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Surviving Over-practice Injury
The quest to find freedom in violin technique

Skriftlig reflektion inom självständigt arbete
Till dokumentationen hör även följande inspelning: xxx
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1. Introduction

What made me the violinist and musician that I am now, how to develop further, and could others profit from knowing about my journey?

I suffered a trauma, lived through the nightmare that many passionate musicians fear: an over-practice injury. Over-practice or an overuse injury is a condition where a biological tissue, muscle, bone, tendon or ligament, is stressed over its physical limits causing microscopic tears, which lead to bleeding and swelling in the injured area. In cases of musicians, most common injury is the tendinitis, where often the most painful part is the muscle attached to the tendon. (Norris, 1993, p. 1)

The reason I call my injury “a trauma” is that it did not only affect my physical ability to play but it also changed the way I look at life. It made me face the fact that I might lose one of the most important things in my life: playing the violin. That realisation made me to move to another country and risk a lot by starting everything from the beginning, without knowing if there would ever be any results.

1.1 Aims

I wanted to scratch the surface of the process of recovering from an injury to help someone else who feels totally alone with their problems, and to give hope by manifesting that recovery is possible with the right attitude and the correct information.

I also wanted to test my limits and develop my ability to produce a beautiful and effortless sound. After two years of recovery and playing only sonatas and shorter pieces, I wanted to see if I could play one of my favourite pieces for violin, the first movement of the Tchaikovsky Violin Concerto. My relationship with it is very personal, since it has always been my dream to be able to play it and only four years ago it felt absolutely impossible. The idea behind this investigation is to find out what I can learn about myself and about the violin technique by preparing for my final recital and especially, preparing for the Tchaikovsky. What kind of information can I find in addition to what I have learned from my teachers so far? What are the factors standing in my way during my journey and how should I deal with them?

1.2 My background

To get the idea where my problems began, it is important to know about my background. I started my violin studies in Finland in 1993 with the Russian violin school, just like many young violinists in Finland at that time. I was used to very strict teachers throughout my violin education. In the beginning, nobody talked about ergonomics or that violin playing should not cause any pain. The most common advice was: practice more.
I started figure skating around the same time with violin playing, later also horseback riding. When I was a teenager and my life became too stressful and increasingly difficult to juggle between all my intense hobbies, I had to choose which ones to continue. I chose the violin. Later I continued with many kinds of physical activities such as Pilates, horseback riding, kickboxing, gym, and finally jazz dancing. I can truly say that sports have always been a way of life to me.

As a personality, I was a classic example of a good girl. I was a people pleaser, always did what my teachers told me to do, without questioning them. I demanded perfection, had high respect for authorities and had learned to be humble. I never complained when playing caused pain. I thought it was normal.

In the beginning of my bachelor studies in Finland, I developed very fast and that encouraged me to practice harder and harder. My motivation was higher than ever. The strange thing was that even though I was getting better, my perfectionism and self-doubt only got worse. I couldn’t give myself a break. In 2008 I started to notice signs of fatigue in my left arm. Sometimes my bicep became numb while practicing. I also had a long history of back pain. Finally, my left bicep stopped working. Around spring 2009 until my graduation in the spring 2010, I was not able to produce proper vibrato, had no stable intonation, and had all kinds of pain in my left hand, wrist, fingers and shoulder. I also felt clumsy and stiff while playing.

After graduation I decided to have a gap year. During that year I saw a physiotherapist regularly, had several master classes and even a doctor’s appointment to find out what was wrong. They gave me some insight, but finally, in the summer 2010, I was lucky to attend a master class of Juhani Palola at the Liminka Music Camp. He was able to help me to start my healing process, the journey to discover the violin playing again. Already at my first lesson Palola pointed out some important factors affecting my playing:

- lack of breathing
- too much pressure on the strings
- ineffective practicing methods
- stiffness of the body and posture
- lack of self confidence

All these factors together seemed to have stopped my development. They had also contributed to my serious stage fright. After only one year of studying with Juhani Palola I was able to practice almost normally again, instead of five minutes at a time. In addition, for some reason, performing started to be enjoyable again.
Juhani Palola told me about a violin professor in Austria who was specialized in ergonomics. He encouraged me to apply for the Vorarlberger Landeskonservatorium in Feldkirch to study with Professor Maria Kikel. With her I started the violin playing again, from the beginning. During those two years I started to truly understand the gravity of my injury, how the human body should work, how important the environment and atmosphere are and most importantly, I learned that good violin playing is possible without any pain.

