



Testicular Cancer

What is Testicular Cancer?

Testicular cancer starts in the testicles. It typically develops in one or both testicles in young men, although it can occur at any age. It is a highly treatable and usually curable type of cancer. The average of testicular cancer is about 33. There is a 96-99% survival rate of most testicular cancers.

What are the different types of testicular cancer tumors?

1. Germ cell tumors make up the majority of cancers in the testicles (90%). These cancers develop in the special cells in the testicle that make sperm. There are two types of germ cell tumors (GCTs) in men. These two types occur about equally. Many testicular cancers contain both seminoma and non-seminoma cells, called mixed germ cells. Mixed germ cell tumors are treated as non-seminomas because they grow and spread like non-seminomas.

a. Seminomas: Seminomas tend to grow and spread more slowly than non-seminomas. The 2 main subtypes of these tumors are typical seminomas and spermatocytic seminomas. They are differentiated by how they look under the microscope. Some seminomas can increase blood levels of a protein called human chorionic gonadotropin (HCG). HCG can be detected by a blood test and is considered a tumor marker for certain types of testicular cancer. It can be used to confirm diagnosis and checked to determine response to treatment.

i. Typical seminomas make up more than 95% of seminomas. These usually occur in men between ages 25 and 45.

ii. Spermatocytic seminomas are rare and tend to occur in older men. The average age of men diagnosed is about 65. These tumors tend to grow more slowly and are less likely to spread to other parts of the body than typical seminomas.

b. Non-seminoma: These types of germ cell tumors usually occur in men between their late teens and early 30s. There are 4 main types of non-seminoma tumors:

i. Embryonal carcinoma: Present, to some degree, in about 40% of testicular tumors, but pure embryonal carcinomas

occur in only 3-4% of the time. This type of non-seminoma tends to grow rapidly and spread outside of the testicle. Embryonal carcinoma can increase blood levels of a tumor marker protein called alpha fetoprotein (AFP), as well as HCG.

ii. Yolk sac carcinoma: This is the most common form of testicular cancer in children and is rare in adults.

iii. Choriocarcinoma: This is a very rare and aggressive type of testicular cancer in adults that spreads rapidly. This type of tumor increases blood levels of HCG.

iv. Teratoma: Pure teratomas of the testicle are rare and do not increase AFP or HCG levels.

What are the risk factors for testicular cancer?

The exact cause of most testicular cancer is unknown. Additionally, many men With testicular cancer have no known risk factors. However, some risk factors include:

- Undescended testicle
- Family history
- HIV infection
- Carcinoma in situ
- Personal history of testicular cancer
- Age between 20-34
- Race and ethnicity (more common in white men)

What are signs and symptoms of testicular cancer?

- Lump or swelling in the testicle that becomes larger or more swollen. Most testicular tumors are painless
- Breast growth or soreness
- Early signs of puberty in boys

How is testicular cancer diagnosed?

1. A physical exam can detect abnormalities of the testicle.
2. An ultrasound of the testicle is used to distinguish certain benign conditions from a solid tumor that could be cancerous.
3. Blood tests for tumor markers can help diagnose testicular tumors. Many testicular cancers make high levels of proteins (AFP, LDH and HCG) and are suggestive of a testicular tumor.
4. Surgery. If a solid tumor is detected on ultrasound, it will be recommended

to remove the testicle as soon as possible. A biopsy is not performed on the testicular lump because it might risk spreading the cancer.

5. Imaging. A chest x ray and/or CT scan of the chest, abdomen, and pelvis will be ordered and will help to determine if the cancer has spread to any other part of the body and helps to stage the cancer.

6. Oftentimes a patient is referred to a radiation oncologist or medical oncologist once the pathology is received in order to discuss further care.

