



Musicians and MSI: Prevention and treatment

There are many things you can do to help prevent and treat musculoskeletal injury (MSI). An MSI can be painful and can interfere with both your professional and personal life, so it's important to use prevention strategies. If you already have an MSI, there are treatment options that will help you stop the injury from getting worse and speed up the healing process. To find out more about MSI, see the information sheet "Musicians and MSI — Symptoms and Injuries."

Prevention

You can help prevent MSI by using these six strategies:

1. Maintain your personal health and well-being.
2. Develop good practice habits.
3. Select appropriate practice locations.
4. Select appropriate instruments and furniture.
5. Carry and set up equipment safely.
6. Maintain body awareness.

1. Maintain your personal health and well-being

The first level of prevention is maintaining your personal health and well-being in all aspects of daily life. To prevent MSI and recover more quickly from physically demanding practices, rehearsals, or performances, follow these guidelines:

- Eat a healthy, well-balanced diet.
- Drink plenty of water.
- Exercise regularly.
- Get plenty of good quality sleep.
- Manage stress using healthy strategies.

Reduce or eliminate your consumption of nicotine, alcohol, coffee, and drugs. They can predispose you to MSI (for example, by reducing blood flow to your extremities or interfering with normal nerve function).

2. Develop good practice habits

Good practice habits are an excellent way to help prevent MSI. For musicians, risk factors most associated with MSI are lack of warm-up and lack of adequate breaks during practice sessions.

Warm up gently

A warm-up helps stimulate blood flow and physically warms the muscles and joints you will use while playing. Your physical warm-up should involve gentle, smooth motions for several minutes. Your musical warm-up at the beginning of a practice session, rehearsal, or performance should start with long, slow notes to warm your muscles and encourage blood flow to the areas that will be demanding it.

Stretch properly

Before stretching, slowly move each part of your body through its comfortable range of motion. This begins the process of lubricating the joints and preparing your body for activity.

Next, perform light aerobic activity (for example, walking, jogging, or skipping) for approximately 5 minutes to raise your body temperature and enhance blood flow to the muscles. Stretch smoothly and gently (don't bounce). Hold static stretches for 30–60 seconds.

Take regular rest breaks

Rest breaks help relieve the stress of long practice sessions, rehearsal, or performance and allow your muscles to become increasingly strong. Rest breaks may also help your mind. Research indicates that learning may be more effective when practice occurs in brief periods alternating with short rest breaks.



The suggested ratio of practice to rest varies. Here are some suggestions:

- 5 minutes of rest for every 25 minutes of playing
- 10 minutes of rest for every 50 minutes of playing
- 10–15 minutes of rest for every 30 minutes of playing

If necessary, spread practice time throughout the day in order to get enough rest.

Avoid repetition

Work with a variety of music or exercises during practice to help prevent some of the repetition that may occur from practising a single phrase repeatedly. Build in time to work with simpler pieces to provide a partial rest. Try using imaging and visualization techniques to reduce the physical playing time required to master a piece of music.

Increase duration and intensity gradually

One of the most commonly reported risk factors is a sudden increase in the duration and intensity of practice sessions. This typically occurs during preparation for a performance, during preparation of a new and difficult piece of music, or when returning from a holiday. Gradually increase the duration and difficulty of practice so your body can adapt to the changing demand.

3. Select appropriate practice locations

Environmental factors such as cold or poor lighting can increase your risk of MSI. Cold environments reduce blood flow to the fingers and arms, interfere with adequate lubrication of tendons and joints, and can slow nerve conduction in the extremities. Lighting levels influence your ability to read music, which may affect your playing posture and result in eye strain.

Select a practice environment that is properly heated and well lit. Where this is not possible, wear adequate clothing and warm your hands before playing. Use portable task lamps or battery-powered clip lights to illuminate sheet music in poorly lit environments.

4. Select appropriate instruments and furniture

Taking an ergonomic approach to your selection of instruments and furniture can help you eliminate many MSI risk factors.

Instruments

Select an instrument that fits you well. Be cautious anytime you change instruments or play a new instrument of the same type (including a better-quality instrument).

Avoid playing poorly designed or poorly maintained instruments. For example, wind instruments with leaky valves or pads and string instruments with bridges that are too high will require more effort to play well. Pianos with excessive dead space at the tops of the keys will require more force to get enough volume.

Furniture

Set chairs or stools at a height that allows your feet to sit flat on the ground with your knees at a 90° angle. If the chair is too tall, use a footrest (even something as simple as a phone book) to support your feet. If the chair is too short, add a cushion to the seat, stack two chairs, or place wooden blocks under the chair feet.

