

1

# Playing in a Relaxed Way to Avoid Tendonitis

#### By Didier François

Translated into English by Susan Quinlan

Today, tendonitis is a well known phenomenon. Schools, ensembles, orchestras, all count many amongst their number who complain about tendonitis or muscle problems. Why? Is it an epidemic, or has it always been this way but nobody ever talked about it?

I have struggled for many years with this problem and have never had so much pain! Painkillers had no effect and doctors couldn't help me as I was constantly repeating the same unnatural movements. My body, which was not used to functioning in this way, responded by sounding the alarm bell to show that I was doing wrong. I was very close to quitting, what is for me, a lifelong passion.

The technique of the world famous violinist Arthur Grumiaux saved me. I started playing all over again but this time with the aim of eliminating all unnecessary tensions. I discovered that a relaxed way of playing is the only way to get rid of the pain.

The nyckelharpa is a string instrument that is closely related to the violin and in my opinion, believe that both instruments can be used in the same way. I have, with some adjustments, tried to use the Grumiaux technique with the Swedish key fiddle. I have created my own position (holding the instrument) for the bow technique and have also fine tuned the left hand position.

In this essay I would like to reach out a hand to all players who may also face the same problem. I will attempt to do this by combining technical explanations with examples of movements we use in everyday life.







On one hand there's much to tell and on the other very little. The whole playing technique for the nyckelharpa can be traced back to some natural laws. It seems at first sight to be so simple but at the same time very difficult. Like many other disciplines such as sports and dance, it requires the utmost dedication and can be a life's work. Firstly, one learns much about oneself on the long road of practice every day and secondly, there is the kind of progress one personally makes towards a knowledge of the instrument.

If the nyckelharpa could hang in the air and play itself it would sound perfect! In other words, many inaccuracies are often due to unnatural movements, tensions and frictions caused by the player himself. The musician is trying to control the instrument but often forgets to feel how the nyckelharpa itself reacts. The principle is very simple for everyone to understand but some difficulties may occur as the term "understand" is very relative.

You can only really understand when you know and you can only know when you "feel". It's very difficult to learn when you cannot "feel" because you do not know and therefore cannot understand!

To explain this in simple terms, everyone knows how to hold a glass in order to drink for example. We don't think about it, we sense the distance, faultlessly seize the glass and aim it towards the mouth. We've done this for years instinctively but have forgotten how hard it was to learn this as a child. If we could apply the same technique to the bow perhaps it could help us to compare? We might say, "If I can hold a glass in a relaxed way then maybe I can do the same with my bow?" Of course if it was so easy then this essay would be a very short one!



Sometimes we look for difficulties, we are stuck with years of bad habits and we fear the unknown even if it could become paradise.

The problem is that when tensions become too high it can lead to muscle inflammation and lot of pain. This in turn can create a love-hate relationship between the player and his instrument. There's no choice, either something needs to change or we stop playing..., too bad!

## What does it mean to play in a relaxed way?

There is a great deal of misunderstanding regarding relaxation. Most musicians have the wrong idea, criticizing it with arguments like: relaxed playing gives a weak, spineless and faint musical interpretation. This is not always true: a smooth relaxed movement is a "normal" movement, the same as we use in daily life. We eat, drink and walk in a normal, smooth way.

However, this requires the activation of the muscles but these are usually used in the correct amount, we do not force it. Except when we are stressed or earn our living by running of course! With the nyckelharpa we can do the same: the right dosage of muscle tension is just enough to play, we need to avoid all unnecessary forced movement. In sport we find many stories of muscle problems, tennis elbow etc. I learned a lot by reading and talking to sports people and it always came back to the same story: a certain movement with too much repetition and tension gave problems. Another aspect of using less of the muscles is also a law in physics, speed increases power.

For example, we can throw a ball further by giving a big swing of the arm. A karate kick can break a brick by the speed of its movement. A heavy stationary car can try to push over a wall with all its strength and fail, but a Mini Cooper with a speed of 130 km/h will completely destroy it.



This principle is also applicable to the bow movement of the left hand. We should not push on the bow to play loudly, it suffices to place the bow on the right spot on the strings and with a smooth, loose movement let it do its work. If we want to play louder it is enough to accelerate the movement and maybe choose the right tension by going a little closer to the bridge. I Will come back to this subject later on.

