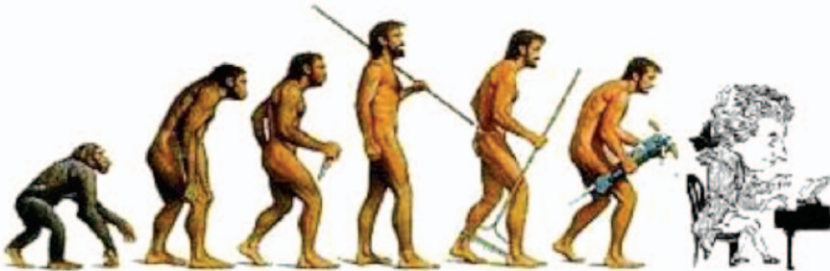


INJURY PREVENTION FOR MUSICIANS

As a musician you will perform many repetitive movements often in awkward postures for prolonged periods of time. This puts pressure on the body and can cause injuries. It is therefore important to try to minimise these stresses as much as possible. Try and think of yourself as an athlete who not only needs to have practised the skills in which they need to perform to a very high standard but also needs the body in good condition. A marathon runner will not run a marathon every day in order to train for the Olympics, they will ensure that they have adequate rest periods and break their training schedules up into smaller sections to practise different elements of the race. It is therefore important that you do this to when preparing for an audition or performance. This leaflet will aim to give you tips on how to do this.

Posture



Homo sapiens did not evolve in order to play the Bassoon or to become a concert pianist! Indeed, the human body is designed to perform basic functions. So as much as you love playing your instrument, the posture that you get into when you are playing can be deemed as awkward or abnormal. Add to this the times that a musician will play with poor posture such as slumping at the piano or playing the violin with too small a chin rest then a lot of stress is placed on the human body. This can cause muscle fatigue, muscle tension, micro trauma to soft tissues which can lead to tendonitis, and joint stiffness. This may eventually lead to adaptive shortening of the muscles which is when the muscles adapt to these abnormal postures and think that they are normal. Muscle imbalances can then occur which lead to injuries.

The most efficient position for a joint to be in is a neutral posture/position. It is in this position, that the small, deep muscles around the joint are able to work to control shear and rotation at the joint's axis; this lets the joint function more like it was designed to function and subsequently less stress is placed on the joint resulting in a reduced likelihood of injury. Although it is not possible to play with your joints in a neutral position all the time, you should try to play your instrument with your joints in a neutral position as much as possible.

Here are examples of neutral postures:

Joints	Descriptions of Midpoints for Neutral Range of Postures
Head & Neck	Level, or bent slightly forward, facing forwards and in-line with trunk.
Hands, Wrists & Forearms	Forearms should be horizontal with the wrist and hands in-line or slightly extended
Elbow	Close to the body and bent at 90 degrees.
Shoulders	Relaxed, upper arms hang by the side of the body, shoulders in such a position that the fingers point out in front of the body.
Thighs & Hips	Should be parallel to the floor when sitting (see top diagram) and perpendicular to the floor when standing.
Knees	Level with or just below hips when sitting, with feet slightly in front of the knees (top diagram); when standing the knees should be aligned with the hips and ankles.
Back	Upright or leaning back slightly between 90-100 degrees when sitting; vertical with an "S" curve when standing.



As an exercise, why not play your instrument in front of a mirror or with a partner to see how often you are getting in an awkward posture. You can then take this information to your music teacher or physiotherapist who can help you correct your technique with structured exercises.

Rest days

It is important to give yourself days in which you give your body time to rest and to recover from the loads that you have been placing on it. This rest day can incorporate a swim, sauna and Jacuzzi session or maybe another physical activity you like doing. You do not have to stop practising completely for the day; performing scales, imagery techniques or performing postural exercises for when you play will still be practising for your performance but will not be as demanding on your body.

Take regular breaks

When practising for a performance it is important to take regular breaks to enable your muscles and joints to relax. When you are practising, try to stop every 20 minutes to perform five minutes of light stretches. The stretches should work the areas of your body that you are using the most but in general try the following -



Ice bath therapy

Ice bath recovery when done properly and regularly will speed up the recovery process of your body as well as improving your physical performance. After intense activity such as a long practise session or short but rapid movement sessions, your muscles experience micro trauma. These are tiny tears in the muscle which although you won't feel them, if they keep occurring overtime can cause a build up of scar tissue which can lead to tendonitis. Ice bath therapy helps to reduce the inflammation and scar tissue formation. It is for this reason that it is good practise to apply ice following intense periods of play. An easy way to do this is to fill a bucket or washing up bowl with cold water and add ice cubes to it. You can then place your arms in it for no more than 10 minutes. Alternatively an ice pack can be applied to your forearms and hands.

Core stability

Core-stability muscles around the lower back and abdomen help to keep the spine in a neutral position. Weakness of these muscles allows movement to occur where it shouldn't and this puts pressure on different structures within the spine, including the facet joints and discs. Alterations in the movement of the spine will lead to areas of hypermobility (excessive movement) at some levels of the spine and hypomobility (reduced movement) in others. It is therefore important for a musician to have good core stability to help support the spine when playing and help prevent injuries. Here are some exercises you can do to help improve your core stability:

NB – before performing any core stability exercise you will need to find your neutral sitting posture. This can be done by sitting up as tall as you can then slumping down as much as you can. Your neutral sitting posture is half way between these two positions with a gentle curve in your lower back.

Alternate leg lifts



- Find your neutral posture
- Keep core muscles contracted
- Lift one leg off the floor **keeping your hips level**
- Hold for 10 seconds
- Change legs

Bridging



- Lie on the floor/bed with your calf muscles resting on the core ball
- Contract buttocks and core muscles
- Lift bottom up off the floor/bed while straightening your knees
- Hold for 10 seconds

Other things that you can do to work your core muscles include playing your instrument while sat on the ball. To make this more difficult you can do it with your feet close together, or on one foot. Or you could get a friend to gently tap the core ball to offer some instability. Playing your instrument while bouncing lightly on a trampette is another method of working your core muscles and improving strength in a functional manner.

While the information in this leaflet will help to prevent injuries it is important to listen to your body and look out for early warning signs. If you feel any pains that are not resolving it is important to see a medical practitioner such as your GP or Physiotherapist who can assess, diagnose and offer an appropriate course of action before a chronic condition is developed!

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