Adjust music stands so the top of the sheet music is at or just below eye level. If the music stand must be substantially lower than eye level, make an effort to look at the sheet music by lowering your eyes rather than tilting your head. Place the music stand directly in front of you to minimize neck rotation.

Use specialized devices to help achieve proper posture or force. A high chin rest can help you position a violin or viola without tilting your head excessively or elevating your shoulder. Harnesses can help support the weight of heavier instruments such as drums or tubas.

5. Carry and set up equipment safely

Lifting and carrying heavy equipment can put the upper extremities and back at risk and contribute to fatigue or aggravate existing conditions.

Lift equipment safely

Pay attention to safe lifting technique and plan your lift from start to finish. Avoid high-risk behaviours such as twisting your back or rapid lifting. Take the time to do the job right.

When planning a lift, ensure that you:

- know how heavy the load is
- have a stable base with your feet shoulder width apart
- are positioned to face the item you are lifting
- have a solid grip on the item
- have a clear route to your destination

When moving heavy equipment, ensure that you have enough people to help. Ask for assistance, especially if you have an existing injury. Where possible, use a lifting assist such as a dolly or hand truck, or pack equipment in wheeled containers. Allow enough time for set-up to prevent rushing around while carrying equipment and to allow for adequate rest and recovery before playing.

Select appropriate containers

When transporting your equipment, select containers that are not excessively heavy and that have well-constructed, padded handles and wheels (as appropriate). Try to avoid large, heavy loads in containers that will need to be lifted. It is better to make two trips with a smaller load than one trip with a heavy load.



Use safe lifting technique to help prevent MSI in your upper extremities and back.

6. Maintain body awareness

Body posture while playing influences the risk of MSI. Posture includes not only your back and neck, but also the positioning of your shoulders, arms, hands, and legs, as well as the force that you use to play your instrument.

Practise a body awareness or movement discipline to help create the awareness that is required to ensure good posture while playing. Training in disciplines such as the Alexander Technique, Feldenkrais Method, Pilates Method, yoga, or Tai Chi helps increase awareness and tends to enhance physical fitness.

Treatment

The first level of injury management is recognizing early warning signs and symptoms, and administering simple self-help techniques such as the RICE treatment protocol. The second level is recognizing signs and symptoms that are persistent or unusual and seeking professional medical assistance.

Early warning signs and symptoms

Learn to recognize MSI signs and symptoms. Early warning signs and symptoms include:

- discomfort, pain, tingling, or numbness while playing
- weakness in your hands or difficulty with fine control of your fingers
- stiffness or limited range of motion
- postural changes (for example, shoulders elevated or rounded forward)
- local swelling or redness

If you notice discomfort or pain while playing your instrument, take a break until the symptom subsides. Avoid playing through the pain. In most cases it will only get worse if you continue to play.

To find out more about signs and symptoms, see the information sheet “Musicians and MSI — Symptoms and Injuries.”

RICE treatment protocol

Use the RICE treatment protocol (rest, ice, compression, and elevation) during the immediate stages of injury to help reduce the amount of damage to your body. The RICE protocol helps decrease swelling, discomfort, and muscle spasm as well as prevent further injury.

Although the RICE treatment protocol will help manage your injury, seek guidance from a health-care professional to manage persistent or worsening symptoms.

Rest

Rest the injured area to avoid further aggravation.

Ice

Apply ice or cold packs to the injured area for 15–20 minutes to help reduce swelling and manage pain. Never place ice directly on your skin as this can result in frostbite. Place crushed or cubed ice in a wetted towel and then place the towel on the affected area. If ice is not available, a pack of frozen vegetables works just as well.

Do not use alternative methods of icing (creams, balms, or rubs) because they only cool the first layers of skin and not deeper into the injured area. Never use ice to numb an area so you can keep performing through pain. This only masks the symptoms and you may make the injury worse.

Compression

Wrap the injury in a tensor bandage, using a criss-cross method. Get directions for appropriate wrapping techniques from a health-care professional. Compression and ice often can be combined by wrapping the ice in the tensor bandage.

Elevation

Elevate the injured area above the level of the heart to help move fluid away from the injury.

When to seek medical assistance

If symptoms continue to occur each time you play, continue to get worse, or are unusual for you, seek medical assistance. If symptoms continue to persist after you have stopped practising, or if they appear at times other than when you are playing your instrument (for example, during sleep), seek immediate help from a health-care professional who is experienced in treating musicians’ injuries.

For a list of health-care professionals who have experience treating MSI for musicians, contact SHAPE.