The left hand can be used with less force by increasing the speed of the movement. But I will return to this subject later.

A further aspect is finding the right position: the way we stand or sit can overload the back! How can we solve that? Sports or yoga exercises can definitely help as when our bodies are in shape we can deal much better with the weight. For example, a ballerina takes care of her body all day, every day, in order to dance lightly and smoothly.

And finally, there is the danger of blocking everything by too much analysing. Too much attention and endless preparation before we ever start playing. We block everything instead of unblocking!

This is because we search very slowly for the eventual fluidity of movement which keeps us in balance. It is good to analyse a movement but we must move as quickly as possible in order to keep to a natural, fluid movement. Therefore it can be convenient to do our exercises without the instrument first.

Like the "air guitar" we can imagine ourselves doing a single movement (without the bow) and only when we are convinced of its comfort by repeating it many times can we finally involve the instrument itself in order to seek the same feeling. Though it is really important that while doing this we don't forget to have the instrument in mind so that we do more or less the same movement without it than with!







# The attitude of the Nyckelharpa

Firstly, the movement of the bow is the purpose of our position. With the instrument hanging around our neck like a guitar and the right arm passing under it, we create a natural position for the release of the movement of the right forearm, as with the violin. So I can, without too much trouble, make all the technical violin bow strokes such as spicato, staccato, marcato, balzato and arpeggios etc.



is to reduce the load on the back. We should not bend over as in traditional the posture but the back should remain straight as we stand in position. And thirdly, our goal is the freedom of the left hand. If we are in the traditional position with the instrument on our leg it

Photo: Ronald Rietman

is not always possible to get all the way to the top of the 'A' string. A disadvantage some students cite is that they can no longer see the keys! I think we have far more supports than our sense of sight. If we are desperate, we miss the note (despite being able to see to keys) but if we are relaxed we are more likely to succeed and hit the proper key.

Some instruments (Osann, Condi & Janssens) have the advantage that the buttons on the back side protrude. So we can still look if we want to.



# The Left Hand

The left hand is fairly simple as compared to the bow. The principle of speed also works well here. As an additional support we can use a pyschometer element analysis: what happens to our reactions when we speak the word "PAF" out loud then compare it with our reaction to the word "BOF"? It's a totally different attitude with a totally different outcome. With "PAF" we are much more alert than with the word "BOF". Everything we do is programmed by the brain and how we control this is important.

In simple terms, we can say our mind is fast, alert and sharp but with a flowing, relaxed action. This seems at first sight to be a contradiction in terms but I like to guote the famous Belgian rally driver Jacky Ickx as a clarification. "The faster I drive the slower my mind goes."

Whilst playing it is not enough to merely relax the muscles because there should be a certain amount of force used to keep your finger on the key. That force (as explained above) can be replaced by speed. A movement of only about 2 or 3mm is made. Once there the finger can be relaxed while still continuing to play. If we do not relax the finger on the key we use a lot of effort to get it away again. This is a pity because you need twice as much effort than if you'd just let your finger fall from the key using gravity.

This technique will help you to be more precise with your position changes, particularly when the notes are far apart, when you make difficult double stop changes or even very difficult polyphonic lines on two or three strings at the same time when playing a fugue and ultimately to play without sight of the keyboard. which is very important when we play double notes or chords.

Exercise: Place the third finger on the A string and play the D. Hit the key fast but play a long slow note. Whilst playing, relax the finger until the sound goes away, and changes to a decaved note instead of a clear note. Then increase again just a



little bit more until the note comes back. This is the amount of pressure you need and no more. You can ask yourself the question « Am I more relaxed than before? « If you do this exercise 1000 times on each note you will be amazed at the result you get when you play double stops or fast notes.

#### The attitude of the left hand

A question I often get asked is "What about the thumb?" First of all, the thumb can be completely forgotten! It's a illusion to think that we have to hold it on the instrument so we can be safe knowing were we are to hit the right key. By fixing the left hand thumb we will block automatically the left arm, elbow and shoulder because they are related.



The second common question is "Should we leave our fingers on the keys?" The only reason sometimes cited for leaving the fingers on the keys is so that we are immediately ready to play it again after an other one. I do not think that the advantage outweighs the disadvantage: that is, if the fingers remain we are making more stress than if we remove them.

