

Overuse Injuries: Understanding Causes, Prevention, and Recovery

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Introduction

In today's active world, whether in sports, fitness, or daily occupational tasks, the drive to perform often comes at a cost. One of the most common consequences of repetitive activity is overuse injuries—a category of musculoskeletal conditions caused by repetitive stress without adequate rest and recovery. Unlike acute injuries that occur suddenly, overuse injuries develop gradually and may go unnoticed until pain or functional limitation appears. Understanding how these injuries occur, their risk factors, and how to prevent them is essential for athletes, workers, and anyone engaged in repetitive physical activity.

What Are Overuse Injuries?

Overuse injuries result from repetitive microtrauma to muscles, tendons, ligaments, or bones. Instead of allowing tissues time to repair, ongoing stress causes inflammation, irritation, or even structural damage. They are especially common in athletes, musicians, and workers performing repetitive tasks. Common examples include:

Tendinitis: Inflammation of tendons, such as Achilles tendinitis.

Stress fractures: Tiny cracks in bones caused by repetitive impact.

Bursitis: Inflammation of bursae, the cushioning sacs near joints.

Shin splints: Pain along the shinbone due to repetitive stress.

Tennis or golfer's elbow: Tendon injuries from repetitive arm motions.

Causes and Risk Factors

Overuse injuries develop when repetitive stress outpaces the body's ability to recover. Contributing factors include:

Repetitive motion: Frequent, identical movements such as running, swimming, or typing.

Sudden increase in activity: Rapidly increasing intensity, frequency, or duration of exercise.

Improper technique: Poor biomechanics place extra strain on muscles and joints.

Inadequate equipment: Worn-out shoes, poorly fitting gear, or unsuitable surfaces.

Muscle imbalance or weakness: Unequal strength and flexibility increase vulnerability.

Insufficient rest: Lack of recovery time prevents tissues from healing.

Age and health conditions: Reduced tissue resilience in older adults or those with bone or joint disorders.

Symptoms

Overuse injuries usually develop gradually, with symptoms that may worsen over time:

Localized pain or tenderness during activity.

Swelling and inflammation around the affected area.

Stiffness or reduced range of motion.

Pain that persists at rest in more advanced cases.

Decline in performance or inability to continue regular activity.

Recognizing these early signs is crucial to prevent worsening of the condition.

Diagnosis

Healthcare professionals diagnose overuse injuries through:

Medical history: Reviewing activity levels and symptom progression.

Physical examination: Checking for pain, swelling, and limited motion.

Imaging tests: X-rays, MRI, or ultrasound may reveal stress fractures or soft tissue damage.

Management and Treatment

The primary goals of treatment are reducing pain, promoting healing, and preventing recurrence.

Conservative Management

Rest: Temporarily stopping the aggravating activity is key.

Ice: Applying cold packs to reduce inflammation and pain.

Compression and elevation: Helpful in managing swelling.

Medications: NSAIDs relieve pain and inflammation.

Physical therapy: Strengthening and flexibility exercises correct imbalances.

Activity modification: Adapting training routines, reducing intensity, or cross-training.

Advanced Interventions

Injections: Corticosteroid injections for severe inflammation.

Surgery: Rarely required, but considered in persistent tendon or joint injuries.

Prevention

Preventing overuse injuries requires awareness and proactive measures:

Gradually increase activity levels (no more than 10% per week in training).

Use proper technique and posture in sports and daily tasks.

Incorporate rest days into exercise routines.

Wear appropriate footwear and replace worn-out equipment.

Include strength and flexibility training to balance muscle groups.

Listen to the body—early pain should not be ignored.

Conclusion

Overuse injuries are a common but often preventable problem in physically active individuals. Unlike acute injuries, they develop slowly, making early recognition and intervention critical to avoid long-term complications. Through proper training techniques, adequate rest, and balanced exercise routines, individuals can significantly reduce their risk. For those already affected, conservative treatment and gradual return to activity usually lead to full recovery. Ultimately, the key to avoiding overuse injuries lies in respecting the body's need for balance between activity and recovery.