Surgery for testicular cancer (Radical Inguinal Orchiectomy)

Surgery is the first treatment and is diagnostic for testicular cancer. This type of surgery removes the testicle (or testicles) containing the cancer. An incision is made just above pubic area, and the testicle is gently removed from the scrotum through the opening. A cut is made through the spermatic cord that attaches the testicle to the abdomen. The surgeon ties off the blood and lymph vessels in the

spermatic cord early in the operation and takes other special precautions to avoid spreading cancer cells into the surgical wound or dislodging them from the tumor into the bloodstream. All stages of testicular cancer are typically treated with this surgery. If you have chosen to have a prosthesis, this will be implanted during the surgery. The incision will be closed with a dermabond-like substance, no sutures will be needed.

Depending on the type and stage of your cancer, some lymph nodes at the back of the abdomen may also be removed at the same time as the orchiectomy or during a second operation. Not all patients with testicular cancer will need to have lymph nodes removed. This surgery is called a retroperitoneal lymph node dissection (RPLND) and in some cases it can be done with laparoscopic surgery.

What should I expect?

Surgeries are usually performed at different outpatient surgery centers in Austin. All surgeries will require general anesthesia. Most of the surgeries are only day surgeries, but in some cases it may be necessary to be admitted for 24 hours to the hospital. You will need a driver to and from the surgical center. Typically, the surgery itself is approximately one hour, but you will be in the surgery center for preparation for the surgery and recovery afterwards. It is recommended you take off the day of surgery and the day after surgery.

Pre-surgery

You will hear from our office shortly after it is decided to proceed with the surgery. Our surgery scheduler will notify you of the date, time and

location of the surgery. We will call in prescriptions for you to pick up the day before the procedure, if not already done so at your office visit. The surgery center will usually contact you 24 hours before the surgery to go over instructions and get a thorough medical history. Also, the surgery center will go over insurance coverage of your surgery, but it is also recommended you discuss the potential costs with your insurance company directly if you are insured. Below are specific instructions previous to surgery:

1. Pick up prescriptions.
2. Discontinue any blood thinners, including aspirin, approximately 7 days before the surgery.
3. Disclose all medical and surgical history to Midtown Urology and the surgery center, including any medications or supplements that you take.
4. Secure a driver to and from the procedure.
5. If cardiac clearance has been requested, we ask that this is done as soon as possible as our office must be notified of the results before surgery.
6. If any blood work has been ordered, we ask that this is done as soon as possible as our office must be notified of the results before surgery.

Day of Surgery

Most surgeries take approximately one hour. Although the surgery is short, you will likely spend most of the day at the surgery center being prepared for the surgery and waiting for you to be alert after the procedure. We will speak with anyone that you give permission after the surgery to inform them of how the surgery went and provide any specific post surgical instructions.

1. Once you are awake and alert after the surgery, you will likely be sent home unless admitted to the hospital.
2. Finish your prescribed antibiotic. All other prescribed medications for surgery can be used as needed. The reasons to use the medications and instructions will be on the medication bottles.
3. We will call you usually the day after surgery to see how you are doing and schedule a follow-up appointment to go over the pathology.
4. You are not to perform any strenuous activity for 2-3 weeks.
5. You may restart blood thinners approximately 5 days post surgery, if your urine is clear, however, if you see blood in your urine after

your catheter is removed, you are to discontinue any blood thinners (including aspirin), if able, and hydrate well with water.

6. Ice the area as much as possible for the next 3 days.

7. If a prosthesis was implanted, it's important that you gently pull down on it throughout the day.

8. No sutures will be placed, and the incision will close with the Dermabond substance.

Post-Surgery Expectations

You may experience pain, bruising, swelling or discomfort after surgery. You can use Motrin/Ibuprofen to help with discomfort and hold narcotics for severe pain only (they can cause constipation and drowsiness). You will be able to go back to work or school a day or two after surgery, but strenuous activity should be avoided for 3-4 weeks especially if a prosthesis was implanted.