Professor Maria Kikel introduced me to the Feldkenkrais method as well as some good exercises with and without the violin. The most important technical revelation was that I had always pressed the strings too hard with my left hand fingers. In general, according to Professor Kikel, I had used too much force while playing. She reminded me though, that this was only one small part of the many reasons why I had ended up with an injury. She talked about the balance of the body, how the mind affects the body, how one’s personality affects the mind, and so on. Some of my characteristics are a strong will to develop, a crippling perfectionism, combined with a lack of patience. Those characteristics were poisonous in a stressful environment. After many years of pressure, even the strongest will could not force the overburdened body to work.

After two years in the Austrian Alps, I decided to audition for master studies at the Royal College of Music in Stockholm, just to get experience and to find out if my new technique could take the pressure. I had no intentions to get in. I was just happy to be able to play again. And so it happened, I got accepted, against all odds. I knew that the master studies would be the ultimate test, and I was not sure if my arm could take it. Now, after finishing my studies, without an injury, I have the urge to find out what was exactly behind the wisdom of my teachers.

2. Reasons for an over-practice injury

Why did I get an over-practice injury and somebody else didn’t?

I will go through some of the main reasons for over-practice injuries, main interest in the left hand and arm of a violinist. There are, if you divide roughly, psychological and physiological factors, which, in the end, cannot be separated. They affect each other, and in my experience, one cannot exist without the other (Garam, 1972, p. 89). An injury of a musician is a very complex thing (Kaladjev, 2000, p. 61). This I will explain in detail later.

There is a list of possible reasons for injuries of musicians in Richard Norris’ book *The Musician’s Survival Manual: A Guide to Preventing and Treating Injuries in Instrumentalists* (1993), which I will use as a guideline. The book is written by a doctor, and in my opinion, some of the factors have
been simplified, which gives me the possibility to examine those in comparison to more complex views, such as the violin technique and my own experiences.

Richard Norris, MD is a performing arts medicine specialist, who started the first clinic for musicians and dancers in the Boston area, the Boston Arts Medicine Center, in 1987. He also taught health education for musicians in the New England Conservatory. Norris can also play guitar and flute. (Homepage: Musicians Survival Manual)

Another very important author, who brings the violinist point of view to this investigation, is Lajos Garam. He is a Hungarian born violinist and studied with Anja Ignatius in Sibelius Academy in 1959-1962 and 1964-1965, which was followed with studies for example in Cologne with Max Rostal. Garam has played as a soloist around Europe. In 1973 he started teaching violin pedagogy in Sibelius Academy as well as in Bergen in 1973-1975. Garam was a ground breaking violin professor and pedagogue in Finland and worked as a lecturer and a teacher in Sibelius Academy until he retired in 2004. He gave also seminars and lectures in Bergen, Tallinn, St Petersburg, Boston and all over Finland. (Homepage: Hangon Musiikkijuhlat)

2.1 Physical condition

I’m sure most of us have heard the phrase: Music saved me from sport. Often is said, that musicians have not paid enough attention to physical conditioning, especially because we spend so much time indoors and most of our work happens intellectually, with not so much variety in movement (Szende and Nemessuri, 1971, p. 188-189, Garam, 1972, p. 89, 1990, p. 15, 28 and Norris, 1993, p. 2).

I also remember that the first time I heard about the importance of taking care of the body of a musician was during my bachelor studies. That was the first time I was informed that we should stretch and train the muscles as we were athletes. The good thing is that this is changing. I’ve had master classes and music courses where they offer lessons for physical conditioning also for the younger students (Liminka Music Camp, Savonlinnan musiikkileiri, Nurmes Music Academy, Internationale Sommerakademie Bad Leonfelden etc.). They have offered Pilates, stretching, yoga, Tai chi, Alexander technique and sports such as football or walks in the nature.

