



## OVERUSE INJURIES IN INSTRUMENTALISTS

**T**here are basically two types of injuries: acute and overuse. Acute injuries are usually the result of a single, traumatic event. Overuse injuries occur to tendons, muscles, joints, and other tissues as a result of repetitive activity that creates small amounts of trauma over time. Examples include carpal tunnel syndrome, wrist tenosynovitis, and muscle/fascia pain syndrome. Instrumentalists often sustain overuse injuries in the hand, wrist, and arm muscles and tendons, as well as weakness and spasms in the arm, shoulder, and upper back muscles.

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### Why do overuse injuries occur?

The human body has a tremendous capacity to adapt to physical stress. We tend to think of “stress” in the context of its negative effect on our emotional wellbeing, but physical stress, such as exercise and activity, is beneficial for our bones, muscles, tendons, and ligaments, making them stronger and more functional. This happens because of an internal process called remodeling. The remodeling process involves both the breakdown and buildup of tissue. There is a fine balance between the two, and if breakdown occurs more rapidly than build-up, an overuse injury occurs.

Mechanical errors and too many hours of repetitive motion are the most common causes of overuse injuries. Overuse injuries also happen in people who return to their music practice after injury and try to make up for lost time by pushing themselves to return to both their previous repertoire and practice schedule they were accustomed to before being injured. Proper technique is critical in avoiding overuse injuries, as slight changes in technique may be the culprit. For this reason, music teachers and parents—as well as healthcare professionals such as athletic trainers and physical therapists who have experience working with musicians—play important roles in preventing overuse injuries.

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Imbalances between strength and flexibility around certain joints predispose individuals to injury. Because instrumental music requires a high level of repetitive physical activity and a nearly constant use of the upper back and upper extremities, these are areas where such injuries are commonly seen.

Many musicians have previous injuries, or injuries that are incompletely healed, that can make further injury more likely. They also tend to “play through” pain. Sometimes pain is thought to be a normal part of playing a musical instrument; however, this is definitely not true! Pain or musculoskeletal fatigue should be reported to the music teacher, and advice should be sought from a healthcare provider as soon as possible if pain is ongoing.

### How are overuse injuries diagnosed?

The diagnosis of an overuse injury is made after a thorough history and examination by a specialist skilled in working with performers. The musician’s instrumental technique; practice, rehearsal, and performance schedule; and activities that cause the symptoms should all be evaluated.

Sports medicine or performing arts medicine specialists with specific interest and knowledge of the demands of performing arts will be very helpful in making an accurate diagnosis and establishing a treatment plan. You can help your specialist by explaining the specific movements and demands of playing your instrument, including the types and durations of your rehearsals, classes, and performances.

### What is the treatment for overuse injuries?

Tips for treating and preventing an overuse injury include:

- Take short breaks during long practice sessions.
- Adopt a practice or rehearsal schedule that allows more intense playing to be interspersed with practice that is less intense and varies the muscles being used.
- Discuss appropriate, efficient music technique with a qualified music teacher, including how it relates to the repertoire.
- Perform warm-up exercises before playing and cooldown exercises afterward, especially for the shoulders, elbows, hands, and upper back/neck.
- Apply ice for 15 minutes after playing for minor aches and discomfort.

If symptoms persist, a sports medicine or performing arts medicine specialist will be able to create a more detailed treatment plan for your specific condition. This may include a thorough review of your music training program and an evaluation for predisposing factors associated with the problem. Athletic trainers, physical therapists, occupational therapists, and hand therapists may also be helpful.

### Can overuse injuries be prevented?

Most overuse injuries can be prevented with proper training, common sense, and paying attention to warning signs such as the onset of discomfort that leads to pain. Learn to “listen” to your body. Remember that “no pain, no gain” does not apply here.

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Good posture is very important in playing an instrument, so a core training program is essential to preparing the body for maintaining the required trunk and upper extremity positions and executing the necessary movements of playing. Because the core, or trunk, of the body forms the foundation for movement, the hours of rehearsal time needed for music means that the core muscles must be well-trained for endurance.

Always remember to warm up and cool down properly before and after playing your instrument. Increasing flexibility and incorporating muscle training will also help minimize overuse injuries. Since muscle endurance is very important to good musicianship, using lighter weights and more repetitions will help develop this.

Seek the advice of a sports medicine or performing arts medicine specialist when beginning an exercise program. Your exercise training can be modified to help you maintain overall fitness even when you are injured. Overall, physical exercise will greatly improve your ability to play your instrument while reducing the chance of injury.

### Expert Consultant

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