With a simple melody it is perhaps not so noticeable but try it once playing a sonata by J.S.Bach up tempo, or a very fast polska! Believe me you'll not be able to do it! I've tried it and it's just lost time with a risk of major injuries. There's no warning, you can spend hours playing cramped up and then you reach your limit and CRACK... result, weeks of rehabilitation.



#### The two positions of the left hand

#### Open and closed hand

The **closed hand** is used when the notes are close together as in semitones. The hand is completely relaxed with the fingers close together. A support for this playing attitude is to think of a small, circular sponge ball in our hand and squeezing it lightly with our fingers.



Closed hand

The **open hand** is used when the notes are farther apart as in quarts, octaves and arpeggios. In these instances it becomes difficult for the fingers to stretch using the closed hand attitude. Hence using the open hand attitude which bridges the distance and brings us back to playing in a natural manner.

(The palm faces up with the fingers open, which automatically allows us to move from one to the other without difficulty).

This attitude (second open hand) is also useful for switching positions without jumping. What is very important is to let go of the idea that the fingers always hit the keys in the same way. If we use the open hand we touch the key with the point of the finger, this can then move on to the second or even third phalanx of the finger.



Two kind of open hand:





1<sup>st</sup> open hand position



2<sup>nd</sup> open hand position

# The Bow

It would be possible for me to write an entire book on this subject alone! The soul of the instrument, the personal interpretation of the music, the groove, tone, grain, everything is in the right hand (and of course, the bow).

If someone else plays a melody with identical notes what makes the difference between us is the way we play the notes. I'm not speaking here about ornamentation or vibrato. When I play on my nyckelharpa, my bow sounds different than when someone else plays. The sound is directly related to the manner in which we move, stand or even our mind set.



11

In other words, if I'm tired it sounds different to when I'm alert. This is true even if I'm happy or sad or have been arguing with my girlfriend. My body reacts differently if I've been swimming, walking, or dancing all night than first thing after I get up in the morning, bright and lively. All these differences are very subtle and we should give 99% of our attention to it.

#### The attitude of the bow

What should be the correct attitude of the bow is another frequent question from students, with many answers and many an outcome which differs from the teachers. Let's make a comparison between an attitude and a movement we know well. If we take a plastic cup if we were going to drink and now replace it by the bow without making any change in the attitude of the hands or fingers. Now just close the fingers slightly as the diameter of the bow is thinner than that of the cup. The pressure can also be compared to the fact that by pinching too hard the cup will break and without enough pressure the bow will fall to the ground. A cup we hold our very lives, attitudes and feelings around is known. Therefore I think it's a good support.







Sound quality is very subjective. A blues guitar player does not play with the same sound as a jazz guitarist. The blues player with his groove to the forefront, the sound rough and noisy combined with a singing voice drawn from years of smoking and alcohol use. On the other hand a jazz guitarist has a different approach. In the Swedish tradition, the "contrabassharpa" or "moraharpa" is a little similar.

Firstly we'll look at the bow up close: an absolute miracle without the aid of modern, advanced technology! Just a piece of wood with some horsehair. Everything depends on the quality of the wood (usually pernambouc) the thickness of the bow at the last bend and the balance of the bow, which is sometimes entwined with silver wire. The rest is a secret that almost every builder takes in part to his grave. It is therefore not surprising that the price of a good bow can sometimes rise out of all proportion. Looking at the horsehair under a microscope, we can see small tubes with tiny little pins and scales. It is these, along with the addition of some pine resin which allows the strings to "roll". If we push hard on these scales and crush them it reduces efficiency. Most people think that more pressure on the string is the only way to play louder. I would like to show that it is not.

If we look at the string under a magnifying glass we will see that it vibrates quite a lot as we quietly "stroke" and much more as we make fast and large movements. The result is linear: a little vibration to give a quiet sound and vice versa.

The trick is to move all your body parts in a way as to allow the bow on the string total freedom. It is an illusion the think we can





fully control the bow. I think that we should go on being respectful that talented builders produce something approaching perfection. One must use the bow as you would use a sharp knife to cut!

