What is it?
The testis or testicle is the male gonad, or reproductive organ, responsible for the production of sperm and androgens (sex hormones), primarily testosterone. The testicle is contained in an extension of the abdomen called the scrotum. Within the scrotum, the testicle is surrounded by the tunica vaginalis, epididymis, spermatic cord, and appendix testis which are all important anatomic structures that may be involved in acute testicular trauma.

Testicular trauma can occur with multiple different mechanisms, but blunt trauma is the most common in athletes. The most common mechanism of injury in athletes is from direct impact from falls, kicks, ball contact, and impact on vehicles or bicycles. Blunt scrotal trauma is typically unilateral and involves compression of the scrotal contents against the pubic bone.

Signs/Symptoms
Symptoms of testicular trauma may include:
- Scrotal Pain
- Abdominal Discomfort
- Testicular and Scrotal swelling and/or bruising
- Nausea and/or vomiting
- No relief of pain with physical lifting of the testicle (negative Prehn Sign)
- Absence of Cremaster Reflex (stroking or pinching the medial thigh should normally cause a rise of the testicle on the side being tested)

Sports Medicine Evaluation and Treatment
A sports medicine physician will review symptoms, and then perform an examination, which could include the following: inspecting the skin of the scrotum for lacerations, bruising, and any swelling. He/she will also assess the location of the testicles by gently rolling them between his/her thumb and forefingers. Swelling and its location should be noted.

Once a detailed examination has been performed, further evaluation may be done to guide treatment. At times, advanced imaging using color Doppler ultrasound may be used to assess testicular blood flow and determine if any other abnormalities are present.

- **Mild injury:** When pain and scrotal swelling are minimal, and the testes are normal upon physical examination with an intact scrotum (most common injury).
- **Moderate injury:** When there is moderate pain and scrotal swelling.
- **Severe injury:** Significant testicular pain, scrotal swelling, and/or unable to perform examination due to pain.

Treatment of testicular trauma will depend on the clinical evaluation and degree of injury:
- **Mild:** Treatment consists of bed rest, using ice packs for 20 to 30 minutes three to four times a day as tolerated, supportive underwear (briefs instead of boxers) and nonsteroidal anti-inflammatory medications, like ibuprofen or naproxen. No further testing or surgical consultation is necessary for these patients if pain resolves quickly.
**TESTICULAR TRAUMA**

- **Moderate**: Ultrasound imaging, if available, is advisable to identify potential testicular injuries. These injuries warrant urgent evaluation by an appropriate surgeon.
- **Severe**: Ultrasound imaging by an operator with expertise in testicular imaging is needed. These patients also warrant prompt evaluation by a surgeon with appropriate expertise if there is a concern for testicular torsion (meaning the testicle has twisted around itself, which can prevent blood flow to the testicle). Typically, in severe cases, ischemic injury from lack of blood flow to the testicle can occur as soon as six hours after injury.

**Injury Prevention**
Encourage male athletes to wear a protective cup when participating in sports that have a significant risk for testicular injury (contact sports such as lacrosse, soccer, baseball, ice hockey, rugby, football, boxing and mixed martial arts).

**Return to Play**
While there are no published guidelines on return to play after a testicular injury or in individuals with one testicle, it is recommended to wear a properly fitted protective cup in any contact sports activities. Regular check-ups with your primary care physician and/or urologist prior to returning to contact sports if surgery was necessary, the surgical wound needs to be well healed and all pain related to surgery needs to have resolved prior to return to sports activities.

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**References**

AMSSM is a multi-disciplinary organization of sports medicine physicians dedicated to education, research, advocacy and the care of athletes of all ages. The majority of AMSSM members are primary care physicians with fellowship training and added qualification in sports medicine who then combine their practice of sports medicine with their primary specialty. AMSSM includes members who specialize solely in non-surgical sports medicine and serve as team physicians at the youth level, NCAA, NFL, MLB, NBA, WNBA, MLS and NHL, as well as with Olympic teams. By nature of their training and experience, sports medicine physicians are ideally suited to provide comprehensive medical care for athletes, sports teams or active individuals who are simply looking to maintain a healthy lifestyle. Find a sports medicine physician in your area at www.amssm.org.