

# Testicular Cancer

## Diagnostic, Treatment Improvements Enhance Survival Rate

By Thomas K. O'Neill, MD

**T**esticular cancer is a disease in which malignant, rapidly growing cells form in the tissue of one or both testicles. It is the most common cancer in men 15 to 35 years of age; however, it accounts for only approximately 1% of all types of tumors in men.

The rate of testicular cancer in the United States has almost doubled since the 1930s and is still increasing. Fortunately, the mortality rate from testicular cancer is decreasing as a result of new and more effective treatments.

Forty years ago, the survival rate was approximately 60%. Today, the five-year survival rate is better than 95%;

and for some types of testicular cancer, it is as high as 99%. This significant improvement in survival rate has occurred due, in large part, to major improvements in the diagnostic methods and treatment approaches available to physicians and surgeons.

### Risk Factors and Symptoms

There are several risk factors for testicular cancer, but the most important is cryptorchidism or having one or more undescended testicles. A male with a history of cryptorchidism is 2.5 to 11 times more likely to develop the disease than a male without such a history. Other risk factors include a brother or

father who had the disease, Caucasian race, and Klinefelter's syndrome (a genetic condition affecting the male reproductive system).

The most common symptom of testicular cancer is a painless lump or swelling in the testicle. These lumps are found by self-examination or during physical examination by a clinician. However, some patients may have pain in the lower abdomen, groin, lower back, or chest.

### Diagnosis and Staging

The testicles produce germ cells that eventually become sperm. Most testicular cancers start in the germ cells and are divided into two main types — seminomas and nonseminomas.



Pure seminoma tumors are more sensitive to radiation and do not spread as quickly as nonseminoma tumors. Some tumors, however, may contain both seminoma and nonseminoma cells.

Early diagnosis of testicular cancer is critical because tumors tend to grow quickly — some doubling in size within a month. Although treatment is generally successful at all stages, the earlier the diagnosis, the greater the likelihood of cure.

It is important for men to perform regular self-examinations and let their physicians know if they suspect a problem. In addition to a physical examination by a urologist, there are several tests used to diagnose and stage testicular cancer.

Tumors are staged according to type, location, and results of tumor-marker tests. Staging requires tests, such as x-rays or computed tomography (CT) scans, to examine other areas of the body.

Tumor-marker tests include ultrasound (examining the interior of the testicles and surrounding area with sound waves), serum tumor-marker tests (blood tests that examine levels of certain chemicals associated with tumors), as well as orchiectomies (surgical removal of the affected testicle) and testicle biopsies, if cancer is found.

If cancer is present in a testicle, it is imperative to identify the tumor type and determine if it has spread. The likelihood of successful treatment is high but varies depending on factors such as the cancer stage at diagnosis, tumor type, tumor size, and whether the cancer has spread.

## Treatment

All treatments for testicular cancer are based on whether the tumor is a seminoma or nonseminoma. The three basic methods of treating testicular cancer are surgery, radiation, and chemotherapy.


For most men faced with testicular cancer, orchiectomy is the first treatment. During this surgery, the affected testicle is removed, as well as lymph nodes in

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the abdomen, if needed. Radiation consists of low-dose x-rays to the groin, pelvis, and lower abdomen. These methods are often used in combination.

Patients whose cancer has already spread usually undergo chemotherapy first, then surgery, and possibly radiation. For patients with Stage I cancer (cancer confined to the testicle), treatment starts with orchiectomy and is followed by radiation if the tumor is a seminoma type.

A short course of chemotherapy is an alternative treatment approach if the

tumor is seminomas. Patients with Stage II cancer (cancer that has spread to the lymph nodes in the abdomen), usually require chemotherapy before surgery, followed by more chemotherapy, and, in some cases, radiation. 

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## How to Perform a Testicular Self-Examination

Testicular cancer is highly curable if it is diagnosed at an early stage. Men can increase their chances of early diagnosis greatly by performing a simple procedure called testicular self-examination (TSE). TSE should be performed once a month after a warm bath or shower. The warm temperature and water cause the scrotal skin to relax, making it easier to find a lump or mass.

If you have any lumps or other symptoms, it does not necessarily mean you have testicular cancer; but a physician must examine you. The procedure itself is simple and only takes a few minutes:

- Stand naked in front of a mirror. Look for any swelling on the skin of the scrotum. It is normal for one testicle to be slightly larger than the other.
- Examine each testicle gently with both hands. The index and middle fingers should be placed on the top. Roll the testicle gently between the thumbs and fingers. Feel for a small lump — about the size of a pea — on the front or side of the testicle. These lumps are usually painless.
- Find the epididymis (a cord-like structure on the top and back of the testicle that stores and transports sperm). Do not confuse the epididymis with a lump.



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