



## What you need to know about this young man's disease

April is testicular cancer awareness month and a good time to review what we know about this disease and how we can best arm people to recognize it and get the treatment they need.

Typically, testicular cancer develops in one or both testicles in young men, but it can occur in older men as well. It is a highly treatable and usually curable type of cancer.

### THE MOST COMMON SYMPTOMS

- Lumps in the testicles, often painless
- Swelling of the testicles
- Pain in the testicles
- Heavy or aching feeling in the abdomen

### LESS COMMON SYMPTOMS

- Nausea and vomiting
- Breast growth
- Loss of sexual desire
- Premature growth of facial/body hair in boys

While cancer is one possible cause of these symptoms, more often they are caused by infection, injury, or something else. Men should be encouraged to see a doctor as soon as possible regarding any noticeable change in their testicles.

### RISK FACTORS

Most risk factors for testicular cancer are out of our control.

**Undescended testicle** - In about 3% of boys, the testicles do not move into the scrotum (cryptorchidism). Men who have had cryptorchidism are more likely to get testicular cancer than those who did not have it.

### Family history

### HIV infection

### Cancer of the other testicle

**Age** - About half of testicular cancers occur in men 20 - 34, but it can affect males of any age.

**Race and ethnicity** - White American men are three to five more likely to get testicular cancer than African-American, Asian-American and American Indian men.

American Cancer Society 2013 estimates for testicular cancer in the US:

- 7,920 new cases of testicular cancer will be diagnosed.
- About 370 men will die of testicular cancer.

### TYPES OF TESTICULAR CANCER

The main tumor types that result in testicular cancer are germ cell tumors and stromal tumors.

**Germ cell tumors** are the most common type of testicular cancer and can be either seminomas and non-seminomas. Seminomas start from cells that make sperm and usually happen in men when they are between 25 and 45. Non-seminomas tend to develop earlier in life and are often found in men between their late teens and early 30s. Germ cell tumors sometimes make a hormone called human chorionic gonadotropin (HCG). A very high level of HCG can cause a man's breasts to grow or become tender.

**Gonadal stromal tumors** develop in the supportive and hormone-producing tissues of the testicles. These are much less common than testicular germ cell tumors. The two main types are Leydig cell tumors and Sertoli cell tumors.

Leydig cell tumors make either androgen or estrogen leading to a distinct set of symptoms. Estrogen-producing tumors cause loss of sexual desire and can make the breasts grow. Androgen-producing tumors can cause growth of facial and body hair at an abnormally early age. Sertoli cell tumors do not make hormones and the main symptom is a testicular lump.

## TREATMENT OPTIONS:

The three main treatment protocols for testicular cancer are surgery, radiation therapy, and chemotherapy.

### Surgery

If a tumor is seen on ultrasound, it is treated like a cancer and removed with surgery (typically, no biopsy is performed). Surgery is often the first treatment. The cancerous testicle (or testicles) is removed and the surgeon also cuts through the spermatic cord that attaches the testicle to the abdomen. This is known as a radical inguinal orchiectomy.

Depending on the stage of the cancer, some lymph nodes behind the abdomen may also be removed. This operation is called a retroperitoneal lymph node dissection. This is a difficult and long operation.

### Chemotherapy

Chemotherapy (chemo) is often used to treat testicular cancer when it has spread outside the testicle or to decrease the risk of cancer coming back after the testicle is removed. Chemo can be taken in pill form or intravenously.

Doctors give chemo in cycles, with each round of treatment followed by a rest period to allow the body time to recover. Chemo cycles often last about three to four weeks.

### Radiation therapy

Radiation therapy is used to kill cancer cells that have spread to lymph nodes or to slow their growth. Radiation therapy is mainly used for patients with seminomas since it does not seem to work well for non-seminomas. Sometimes it is used after the testicle has been removed and is aimed at the lymph nodes at the back of the abdomen.

An oncologist will determine the best treatment options and develop a plan for each individual patient.

Testicular cancer **survival rates**  
Testicular cancer is one of the most curable forms of cancer.

95%

5-year relative survival rate for all men with this cancer

99%

5-year relative survival rate if cancer hasn't spread outside the testicle

96%

5-year relative survival rate if cancer has spread to nearby lymph nodes

72%

5-year relative survival rate if cancer has spread to organs or lymph nodes

Statistics provided by the National Cancer Institute



## The Lance Armstrong effect

Bringing awareness to a previously little talked about disease

Testicular cancer's most famous victim is arguably cyclist Lance Armstrong. Armstrong was diagnosed with stage 3 testicular cancer that had spread to his brain, abdomen and lungs in 1996. Not only did Armstrong overcome this disease, he came back to win the Tour de France a record seven times just three years after his diagnosis (he was later disqualified when he admitted to doping).

Armstrong did something much more impressive for the cancer community than win bike races, he launched the Livestrong Foundation bringing awareness, resources, funding, and support to those affected by cancer. He also demonstrated the possibilities of a full recovery from advanced testicular cancer and has since fathered two children naturally.



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### Sierra Nevada Cancer Center Locations

**Carson City**  
1460 S Curry Street, Suite 100  
Carson City, Nevada 89703

**Fallon**  
1020 New River Parkway  
Fallon, Nevada 89406

**Gardnerville**  
1107 Hwy 395  
Gardnerville, Nevada 89410

**Sparks**  
2345 E. Prater Way, Suite 102  
Sparks, Nevada 89434

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