Anatomy:
The lower leg consists of one large bone called the Tibia and a small bone on the outside of the leg known as the Fibula. The tibia is the large bone in the front of the lower leg and is the common area of pain from individuals suffering from shin splints. Muscles of the lower leg affected by shin splints can be the anterior tibialis, posterior tibialis, gastrocnemius, soleus, and occasionally the flexor hallucis longus, and flexor digitorum longus. People may suffer from anterior or posterior shin splints. Typically pain develops along the anterior medial (front and inside) or posterior lateral (back and outside) aspects of the lower leg.

• **Anterior shin splints** - occur due to overuse of the anterior tibialis muscle. Hypomobile gastrocnemius-soleus (calf muscle) complex and a weak anterior tibialis muscle accompanied with foot pronation increase chances of developing anterior shin splints.

• **Posterior shin splints** - occur due to tight calf muscles and a weak posterior tibialis muscle along with foot pronation.

**Shin splints are medically known as medial tibial stress syndrome**

Causes/Mechanism of Injury:
Shin splints are an over-use injury used to describe activity induced pain of the lower leg. Shin splints are secondary to overtraining, muscle imbalances and fatigue, and improper footwear. Common causes of shin splints include:

• Excessive running, running downhill or on slanted/tilted surfaces
• Athletics with sudden starts and stops (basketball, soccer, tennis, etc.)
• Repetitive jumping
• Exercising on hard surface that decreases shock absorption
• Abnormal alignment of the joints of the lower extremity
• Excessive foot pronation (flatfoot)
• Tight calf muscles
• Muscle Imbalances
• Poor conditioning and inadequate stretching

Symptoms:
Symptoms of shin splints include:

• Pain with weight-bearing activities
• Inflammation of the periosteum of the tibia
• Localized discomfort on the front, back, inside, outside of lower leg
• Irritation of interosseous membrane between the tibia and fibula