But can the lack of physical condition really be the main reason for injuries? Most of us know great violinists like David Oistrakh and Itzhak Perlman, who do not seem to be the most athletic musicians. Still, when you watch them play on You Tube or on stage, you can see and hear how relaxed, beautiful, exact and technically superior their playing is. They have been able to play concert after concert on a top level without being in top physical condition. What is their secret?
It is understandable that a good muscle condition is beneficial to anyone, and for musicians it gives an easier way to find a comfortable playing positions and a muscular balance, which help with finding an effortless way of playing (Garam, 1990, p. 28). In addition, the best possible physical condition makes it possible to take advantage of the full potential of a person, and any external disadvantage or disturbance might have a lesser effect. A healthy body means also that the organs function better: physical training is beneficial to the metabolism, heart rate, blood pressure, the nervous system and of course physical and mental endurance (Szende and Nemessuri, 1971, p. 184-185 and 188-189).

When it comes to my own experiences, I must say that the lack of physical conditioning has not been the main cause of my injury. I had been athletic my whole life before my arm refused to work, and already when I was a teenager and had horrible pain in my upper back. I would say that I was more likely training too much than not enough. So what was my downfall then? As Garam (1972, s. 89, 1990, s. 14-16) and Szende and Nemessuri (1971, p. 184-190) say in their studies, rest, psychological factors and ways to start recovery both mentally and physically are just as important to development and learning as good physical condition. It seems I had not actually taken care of my body.

2.2 Suddenly increasing playing time

Norris (1993, p. 2) mentions that the most common reason for injuries is when one suddenly starts to play more than usual. I have seen this happen for example in the sports world, in figure skating, when somebody is trying a new trick or training too hard at the gym after a long break. The muscles were simply not ready for it. It makes sense that the same can happen with instrumentalists. I’m sure every violinist knows what it feels like to play after a long holiday; stiff, slow, clumsy and not sensitive. And how about music camps, where one has suddenly nothing else to do but practice, master classes that inspire a student to practice more than usual? And extra gigs when you should be resting? (Norris, 1993, p. 2.)

After the first part of my bachelor exam, the second big recital in my school, Metropolia University of Applied Sciences, I was supposed to rest. But instead, I took working opportunities in orchestras and started eagerly to practice my new program. As Norris reminds (1993, p. 15-16), the body needs to recover and its signs should be heard to avoid an injury. No matter what the situation is, sabotaging your development only due to a sudden peak in motivation or a need to panic practice is not worth it. In my opinion, it doesn’t matter how well you know the piece or how much money you’ll earn if you can’t move your arms in the concert, or the rest of your career.

When the muscle is over-used and exhausted by a continuous and repetitious movement, it hardens, tenses and stiffens due to changes in muscle proteins, chemicals and structures, which make it impossible to move as effortlessly as usual. This might even cause pain after some time. The solution is rest. Also the complicated central nervous system will get
exhausted if there are no needed breaks. That will be then even more serious, since it affects for example our sense of touch, vision and hearing. This is why regular breaks are extremely important when you practice a lot, and the most effective form of resting is having a good night’s sleep. Relaxing makes it possible for the body to start the counter effect of the working mode, where the metabolism is active, blood circulation and hormones raging through the body. (Szende and Nemessuri, 1971, p. 185-188.)

Garam (2000, p. 81-84, 1972, p. 23-24, 90) talks constantly about the slow and patient building of the violin technique, and warns about doing too many exercises at ones and too long. Also, the efficiency of practicing is far more important than the duration (Whone, 1972, p. 98). This brings us to the next cause of injuries.