My neighbour once taught me that there was no need to push hard on my chainsaw after I had to sharpen it for the third time! "The machine is perfectly made for it's purpose" he said. Indeed, I noticed that it was no use to saw like a lunatic as it didn't go any faster and just made the saw blunt again. I learned to "feel" that by "doing nothing" the saw cut quicker through the wood.

# Pressing the first finger

Look at how the string reacts by pressing and not pressing, the wideness changes



Pressing on the 1<sup>st</sup> finger

Without pressing on 1<sup>st</sup> finger

Usually the tension is on the first finger, therefore causing the wrist to be blocked and the forearm to lose fluency. It is very difficult to convince players that it is really not necessary to press with the index finger. When the wrist is completely loose, and this can only happen when the thumb doesn't press on the bow, then the forearm can make the sound by letting the bow do all the work. The position of the bow in relation to the bridge is naturally of great importance as the strings do not have the same tension close to the bridge than further toward the keys, therefore the bow will react differently. As I said earlier the speed will increase the sound





Exercise: The attitude of the bow

A glass has already helped us with the attitude of the bow approach and the following exercise allows an additional support.

Bring your right hand horizontal, palm up. Take the bow with your other hand and place your fingers diagonally at roughly the height of the second phalanx and the tip of the little finger on the bow. Next bend the fingers so that the bow is brought to the thumb. Warning! This is not to be performed the other way around. When we bring the thumb to the fingers the muscles exert an excessive force and completely alter the wrist from its neutral position.



Now we have fixed the position of the bow, we must still make our horizontal attitude into a vertical one. This can be done with the forearm if we make a 180 degree turn. Concentrate on what you feel in your hand while you are turning. If the bow is horizontal you should be feeling weight, especially on the little finger (the one that remains on the bow). If the bow is vertical then you should be feeling much less weight. The trick is to always do this in as normal a manner as possible. Think for example, that you are holding a glass and filling it from a bottle.



You can make use of this exercise to improve tone quality. The less you squeeze the bow the warmer the sound will be. In summary, we should not hold the bow firmly, we should support it.

#### Folding & unfolding the fingers during playing

The fingers also have an important role to play in this unconventional attitude of the bow. When the fingers are bent then they can absorb any jerks and allow the thumb to run smoothly. If we compare this to skiing, bent knees produce a cushioning effect on the bumps. I actually wouldn't want to ski on the slopes with straight legs! Obviously with the bow there are no big bumps as on a ski slope but small strokes often allow the strings to become free or loose: this doesn't only happen with the "spicato" but also with many minor phrasings and accents (sfz, fp, etc). In our vernacular we constantly place accents, for example, to emphasize something. There are languages that are musically more rhythmic than others but these can have a monotone sound a bit like a robot!

This is one of the important points in music and the bent or folded fingers have a big function in this.





For large or long bow strokes I bend the fingers less than for short bow strokes, for example, when you are playing fast.



**Exercice:** Put your fingers on a table with a relaxed hand, wrist +/-5 cm higher. Go down with your hand by folding the fingers and keep the fingertop on the table.



# Allowing the bow to do it's work

Once the bow is on the string then gravity will help us with the tone without pressing. The weight of the bow alone is sufficient to produce a quiet sound. Let the bow caress the strings. As explained earlier, the strength of the first finger causes pressure on the small pins or scales of the horsehair of the bow, consequently we lose sound and think that we still have to push in order to make more. This gives an oppressive sound without flair. A good comparison here is to play the Crystal Glass Organ: you know, a dozen glasses filled with water, each tuned to a pitch by the volume of water. You can then play melodies with your fingers. Make your fingertips damp and lightly spin the fingertip on the edge of the glass to make a sound. When you push the finger it's impossible for the glass to vibrate.

**Exercise:** Put your nyckelharpa on a table and see that the keys remain free of the strings. Put your bow onto the strings. Hold the bow balanced on the strings without pressing it. Only the weight of the bow will make the sound. Next draw your bow back and forth and listen to the result. How does it sound? How loud or quiet is it?





You can now vary the speed. Listen to how the sound changes when you move faster or slower. You can also change the position of the bow on the strings. Use this exercise as a sound laboratory. You will never really play in this manner but it can give you proof of what you can do and what result can be obtained with this technique. Now on the other hand, push the bow. What happens to the sound?



