

Understanding and Treating Injuries in Musicians

When you think about it, musicians often spend quite a bit of time in awkward positions. The flute player (flautist) has to hold that instrument up and to the side for hours. The violinist tucks the violin under the chin with the head and neck twisted. The pianist stretches the fingers to reach more keys. They hold both hands over the keyboard using the fingers, wrists, forearms, and upper arms repetitively during long hours of practice.

Preparing for a concert often involves increasing the number of hours practicing and rehearsing. Some muscles contract and hold without a break. Joints open and close over and over and over. Inevitably injuries occur for many musicians. Pain, stiffness, cramping, spasm, numbness, swelling, clicking and popping, and tremors are just a few of the more common symptoms experienced.

Sometimes the very thing that makes it possible for a musician to play well is the contributing factor to their injury. For example, joint hypermobility from lax ligaments gives joints greater flexibility. But without strong muscles to stabilize that joint, pain, fatigue, and spasm can develop. Loss of finger or hand dexterity can be devastating to the musical performer.

What can be done to aid these folks? The first step is to make an accurate diagnosis. The most common problems are considered first: overuse syndrome, thoracic outlet syndrome, and focal dystonia. Nerve compression and even bone fractures can be part of the picture.

Overuse syndrome is just as it sounds -- muscles, tendons, and joints are repeatedly contracted, flexed, rotated, and so on during intense periods of practice. Pain in the hands, the wrists, and forearms are most common. The lining around tendons and muscles can become inflamed. But depending on the instrument being played, any area can be affected.

Thoracic outlet syndrome involves the compression of nerves and blood vessels in the neck area. Muscles that contract fiercely and repeatedly can clamp down on these soft tissues and cut off circulation to the muscles. This same type of compression puts pressure on the nerves causing numbness, tingling, and sharp pains. Here again, poor posture can be a big factor but obesity and being female are other possible risk factors.

Loss of strength or the ability to move and control the fingers signal the possibility of a nerve entrapment syndrome such as carpal tunnel syndrome. This is considered first when the symptoms only occur during practice and performance and are not present at rest. Muscle cramping called "focal dystonia" much like "writer's cramp" can occur when certain muscles remain contracted for long periods of time. Pianist and violinists are affected by this problem the most.

Second, the simple application of a common sense approach can help. Reducing the number of hours played, paying attention (and correcting) posture, and use of pain relievers can be tried. A visit (or several sessions) with a Physical Therapist can be very helpful.

Alignment and posture can be addressed. Instruments can be modified to unload pressure and reduce fatigue and compression. Sometimes just practicing for shorter periods of throughout the day and taking more frequent breaks is enough to allow for healing and recovery. Stretching, range-of-motion exercise, and strengthening are important aspects of conservative care. The therapist will work with the patient as he or she plays the instrument and provide technical retraining. Abnormal motor patterns will be identified and corrected.

In the case of thoracic outlet that does not respond to conservative care, surgery may be needed. No musician likes to hear that word but sometimes something as simple as shaving a rough edge of a bone or removing a rib may be all that's needed. Other treatment techniques such as deep brain stimulation and the use of Botox injections have been tried for a diagnosis of dystonia.

Many musicians try to apply self-treatment but without a complete understanding of the anatomic and physiologic factors, they may not be successful in changing the symptoms. Waiting too long to get the necessary help needed can delay recovery. Musicians need to be educated as to the importance of getting help sooner than later. This simple approach can prevent the end of a musician's career and return them to a full schedule of practice and play.

Reference: Andrew J. Rosenbaum, MD, et al. Injuries Complicating Musical Practice and Performance: The Hand Surgeon's Approach to the Musician-Patient. In *The Journal of Hand Surgery*. June 2012. Vol. 37A. No. 6. Pp. 1269-1272.