
BASICS

Hyper and hypo

One of the meanings of 'hyper' is 'excessive' in the sense of *hypersensitive*, *hyperactive*. It derives from the Greek "*hyper*" meaning 'over'. 'Hypo' means 'less than normal', and derives from the Greek "*hypo*" meaning 'under'.

The body strives to maintain balance at all times. If you are inflexible in one part of your body, you often need to compensate by becoming more flexible in another part of the body. Problems caused by compensation are a regular occurrence amongst athletes, who may all-too-easily over-train certain groups of muscles to the neglect of other groups.

Knock-on effects of tension

Over-training or tension in one area of the body can easily lead to problems elsewhere. Suppose you have aches and pains in your upper back, between your shoulder blades. You hurt there, so it is natural to assume that something must be wrong there. Your lower back feels fine, so there seems to be no need to worry about that area. You receive lots of massage and physiotherapy on your upper back and shoulders. This brings great relief, but the relief wears off very quickly and soon you are in pain again.

In fact, what can easily have caused the pain is that you are hypo mobile in the lower back, i.e. there is not enough mobility or movement there. The lower back is tight and locked pretty solid.

If you are not giving in the lower back you have to give somewhere, otherwise you will fall over.

So because the lower back is hypo mobile, to make up for it the upper back moves much more than it should and becomes hyper mobile. Then, because the upper back has too much movement it starts to hurt. But although the pain is in the upper back, the cause is in the lower back, and no amount of treatment in the upper back will make any difference.

Knowing to look somewhere else

String instrument technique abounds with examples of hyper and hypo compensations. Whenever you see something excessive in one area of playing it is often helpful to look to another area of the body entirely. If there is too much or too little of something, it is likely that there will be a process of balancing going on somewhere else.

A vivid example of compensatory movements occurs when you play rapid semiquavers with a slightly locked elbow.

Playing standing up, with your feet a natural distance apart, put the bow on the string and note the angle at the elbow (Fig. 1).

Play using only an upper arm movement, i.e. without allowing the angle at the elbow to change. Move the arm all in one piece, without any movement at the elbow:

Example



Notice how your hips rotate in a counter-motion to the arm movement. The hypo mobility of the bowing arm has caused hyper mobility of the whole torso.

Fig 1

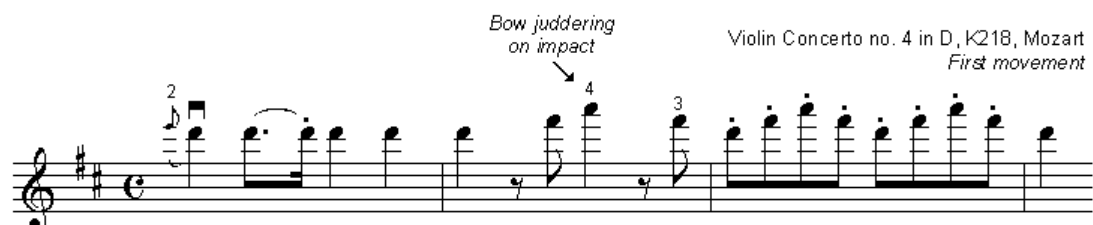
Whenever you see the slightest sign of this, the first place to look at is the elbow. It is no good trying to inhibit the hip movement itself, but the slightest opening and closing at the elbow immediately cures it.



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Solving technical problems

Thinking in terms of hypo and hyper is often the easiest and the quickest way first to understand, and then to solve, technical problems. For example, suppose the bow stroke is not smooth as it attacks the string, but shakes or judders on impact:



Example

If the bow is shaking you could say that it is being hyper mobile. Therefore something somewhere must be hypo mobile. One of the usual explanations is lack of give in the fingers at the moment of impact, and in particular lack of give in the thumb. The fingers and thumb act as 'shock absorbers'. Something has to give somewhere, even if the amount is so slight as to be invisible. If it is not in the fingers then it must occur somewhere else, so the bow itself shakes. A flexible, shock-absorbing right thumb is one of the most essential aspects of the bow hand, enabling silky-smooth *legato* and clean *spiccato*.

Vibrato (in particular arm vibrato) may be another reason for the judder. If the vibrating left fourth finger is tense (hypo mobile), the violin itself moves instead. The smooth flow of the bow across the string is upset because the string is moving under the bow. (The most common reason for the scroll of the violin shaking during vibrato is tension in the base of the thumb.)

Too-fixed bow hold

Yet another reason for the bow juddering in Example 2 may be that the fingers are too 'fixed' on the bow. The fingers must not hold the bow in a vice-like, unchanging grip, but be forever sensitively adjusting to the ever-changing conditions of playing.

At the heel the hand is often a little more upright ('supinated'), with the weight balanced by the little finger. At the point, the hand often leans a little more towards the first finger ('pronated'). At each place in the bow the angle of the hand on the bow is therefore very slightly different.

If this change from more upright at the heel, to more slanted at the point, is blocked during the first part of the down bow, again the bow may judder. The hand needs to 'follow the curve of the bow', and even if the amount of adjustment is hardly visible, the hair will remain smoothly in the string.

The opposite is also true: excessive finger movements, with lots of flexing the fingers on the up bow and straightening on the down bow, are often a sign of tension (or other restriction of movement) elsewhere in the bow arm. The question is why is such exaggerated flexibility necessary?

Excessive wrist movement

Another clear example of hyper and hypo can be seen in the first finger on the bow. Because of the slight change in the angle of the fingers as the bow moves from the heel to the point, the contact point of the first finger with the bow needs to change. In Fig. 2 the 'H' denotes the approximate contact point with the bow when playing at the heel, and the 'P' denotes the approximate position at the point.

If this movement is restricted and is therefore hypo mobile, the give has to occur somewhere else. Typically the wrist becomes hyper mobile, raising too high above the level of the hand at the heel, and sinking too low at the point. This excessive wrist motion is called 'hills and valleys', and can easily disturb the smooth passage of the bow.



Fig 2