**Exercise:** Once we have analysed the tones we can now try the same technique with the nyckelharpa in a playing position. Hold the instrument in the manner you're used to playing in. The first step is to lay the bow around the middle of the strings but hold it with your left hand. Let your right arm hang at your side in order to have a completely relaxed attitude. Then bring your arm up to the bow. Then with the identical movement move up and down the bow lightly (actually the bow). In this way you can see what happens to your arm, fingers, elbow and shoulder, while you remain in a completely relaxed posture.



The second step is looking at the sweeping movement of the arm, suddenly bringing the bow to make a stroke. The purpose of this exercise is to try to do exactly the same with or without the bow. You will need to put aside all your old habits and accept that the way you hold the bow might be different to the way you are used to. Once your arm feels comfortable try checking in a mirror to see what you are doing.

Another good test for all exercises is filming! It is hard as the sound is often not so good but at least you can see clearly all your errors! You are, as it were, your own teacher. The purpose is to go forward constructively and gradually improve into *"somewhat better than yesterday and slightly worse than to-morrow!"*.

You can also look deeper in order to better understand the principles of the bow. An analysis of the structure of the arm helps but there is always the danger of thinking too much when you play afterwards. It is thus important to act almost like a scientist and leave these things behind you when you are playing.

#### The mechanism of the right arm

In order to find the correct movement for the right arm we must first look at how it moves without the bow.

**Exercise: The thumb.** Let your arm hang down by the side of your body, the thumb pointing downwards. Now move your arm up into the air vertically, thumb pointing upwards. The thumb is thus at a 180 degree angle.



19





Try now to do this same movement with the bow.

We can now make the same movement with the bow. Place the bow on the nyckelharpa somewhere in the centre of the bow. Look at the position of the bow, which is slanted downwards. Now we can try to copy the position of the thumb. It is important not to hold the bow tightly. We should hold the bow as we would normally stroke.

Next we slide gently above the bow, moving softly from the heel to the point.

Note well the position the thumb takes on the bow. It is important therefore to consider whether it is actually necessary for the thumb (as it is explained in many techniques) to sit fast on the heel and particularly not to be free.





Fixed thumb

Thumb in a relaxed position

Most tendonitis comes from the fact that the thumb is not free and thus blocks the wrist! If we go on to play the strings it is very important to allow the thumb to turn. Thanks to the bending and stretching of the fingers we notice that we play the point with the tip of outstretched fingers and the heel with more bent fingers.





## The Index Finger

In order to eliminate misunderstandings it is important to specify the task of the index finger. We should not be pushing with it. We know that the sound becomes pinched when we push with the index finger. However its job is very important.

21



**Exercise:** Place the bow on the string. What happens if we let go lightly from the index, middle and ring finger? It slides across the face of the strings. The task of the index finger is to bring the bow back towards the bridge. Earlier I said that the sound is different closer to the keys or nearer to the bridge. To check our sound we use the index finger.



Allow me to show you a little trick in order to prove I don't really need to play with my first finger and also without with the thumb. Its strange but it works if you try it please do it above your bed or sofa!





#### The Wrist

The wrist is the key to success in sound quality. There is a misconception over the driving power of the bow; most concentrate on the wrist to make the sound. The problem is that in everyday life the wrist does not fulfil this function and it can overload the strings. The engine sits in the elbow, the forearm moves and the wrist just follows.

**Exercise:** Grab something light, for example, your keys from the table. This movement is made from the elbow, right? If you compare this with a horse and cart, the horse is the elbow and the cart is the wrist. You steer the wrist with the arm muscles. Applied to the bow, this means you move the bow with the forearm. A locked wrist means that the bow is no longer free to move across the strings. The sound is dull and different bow strokes like spicato, arpeggios and secondments etc are difficult.

#### The Forearm

The fluidity of the sound has to do with how smoothly the forearm moves. If we use force against the inside of the elbow then we hinder the fluidity of the movement of the bow. On one side we want movement but on the other side we stop it. It is as if we want to cycle but at the same time brake. This creates a forced sound.

#### The upper arm & biceps in the shoulder joint

The pivot point of the elbow works in one direction only. If we first touch our shoulder with our finger and then the navel, this movement is only possible because the arm turn from the shoulder.







So when we use our index finger during bowing or stroking, we make a downwards movement, which in turn raises the elbow.



