

## **Musculoskeletal Disorders in the Hands and Forearms of Adolescent Instrumentalists**

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### Abstract

Musculoskeletal disorders (MSDs) occur when a person routinely performs a specific physical motion. This type of injury usually develops gradually and has the potential to become debilitating and painful if left untreated. Adult and adolescent instrumentalists may develop a specific type of MSD known as a performance-related musculoskeletal disorder (PRMD). As teachers, what can we do to help our students prevent the onset of PRMDs?

Musicians commonly experience PRMDs in the hands and forearms and develop PRMDs at rates higher than the general workforce. The most common causes of PRMDs are incorrect practice and performance habits (e.g., incorrect playing technique or extensive practice sessions) over the span of many years. Unfortunately, PRMDs often go unreported; a cause for concern for music educators. Musicians may choose not to reveal PRMD pain for many reasons such as having a “no pain, no gain” attitude or fear of losing his/her job as a musician.

Pianists and string instrumentalists are most prone to experiencing PRMDs. Percussion and woodwind instrumentalists are slightly less susceptible to experiencing PRMDs than pianists and string instrumentalists, and least susceptible to PRMDs are brass instrumentalists. However, PRMD prevalence rates are frequently calculated from self-report measures. Consequently, this data must be interpreted with caution because each person has a unique pain tolerance.

To help prevent PRMDs, music teachers need to enforce correct practice/performance habits early in a student’s instruction. Small changes to a student’s practice habits such as light stretching before practicing/performing, taking breaks during extended practice sessions, and maintaining a healthy lifestyle may decrease the likelihood that the student will develop PRMDs.

### What Music Teachers Must Incorporate in the Classroom/Studio

- Music teachers must acknowledge that students may experience PRMD symptoms or suffer from a diagnosed PRMD.
- Music teachers must have a basic knowledge of human hand and forearm anatomy.
- Music teachers must implement stretching exercises and musical warm-up exercises before every lesson/rehearsal.
- Music teachers must teach students how to practice without supervision and instill correct practice habits beginning with the first lesson/rehearsal.
- Music teachers must make adjustments to a student's instrument and/or practice habits if he/she complains of consistent pain.
- Music teachers must pay close attention to a student's technique as incorrect technique may be the cause of consistent pain.
- Music teachers must set practice time limits when appropriate (e.g., inexperienced students).
- Music teachers must remind students to take breaks during extended practice sessions (e.g., take a five-minute break after practicing for twenty-five minutes).
- Music teachers must encourage students to report consistent pain from practicing/performing on a musical instrument.
- Music teachers must remove the "no pain, no gain" attitude from the music classroom/studio.
- Music teachers must encourage their students to lead a generally healthy lifestyle.
- Music teachers must recognize and acknowledge when they are no longer able to help the student and he/she must seek medical attention to alleviate PRMD pain.

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