2.3 Bad practicing habits

Norris (1993, p. 2-3) emphasizes the need to warm up the entire body before starting a practice session and that that is not common among musicians. When I was younger, I never really warmed up my body. Maybe I waved my arms a bit, rolled my shoulders, but mainly I focused only on warming up my fingers with scales or other finger exercises. Only later, after surviving the injury, I started to take warming up seriously. These days it takes at least 30 minutes to go through the stretching and exercise routine every day. Only after that I start warming up with my instrument. I find this extremely helpful in feeling my body, sensing better with my fingers, feeling flexible and better in balance. That is also what Garam finds a desirable state when practicing. He writes a lot about the “fundamental balances” and that they are essential in finding an effective, economic and ergonomic, in other words, free way of playing (Garam, 1990, p. 28-34).

Garam also writes a lot about other common mistakes in practicing habits. He mentions that bad practicing can be even more detrimental than not practicing at all. First he mentions the habit of practicing your own mistakes. It happens when you are tired, unfocused and not really thinking about what you are supposed to. That leads to repeating a passage over and over without noticing the mistakes and definitely not correcting them. Other common sign of bad practicing is playing in a too fast tempo too soon. Also forgiving passing mistakes and not trying to play correctly immediately, but thinking that it will surely fix itself after ten tries, is a waste of time and energy. (Garam, 1972, p. 124.)

Good practicing on the other hand should be well organized and well thought through. It should start with the theoretical aspects of the given piece, move to considering different bowings and fingerings and then to the technical practicing, which should happen in a slow tempo. The importance of slow tempo in the early stages of practicing cannot be emphasized enough. The mind must be completely engaged in practicing, to be able to control every move in a relaxed and calm manner. To achieve that you cannot play too fast. The goal is to make the movements automatic, so that
the end result would be free and effortless, and make the interpretation natural and easy without technical clumsiness. Garam also reminds that the mind must stay calm and the sense of the performance “slow” even when you start slowly increasing the tempo. (Garam, 1972, p. 126-127, 2000, p. 85-88.) Concentration, attention to the relevant things, positive mind set and slow motion are the key words (Whone, 1972, p. 98-100).

And why is this calm and controlled way of practicing so important in preventing injuries? It is important to achieve a technique, where there is the least possible amount of tension, the smallest and simplest movements, elasticity, and no waste of energy (Garam, 1972, p. 24). The muscles easily tense when the violinist notices that the piece has not been practiced properly (Garam, 1972, p. 117) or when it has been practiced nervously, with force and under pressure (Garam, 1972, p. 118). The mental aspects of practicing and performing are just as important to finding a healthy movement as the technical aspects (Garam, 1990, p. 14).

These are all factors that are very familiar to me, and they are most certainly some of the main reasons for my injury. Garam also mentions the different characteristics of a person and how those affect the way of playing. Someone with a strong will and fiery temperament usually uses more force in their technique, which is a trait I admit to having (Garam, 1972, p. 23-24). Patience has never been one of my strongest abilities, and I often practiced under pressure, forcing myself to learn as fast as possible, which made it impossible to achieve the desired minimum state of tension (Garam, 1972, p. 24). My teacher Maria Kikel has said that with the right kind of technique, including both mental and physical aspects, you can play as long as you want and no harm will be done.

2.4 Bad technique

Next on the list of the reasons for injuries by Richard Norris (1993, p. 3) are “errors in technique”, as in bad technique, or more accurately, energy wasting technique. This consists of using too much force, causing unnecessary tensions, not being able to use the left and right arms independently from each other, causing clumsiness of coordination (Norris, 1993, p. 3, Garam, 1990, p. 47) and having a body posture that causes the unbalance of the muscles, which then makes it impossible to use the full potential and energy of the body (Garam, 1990, p. 28, 31-34). After my experiences with my teachers and after investigating the violin technique by reading the works of Lajos Garam, Kato Havas, Yehudi Menuhin, Herbert Whone, Alfred von Horn and Otto Szende, I believe that violin technique cannot be separated from ergonomics. The perfect technique, which in my opinion would not cause injuries, is in fact depended on healthy, natural and comfortable positions and movements.