We call you after surgery in order to set up an office visit in order to go over the pathology and check on the surgical site approximately 1 week post procedure. During this follow-up appointment we may refer you to other physicians, a sperm bank or other facilities for further imaging and lab work.

What are the risks?

Every surgical procedure includes risk:

- Reactions to anesthesia
- Excess bleeding
- Blood clots
- Infection
- Severe pain

When do I need to call the office?

We ask you contact our office if you have:

- Symptoms of infection
- Bleeding that won't resolve even after stopping blood thinners
- Inability to urinate
- Use of the self-catheter
- Severe pain

What are the effects of an orchiectomy?

Losing a testicle usually has no effect on erections, fertility, testosterone or libido.

If radiation is suggested after testicular cancer is staged, it is recommended that sperm is banked before starting chemotherapy treatments in order to assure fertility in the future. A testicular prosthesis may be surgically implanted in the scrotum during the orchiectomy if there are concerns about testicular appearance. Typically, it is recommended for most men undergoing an orchiectomy. The prosthesis is filled with saline and will be adjusted to match the remaining testicle. When in place, it looks like a normal testicle

What is radiation therapy?

Radiation therapy will be discussed in greater detail with an oncologist. Radiation therapy uses a beam of high energy rays (gamma or x-rays) or particles (electrons, protons, neutrons) to destroy cancer cells or slow their rate of growth. In general, radiation therapy is mainly used for patients with seminoma. Common side effects can include fatigue, nausea, diarrhea and a possible skin reaction similar to a sunburn.

What is chemotherapy?

Chemotherapy will be discussed in greater detail with an oncologist.

Chemotherapy is the use of drugs to treat cancer. These drugs can be in pill or injectable form that are often used to cure testicular cancer when it has spread outside the testicle or to decrease the risk of cancer coming back after the testicle is removed. It is typically given in cycles with each period of treatment followed by a rest period and usually last 3-4 weeks. Possible short term side effects can include hair loss, mouth sores, loss of appetite, nausea, vomiting, diarrhea, increased chance of infection, easy bruising or bleeding and fatigue

How is testicular cancer staged?

A staging system called the TNM staging system is a standard way for medical providers to best classify cancer and how to treat is based on 4 key pieces of information:

- T refers to how much the main (primary) tumor has spread to tissues next to the testicle.

- N describes how much of the cancer has spread to the regional (nearby) lymph nodes.

- M indicates whether the cancer has metastasized (spread to distant lymph nodes or other organs of the body)

- S indicates the serum (blood) levels of tumor markers that are made by some testicular cancers.

Letters or numbers appear after T, N, M and S to provide more details about each piece of information. The numbers 0 through 4 indicate increasing severity. The letter "X" means "cannot be assessed."

What happens after treatment for testicular cancer?

Once you have completed treatment, your doctors will still want to watch you closely. It is very important that all follow-up appointments are attended. Frequent lab tests (tumor markers: AFP, HCG, LDH) and imaging such as chest x-rays and CT scans may be ordered periodically. If there is cancer recurrence, it typically does so within the first 2 years. Still, there is always a chance the cancer can come back later. There is also a small chance that you will develop a new cancer in the other testicle, so it is important that you do regular self exams and report any changes. We highly recommended exploring resources for community support once diagnosed. This can include peer-support groups, friends or counselors. Please see additional resources below.

Additional resources for testicular cancer information and support**1. LIVESTRONG**

1-866-235-7205

www.livestrong.org

Provides support, care plans and other information.

2. National Cancer Institute (NCI)

1-800-422-6237

www.cancer.gov

Offers a wide variety of free, accurate, up-to-date information about cancer for their patients and their families.

3. Testicular Cancer Resource Center

<http://txrc.acor.org>

Free information on testicular cancer, an email support group and research opportunity updates

4. American Cancer Society

800-277-2345

www.cancer.org

If you have any questions or concerns please contact our office between Monday-Thursday 8AM-4:30 PM, Friday 8AM-1 PM.