

# Injury Prevention: The Teacher's Responsibility

BY DR. DARIN WORKMAN

I have heard it said that most great players had great teachers. I'm sure that had much to do with them becoming great players. There are many aspects of being a great teacher, but the one I will focus on is giving a student the tools to avoid injury, and secrets to making the hard things simple.

For the purposes of this article, I am referring to private-instruction teachers, because they spend so much one-on-one time with the student. However, we must not overlook the impact the teacher in a classroom situation can have on students. A teacher that is grounded in proper technique, and who continues to learn ergonomic and injury prevention concepts, is surely to be sought.

Following are a few key areas that teachers should be concerned with, relative to helping students avoid performance-related injury.

## WARMING UP

Although no conclusive evidence of the benefits of warming up have ever been documented, seasoned musicians are well aware of its many great advantages, both physically and mentally.

Physically, warming up loosens the muscles and joints, preparing the body for performance. When at rest, the body pools much of the blood closer to the heart. As the activity level of the body increases, blood is shipped to the areas most involved in the activity. The most active areas receive the greater supply of blood. This gives them a feeling of warmth; thus, the term "warmed up." In addition, the nerves become more alert because of the body's need to communicate more keenly with the active area. It will be more aware of all senses (pain, fine touch, joint motion, vibration, etc.) in order to ensure that the body is functioning properly.

For example, when you sit in a parked car, you are usually not very focused on what the car is doing. However, as you start it up and shift into gear, you become increasingly more focused on what is happening, in order to drive it properly and safely. The body responds in much the same manner.

As the muscles receive more blood they become warmer and more flexible. I like to compare them to strands of spaghetti: brittle until they are warm and moist. They then become flexible and less apt to break. This image may help illustrate the fact that as our muscles get colder (less activity), we become less flexible and increase the possibility of injury. Conversely, the warmer (more activity) we get, the more flexible the muscles become. It is obviously best to operate the muscles when they are soft and flexible in order to avoid injury.

Once your body has started pumping the blood around, begin going through the basic movements involved in playing your instrument. Snare players should begin the basic rudiments; mallet players should practice scales and runs; etc. Further into the

warm-up, you should also incorporate variations of dynamics. This way, you alert the body to areas that need increased circulation and attention in order to operate optimally.

Begin slowly and concentrate carefully on the fine movements your body performs as you are playing. When you hit a glitch, repeat it until it smooths out. If you just gloss over it and go on, you can be sure that it will be the one movement to trip you up during performance.

Progress into working the specific movements you will be doing during performance. Begin with the easy and progress to the more difficult as you feel more comfortable. By doing this you convince yourself that you are able to perform all sections smoothly.

A good warm-up can also help you mentally. The mind often wanders and/or is easily distracted (especially around performance time). When you warm up, it bridges your thoughts and helps the mind get on track to play. As you start to warm up, begin to focus your thoughts on the upcoming performance. Go through it mentally and physically to re-familiarize yourself with the movements and mood of the music.

How do you know when you are warmed up? As you progress through the warm-up process, your body will begin to move more freely and without hesitation. You will play more smoothly and confidently without restriction or doubt. You may even reach a point that has become known as "The Zone" where anything your mind wills, the body will execute. You can teach yourself to achieve that level through patience and proper warm-up.

Incorporate all of your faculties for a great performance. The performance is a continuation of the warm-up, like a car going from a standing start to high speed through a series of shifting gears.

## ADDRESSING THE INSTRUMENT

An instrument should be set up to accommodate the musician who will be playing it. Since each musician is unique in his or her physical make-up, an instrument must have the ability to adjust to the player. Teachers should educate their students on proper setup. In fact, this should be one of the first lessons taught.

The instrument should be set up in a way that allows you to make the most frequent movements with the least effort and stress. Constant repetition of bad technique causes pain and injury. More important, it produces a bad habit that must eventually be broken or it will break you. For example, if a particular piece requires that a marimba be played mostly at the top end, the musician will naturally position herself or himself at the top end, not the middle. Similarly, if an orchestral percussionist is mostly using snare on a piece, he or she will position the snare most conveniently. (While watching studio sessions for

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Teaching students to set up properly to the instrument is one of the most important steps to help them avoid future injury.

movie music, I noticed that the instruments were constantly being re-positioned to accommodate what was being played.)

Drum and cymbal stands come with position adjustments (height, angle, etc.) to help the musician avoid extreme reaching that forces the body to extend unnecessarily. When extremes *are* necessary, they should be kept to a minimum. Recent designs of marimbas, marching percussion instruments, and orchestral instruments allow them to change height and position to conform more easily to the musician.