2.4.1 Posture and movement

First of all, everything in violin technique should be based on “the fundamental balances” (Havas, 1973, p. XIII). It consists of mental balance
and physical balance, which together make it possible to achieve ergonomic movement (Garam, 1990, p. 8-9, 14, 32 and 45). What is then considered ergonomic movement? Natural, smooth and harmonious movement happens first in the mind, as a strong mental image of the physical feeling (Garam, 1990, p. 16). It is important to have a good kinesthetic perception of the body, which means that you should be able to sense the positions and movements of your joints and muscles clearly and recognize the difference between tension and relaxation (Garam, 1990, p. 28-29). The goal is to have as little effect of the gravity on the body as possible, find the natural speed of the movement, so that the movement feels easy and free (Garam, 1990, p. 28, 30-31). This is possible if the player has found the ideal posture, which helps with breathing and finding a relaxed position of the shoulders, which then again helps with freeing the movements of the arms, hands and fingers (Garam, 1990, p. 31-32).

Holding the best possible posture needs only the smallest amount of muscle activity (Garam, 1990, p. 34). The body must be able to be in constant natural movement. There should be no stiffness or static positions. (Garam, 1990, p. 34-35.) The centre of the body, the balance point, should be constantly changing to avoid unnecessary muscle work and making it easier to move the arms (Szendé and Nemessuri, 1971, p. 40).

Basically all movements in violin playing are elliptical. Not completely straight into any direction, but round. My teacher Maria Kikel talked about that in Austria as well as Yehudi Menuhin in his book *Violin: Six Lessons* (New York, 1971). Garam talks a lot about his ideas and commends him on his ability to break down the movements in violin playing so thoroughly (Garam, 1990, p. 130-132). Thinking that every movement is elliptical and swinging, not straight and angular helped me a lot for example with learning the vibrato again.

As a child I learned to have “a good posture” and to move as little as possible. It might have been a misunderstanding from my part, but in my case it was a static position and I didn’t breathe freely or forgot to breathe all together while playing. My shoulders were forward and too high, teeth clenching together and jaw muscles tense. Also the balance point of my feet was too much on the heels and my lower back was curled, knees locked. This caused a lot of different kinds of pain in my upper and lower back and made the movements of my arms clumsy and heavy. In the end, my whole body was tense and stiff. Finally I was so used to the stiffness of my muscles that kinesthetically I couldn’t tell the difference between relaxed muscles and tense muscles. For some reason this kind of rigidity has become acceptable among most violinists, already to the extent that it is considered normal and inevitable (Havas, 1973, p. 14-15).

2.4.2 Holding the violin

Garam points out that there are many possible ways to hold the violin, many kinds of positions for the left hand, and they are determined by the anatomical varieties of violinists. There is no general rule that every violinist should be forced into one “correct” violin hold. The main common
element and what makes all these different ways possible is freedom of movement. (Garam, 1990, p. 35-36.)

As Garam puts it, there must be compromises made to find the best solution for every violinist. For example, a person with short arms might find it useful to hold the violin a bit lower than a person with long arms. Also the placing of the chin rest and how much the violin should be tilted on the shoulder is a matter of the violinist’s size and build. Most important is to find a natural position for the arms, neck and shoulders. It should be possible to change the place of the violin on the shoulder while playing instead of being fixed into one position. (Flesch, 1934, p. 11, Garam, 1990, p. 35-37)

The questions of using the shoulder rest and finding the points where the violin is in contact with the body are also a matter of taste, so to speak. Most violinists have contact with the violin on the collar bone, the chin and the shoulder. But there are many who prefer having contact only with the left hand and the collar bone, and they might also find the shoulder rest a restricting factor. Garam points out that one must remember few important things, whatever the personal choice of the violin hold is: to place the violin effortlessly on the shoulder, not to hang from the neck of the violin with the left hand, but to balance it by using the muscles of the back, and to make sure the shoulder joint is able to be free. (Garam, 1990, p. 35-39.)

