Testicular Cancer in the US\textsuperscript{1,2}
Testicular cancer is not common, but its incidence has been increasing for several decades. Testicular germ cell tumor (GCT) is the most commonly diagnosed cancer among young adult men, with rates peaking in the 30-39 age group. Because it can usually be treated successfully, a man's lifetime risk of dying from testicular cancer is low.

Types of Testicular Cancer\textsuperscript{2}
Most testicular cancers are GCTs. The 2 main types of GCTs are seminomas and non-seminomas. They are treated differently because they grow and spread differently. The 4 main types of non-seminomas are embryonal, yolk sac, choriocarcinoma, and teratoma.

Many testicular cancers have both seminoma and non-seminoma cells. These mixed GCTs are treated like non-seminomas because they act like non-seminomas.

Risk Factors\textsuperscript{2}
- Having cryptorchidism
- Having a personal or family history of testicular cancer
- Having Klinefelter syndrome
- Being a White male

Screening and Detection\textsuperscript{2}
Most testicular cancers can be found at an early stage. For this reason, most clinicians agree that testicular examination for men should be part of a physical exam during a routine visit. Patient education should include a discussion of possible risk factors.

The American Cancer Society does not have specific guidelines for regular testicular self-exams, but advises men to be aware of testicular cancer and to promptly report any testicular or scrotal changes, particularly a lump, to their doctor. Some clinicians advise all their male patients to perform monthly testicular self-exams after puberty.

Signs and Symptoms\textsuperscript{2}
Some men with testicular cancer are asymptomatic. In men with symptomatic disease, the most common sign is a testicular swelling or lump. Some men may describe aching in the lower abdomen and groin, or scrotal heaviness. Non-cancerous conditions, such as testicle injury or inflammation (orchitis and epididymitis), can cause similar symptoms.

Hormone production from certain types of testicular cancer can cause breast development or soreness, or loss of libido in men.

Advanced testicular cancer can present with lower back or abdominal pain due to lymph node or liver metastasis; cough, chest pain, or shortness of breath due to lung metastasis; or headaches or confusion due to brain metastasis.

Prevention\textsuperscript{2}
Many men with testicular cancer have no known risk factors. And most known risk factors are not modifiable. For these reasons, it's not possible to prevent most cases of testicular cancer.
Prior to surgery or treatment for testicular cancer, patient education should include discussion about fertility concerns, including sperm banking options and infertility counseling as appropriate.

A needle biopsy or transcrotal orchiectomy of the testes are contraindicated for diagnosis because they increase the risk of local recurrence and cancer spread. Testicular ultrasound should be done first and, if a concerning mass is found, it should be followed by a radical inguinal orchiectomy for diagnosis and treatment. Other treatment may be needed depending on the type and stage of cancer, tumor characteristics, tumor markers, and the patient’s overall health.

- Carcinoma in situ is sometimes watched closely with repeat exams, imaging, and tumor markers. Other times, orchiectomy might be done.
- Seminomas are treated with a radical inguinal orchiectomy first. Surveillance, radiation, or chemotherapy are options after surgery depending on cancer stage.
- Non-seminomas are also treated with a radical inguinal orchiectomy first. Surveillance, retroperitoneal lymph node removal, and chemotherapy are options after surgery depending on cancer stage and level of tumor markers after surgery.
- Radiation and different chemotherapy might be recommended for more advanced cancers.
- A stem cell transplant might be recommended for recurrent testicular cancers.

References