Proper equipment is also important. Percussion and drum manufacturers are constantly coming out with new innovations in equipment. With so many options, it is difficult to decide which are most necessary. Following are some guidelines for ergonomics and injury prevention.

First, protect your ears. The use of drum silencing pads when possible and ear protection when necessary, the ability to discern how loud is too loud, and the intelligence and self respect



Students should be instructed on every aspect of the equipment used. It is important to know the various ways it can be positioned, and how those adjustments can aid them in their playing.

to turn it down when necessary are all important to preserving your hearing. Don't be one that has to lose hearing in order to understand its importance.

Seats are important to those who spend the majority of their time sitting during a performance. How can you be a stable player if you are not grounded on a stable foundation? Make sure you use a seat that is solid and comfortable.

Shoes are extremely important to those in marching band and drum corps. Marching equipment in general must be selected carefully. Some of it works for you and some works against you.

### PROPER TECHNIQUE

In terms of percussionists and drummers, most injuries (especially career-ending ones) come from damage to the hands and feet. It's not just a matter of hitting something, but doing it repetitively. We use our hands constantly, and repetitive, improper use is sure to cause damage. In fact, it is documented that intensive activity for prolonged periods of time accelerates the risk of degenerative disease in the joints of the upper extremity and neck of musicians.<sup>1</sup> How we use our bodies is very important to a lifetime of playing at our full potential. Yet, it is such a difficult thing to learn without proper teaching.

For example: Even runners who have poor form can run without pain for a short distance. However, increased intensity (faster speed) and repetition (longer distance) magnify any weakness in their technique, making it a very large obstacle. This rule applies in any physical activity—even percussion.

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Improper technique becomes increasingly more difficult to change as time passes. You may not recognize the wear it puts on your body until many years have gone by and you reach a level that magnifies the error—making it undeniably obvious. By that time, the habit has formed, enabling change only through great effort. In addition, the injury already sustained throughout the years can rarely, if ever, be reversed.

If you experience pain during or after you play, or if you develop blisters, joint pain, muscle tension, etc., your technique can and should be improved. Resistance to pure body movement causes friction to the body and produces injury. Good technique never allows that to happen.

It is very important, therefore, to start off on the right foot with a teacher who understands and teaches proper technique. Just as the entire instrument contributes to the overall sound, overall movement contributes to smooth technique and smooth sound. As a result, teachers must instruct students to use the entire body when they play.

### BODY AWARENESS

The ability to perceive what is going on in your body is very difficult to achieve. It only comes through constant attention to and concentration on the feedback the body is giving you. Your body will tell you if it is being used improperly, but if the most experienced players have a hard time listening to their bodies, you can imagine how little the beginner knows about it.

The body has protective mechanisms. Pain and fatigue are two of the body's early warning signs. They warn of impending danger. A good teacher can detect when the student is beginning to show the signs of fatigue and pain, and has the expertise to correct the problem.

The expert teacher goes a step further, establishing communication and trust with students and encouraging them to say when they feel something out of the ordinary. In order for



An alert teacher will notice and correct subtle signs of fatigue in a student, such as laxity in the posture— a very common cause of injury.

teachers to detect and correct the problem, they must call on years of experience.

Teachers should constantly be searching out ways to better eliminate problems through improved technique, i.e., spotting the technical deficiencies causing the problem. Our field is making great inroads to understanding why certain techniques work most efficiently. The teacher can learn more about injury cause and prevention than ever before. With the greater knowledge that has become available in recent times comes the greater responsibility to learn and implement it in our playing and teaching.

It is time to expand our knowledge of ergonomics and injury prevention, which will prolong and enhance our playing. Imagine how much better you could be if you were pain free and efficient for your entire career. In this way, teachers can truly help students reach their full potential.

I always tell my patients, "Now that you're well again, you can stay that way if you stop doing what caused the problem in the first place." Teachers play a pivotal role in helping students discover what caused the problem and how to end it. More important, good teachers can prevent students from developing the problems in the first place.

### ENDNOTE

1. Peyron, J.G. "The Epidemiology of Osteoarthritis." *Osteoarthritis: Diagnosis and Management*. Moskowitz R.C. et al. Philadelphia: Saunders, 1984; 9–27.

**Darin Workman** is a doctor of chiropractic who works with performing and sports related injuries. He holds a Bachelor of Human Biology degree and is a Certified Chiropractic Sports Physician. He has authored numerous injury and prevention articles and workshops over the years, and is currently finishing a book on drumming and percussion injuries. Workman is chairman of the PAS Health and Wellness Committee. As a drummer/percussionist of almost twenty-five years, he is active in performing and teaching.

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