The left thumb is important considering the fundamental balances. The correct use of the thumb can be extremely helpful or it can destroy the left hand technique completely. The main mistake that can stiffen the left hand is the squeezing of the neck of the violin. (Garam, 1990, p. 40.) Garam presents the different point of views by the greatest violin pedagogues, and there are many different opinions about the use of the thumb. Paganini kept the thumb in one position and did shifting by elastically stretching the fingers (Sfilio, 2002, p. 9, 27-28), Auer said the thumb should move with the hand during shifting opposite to the second finger, Galamian and Flesch said that the placing of the thumb depends on the length of the players fingers and the size of the hands. Garam points out that some of the pedagogues should not state any general rules on this matter. Menuhin and Rolland have come to the conclusion that the flexibility and the independence of the thumb are the key to the free left hand technique. (Garam, 1990, p. 40-42.)

Anatomically, one could state that the thumb is a very versatile finger. It has a wide range of movements due to its joints and muscles. It is actually moved by eight different muscles, some of them located on the forearm and some in the thenar eminence, located in the palm of the hand. (Szende and Nemessuri, 1971, p. 62) It co-operates with the finger flexors and the common finger extensors, which means that the thumb is activated for example when you raise some of the other fingers from the fingerboard. This makes the thumb a very useful companion while moving the other fingers, but makes the relaxation of the thumb challenging. The good thing is that the thumb is very elastic and adaptive and therefore it can be trained
to support the other fingers, as well as to be relaxed when it is not needed. (Szende and Nemessuri, 1971, p. 63-66)

When I changed my technique, one of the most important things was to learn to use my left thumb in a more versatile manner. A person with small hands can find the thumb very helpful for example when stretching the fourth or the first finger or playing big chords. I noticed that the thumb can even help using the fourth finger more by moving it opposite to the middle finger and giving the weak pinkie some needed support and freedom. The thumb must be independent and flexible, and not fixed into any position. It has to be able to move to a position that supports the other fingers so that they can be as relaxed as possible, so that the wrist does not stiffen and prevent the freedom of movement. As it is well said in the book by Szende and Nemessuri (1971, p. 73), it is important to do exercises that increase the independence of the thumb to achieve the correct proportions of activity.

2.4.3 Finger pressure

The pressure of the fingers on the fingerboard is also a very important part of the violin technique. How much is enough, how much is too much, and how to know the difference? This has been my most important revelation.

As it is clearly stated in *The Physiology of Violin Playing* by Szende and Nemessuri (1971, p. 17), the force that is needed to press the string on the fingerboard of the violin is much smaller than what the fingers are actually capable of. They make a good point, which I utterly agree with after my experiences: the main challenge of the pressing the strings has little to do with force and very much to do with skill. It means that the co-ordination of the muscles, speed and accuracy are the biggest technical challenges and need the most training. (Szende and Nemessuri, 1971, p. 17-18)

As I have noticed, too much finger pressure has several down sides. In my case, it caused one main problem, which has affected pretty much everything in my playing, and that is the stiffness and rigidness of the fingers. When the finger movement stiffens, the following happens:

- movements become slower and heavier
- it becomes increasingly difficult to feel the vibrations of the strings
- the loss of elasticity of the hand
- general clumsiness

All these have then resulted in following:

- heavy and slow shifting from a position to the next
- difficulty in playing fast passages
- chronic intonation problems
- bad co-ordination
- difficulty in spreading and stretching the fingers (very bad when one has small hands!)
- less different colours in the sound, mostly narrow, glassy and tight sound
- difficulty in producing different kinds of vibrato

These effects made me practice even harder and I started to think of violin playing as a sport or something that requires muscle force rather than as a technical and intellectually sophisticated action. The biggest frustration was that suddenly I was somehow not able to play in tune. No matter how much I practiced, all I got was pain in my fingers, wrist and arm.

