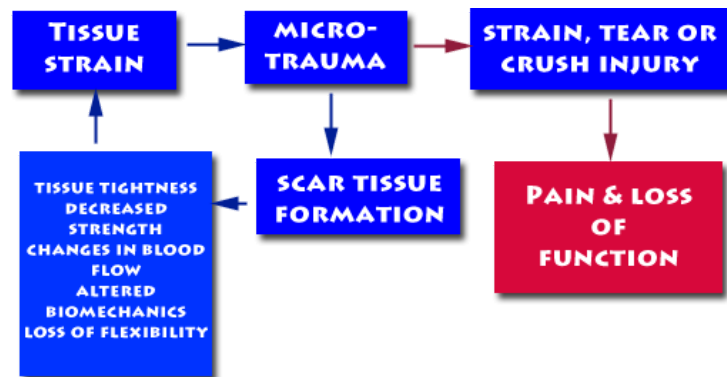


MAPLE CITY PHYSICAL THERAPY

Overuse Injuries

Summary

1. Definition and Causes
2. Signs and Symptoms
3. Common Overuse Injuries
4. Management and Treatment



Definition and Causes

Microtrauma caused by repetitive stress without rest to certain muscles, tendons, ligaments, or joints. A common term for a repetitive injury to a muscle or tendon is tendinopathy. Repetitive trauma to a joint can lead to a stress fracture. Muscles and tendons can adapt to these stresses and become stronger with adequate rest in between to allow them to heal. An overuse injury occurs when muscles are over stressed or not given adequate rest time. These injuries can occur with overuse during a sport or a repetitive activity at work.

Causes

- **Training Errors:** beginning too much physical activity too fast, for too long, too much of one type of activity, or starting with too much weight/repetitions
- **Technique Errors:** if you are doing an activity without proper form you can overload certain muscles. If those muscles do not have the strength or flexibility to do that activity repetitively this puts them more at risk for an overuse injury
- **Rest errors:** Not giving muscles adequate rest time after activity puts them at risk for an overuse injury. 24 hours is typically considered adequate rest time for muscles to recover.

Signs and Symptoms

- Pain: typically a more gradual onset with overuse injuries
- Stiffness
- Tenderness to touch
- No history of specific injury to the area
- Lasting, aching pain or increased pain with activity
- Swelling
- Muscle cramping/fatigue
- Possible numbness and tingling

Common Overuse Injuries

- Tendonitis: inflammation of a tendon (connects muscle to bone)

All muscles are connected to bone by a tendon. All tendons in the body are at risk for developing an overuse injury or tendonitis but are most commonly seen in shoulders, elbows, wrists, knees, and heels. Here are some common injuries:

Upper Extremity Injuries

- Swimmer's shoulder: pain in the front and outer region of the shoulder. Commonly can lead to inflammation of the rotator cuff, biceps tendon, and labrum
- Golfer's elbow (medial epicondylitis): pain on the inside of the elbow due to repetitive injury of the wrist flexor muscles
- Tennis elbow (lateral epicondylitis): pain on the outside of the elbow due repetitive injury of the wrist extensor muscles

Lower Extremity Injuries

- Jumper's knee: inflammation of the patellar tendon commonly due to repetitive jumping
- Shin splints: pain on the inner shin bone due to inflammation of the muscles from overuse
- Achilles tendonitis: inflammation of the achilles tendon commonly seen with repetitive jumping, running, and walking

Management and Treatment

Prevention

- Use proper form: this makes sure the appropriate muscles are being used. If you are unsure ask someone for help
- Use proper equipment: consider replacing your shoes about every 200-500 miles to avoid lower extremity overuse injuries. Orthotics could also be helpful to provide proper support
- Pace yourself: aim for 30 minutes moderate activity when starting a new program, no need to over do it!
- Increase activity level slowly: Increase weights and repetitions at a gradual pace. Do not increase training program by more than 10% each week!
- Change up your routine: Don't repeat the same exercises or work the same muscle group every day, give them time to rest!
- Warm up/stretch: allow your muscles adequate time before and after exercise

Treatment

- Rest: Allow the tissues time to recover. When starting a program again after rest begin at a lower level intensity to avoid re-injury and gradually increase.
- Ice: Decrease inflammation and pain. Elevation is important if swelling is present
- Physical Therapy
 - Stretching: Improve flexibility of the muscle and regain mobility
 - Massage: Decrease tightness of tissues and promotes blood flow to help with healing. Helps to avoid scar tissue formation
 - Strengthening: Safely strengthen the muscle with good form to avoid further injury
 - Education: help to educate on proper form and self management techniques