That makes it compulsory for the shoulder to move diagonally during bowing. If we do not push with the index finger then the elbow will remain pointing downwards. Thus the diagonal direction comes from the forearm.

In normal daily activity we never do so, ex. When you scratch your head you never do it with your elbow raised, do you?





**Exercise:** Lower your arm across your body, then touch you nose with your index finger. Watch your elbow, which is pointing downwards. We must try to keep the shoulder fully loose.

# The Shoulders

The collarbone is the key that opens the door to the quality of and "open sound". As I have mentioned earlier it is very important to keep the shoulder in a completely neutral position. This includes the attached muscles, the large muscle that is activated if we, for example, hold a book under our arm and also the muscles we use to move our shoulder up and down.

Tension in the shoulders gives a direct tension to the thumb and conversely the thumb and shoulders are directly in contact. (This is one of the known assertions of alternative medicines such as osteopathy or acupuncture.)

Here we can already see, what at first sight appears unconnected, a link with the violin that shows all the features are perfectly in tune. In other words, everything is linked. And if there is something not quite right in one place then it affects other places too. For example, as with an old mechanical watch, if one small tooth or wheel from a thousand different elements of gearing is broken or at fault then the whole watch is faulty.





**Exercise:** Take your instrument in the playing position, let your arms hang beside your body. Feel your shoulders!



Now put your left hand on the keys and try not to alter your shoulder position. Do the same with the right arm. Now play a simple melody. Stop somewhere in the middle and remain still like a statue. Then gently relax your shoulders one at a time. Were they very tense or just a little?

It is important to make these small tests in your study time and stop on occasion to relax. You will see that how difficult what you play is relative to how tense you will be. This you should try to limit. You will see that this can double your study time before getting tired and also doubles your chance of playing difficult passages too!

To understand this system, compare it to when you work on your computer and the mouse is constantly busy: you will stiffen your shoulders! After a while you will notice some tension in your wrist. Well, the concentration will stiffen your shoulders and it will also stiffen the wrist giving you tendonitis in the same way!

**Exercise: "Wham"** This last exercise is a synthesis of the whole theory about the sound of the nyckelharpa. The word « wham » illustrates the movement of a plane that lands or takes off.

Prepare yourself in a relaxed way as explained earlier and play an open A string. Try to imagine the movement of a plane that is landing. Listen very carefully to the sound that is being created and don't play too loud. Play for two or three strokes and « take off « (like a plane) the bow and listen to the sustain of your sound! It's important not to play too long, as your old habits can easily come back! When we analyse this way of playing we can see that the bow is landing on the string in a smooth way, caressing the string and landing bit by bit using it's own weight. A little « turbo » will activate the string and a round note will be created.

This is the opposite of putting the bow on the string in a vertical way, pushing on the bow and only after this, playing. The result of this will be an aggressive approach which gives a forced sound. Of course I don't want to sound too negative about this second way of playing, it can be beautiful in a kind of groovy blues-bluegrass way of playing but it's just not the way I like to play. But I can certainly enjoy listening to it.

In closing, I would like to thank you for your interest and the time you've taken to read this essay. I do hope that it proves useful to you and I wish you many years of happy and successful playing.

Didier François



#### Didier François (Belgium)

For about 20 years now I teach and play the nyckelharpa and I have the chance to make a living out of it! I like to do researches on sound, technique, groove, musical expression ...

In this instrument I also found a good partner to express my creativity in many compositions and improvisations. More and more I specialize in playing in a polyphonic way.



Photo: Per-Ulf Allmo

About 15 years ago Marco Ambrosini and I met at a festival in France. We talked a lot about our passion for the nyckelharpa and a nice cooperation started, both attracted by the fact that we were doing, in a certain way, the same thing.

We thought it was rather strange and a pity there were not so much links in between all that was happening around this strange unknown key fiddle. Many people around the world are playing, working, searching, teaching, composing, without really or easily knowing about each other. Something had to be done!

And today I am happy other people thought similarly! I am more than thankful about the CADENCE project. We finally had the chance to share ideas, music and different points of view with people from five European countries.

I hope this will be only a starting point for the spreading and the evolution of a very old string instrument that still has so much mysteries to be discovered.

www.didierfrancois.be www.myspace.com/didierfrancois