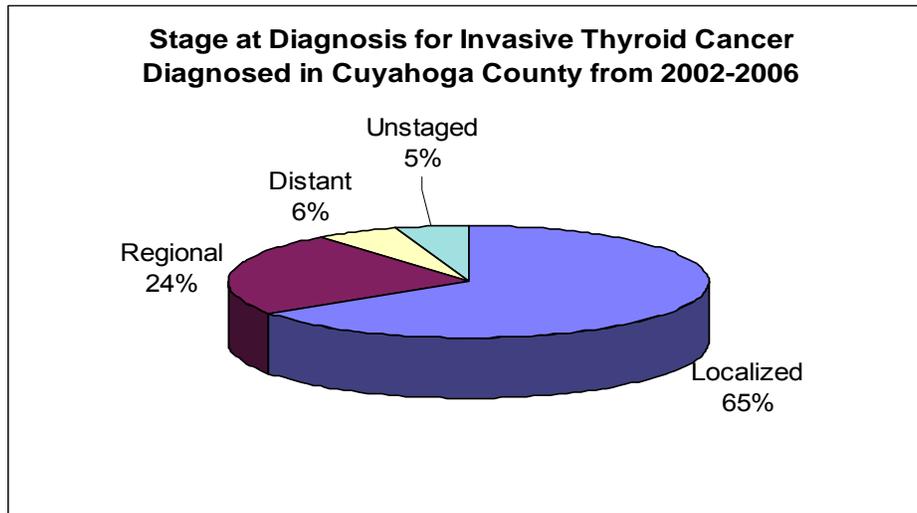
Stage at Diagnosis describes the severity of a person's cancer and the extent to which it has or has not spread throughout the body.<sup>5</sup> Cancer staging is important in helping physicians plan appropriate treatment, as well as to estimate a patient's prognosis.<sup>5</sup> Cancer diagnosed in 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>5</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 24b**



**Table 24d**

Stage at Diagnosis	5-year Relative Survival (%)
Localized (confined to primary site)	99.8
Regional (spread to regional lymph nodes)	97.1
Distant (cancer has metastasized)	58.1
Unknown/Unstaged	89.7

\*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. Thyroid Cancer Detailed Guide. <http://www.cancer.org/cancer/thyroidcancer>. (Accessed December 29, 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 December 23, 2010).
4. National Cancer Institute. What you need to know about cancer of the thyroid. <http://www.cancer.gov/cancertopics/wyntk/thyroid>. (Accessed December 29, 2010).
5. National Cancer Institute. Cancer Staging. <http://www.cancer.gov/cancertopics/factsheet/Detection/staging>. (Accessed December 23, 2010).
6. Surveillance Epidemiology and End Results. SEER Stat Fact Sheets: Thyroid. <http://seer.cancer.gov/statfacts/html/thyro.html>. (Accessed December 29, 2010).
7. National Cancer Institute. What you need to know about cancer of the thyroid. Thyroid images from <http://www.cancer.gov/cancertopics/wyntk/thyroid/page2>.