Now I have learned that violin playing is indeed not a sport that requires muscle force (Garam, 1990, p. 29, 128). Only a small part of the muscular strength that human arms can produce is needed in violin playing, especially when it comes to pressing the strings (Garam, 1990, p. 46). But on the other hand, the important part is learning the ability to regulate finger pressure and to be able to have as sensitive, flexible and adjustable fingers as possible. Muscular activity is needed only when you need energy to counteract the force of gravity. (Garam, 1990, p. 47) That means, of course, that most of the energy is needed to lift the fingers from the string, not so much when you press them down (Szende and Nemessuri, 1971, p. 55). Also the lifting is more like a reflex instead of some kind of big effort. The fingers do not need to be lifted very high, just enough to free the string, though it has to be an active and quick movement. (Garam, 1972, p. 23-24, 33-34)

One of the challenges in controlling the finger pressure is to learn to use both arms independently. Often, when you play forte by applying more energy on the strings with the bow arm also the left hand becomes tense. (Garam, 1990, p. 47-48, 174, Garam 1972, p. 78) That has no use in an artistic execution and it most certainly does not help the physical well-being. There are several examples of passages where you have to play fast, delicate things in forte or something intense but in piano. In those cases it is very useful to be able to separate the activities of the arms. (Garam, 1990, p. 47-48)

The stiffness and excessive pressure of the fingers have a great effect on the vibrato as well. The rigidity of the left hand blocks the freedom of vibrato (Flesch, 1934, p. 11). The freedom of vibrato is important if you want to have different expressions in violin playing. There are roughly three different forms of mechanical vibrato: the finger vibrato, the wrist vibrato and the arm vibrato. One must remember that none of these mechanical forms exist alone but intertwined and mixed together to serve the artistic purpose. They all have their special characteristics and they should be used as spices; a little bit more wrist here and a bit more arm there. That is why it is important not to stiffen the fingers so that they can be flexible and reactive and the freedom is not disturbed. (Flesch, 1934, p. 11, Garam, 1972, p. 102-103, 106-107, 108, Havas, 1985, p. 35-36)

Too much pressure affects also the intonation. It makes it difficult to feel the natural vibration of the string (Garam, 1990, p. 127) and because a big part of the violin playing has to do with the sense of touch, feeling, especially
when it comes to playing in tune, it is extremely harmful to compromise the sensitivity of the fingers (Garam, 1990, p. 142). The stiffness and excessive force affects also shifting, because it is beneficial to use the least possible amount of energy when sliding the finger from one position to another to reach the desired note as accurately and as fast as possible (Garam, 1990, p. 171). That is simple physics, because it truly helps to have very small amount of friction in shifting, which means that the pressure of the finger on the string should be minimal, especially in fast passages (Garam, 1990, p. 174).

All the factors that are affected by excessive finger pressure - the independence of the arms, vibrato and intonation - come together in tone production and tone quality, in other words, the sound. The stiff, rigid pressure on the strings can be heard in the aggressive darting of the fingers, nervous, drilling vibrato, lack of vibration due to bad intonation and unvaried, brittle sound (Flesch, 1934, p. 11). It is very important to be able to feel the vibration of the string in addition to play in tune, which then causes even more vibration, which then again makes producing the vibrato easy and natural. All these together create the free, colourful and if needed, powerful sound, and all of this is possible without too much force. (Havas, 1985, p. 32, 35-36)

2.5 Instrument

The next cause of injury on the list by Richard Norris (1993, p. 3) is about changing the instrument, for example from smaller to bigger or to a new instrument, and that this change should be done carefully and practicing should be reduced while the player is getting used to the new instrument.

Later on the list he mentions also the quality of the instrument (Norris, 1993, p. 5). In my case, one of the reasons why I used too much force while playing was my violin. It was my first full size violin, and when I first got it, it hadn’t been played for a while and it had a very soft sound. I guess my personality didn’t fit the character of the violin or something of the sort, but I wanted a bigger sound and I was determined to get it. Later, that violin was often praised for its beautiful, full and brilliant sound, which was actually just a result of the huge amount of practicing that I did at the time. I played that instrument for more than ten years and later it seemed it had given me everything it could and it just wasn’t enough when I started to play more and more difficult pieces. I had not noticed how difficult it was to play, until I finally agreed to try other instruments. I had been so used to playing my old violin, I was so used to playing with force, that I had no idea that the violin playing could be so much more effortless with a violin that actually fits me and meets my needs. But I had been stubborn and in love with my violin.

In Austria my teacher Maria Kikel finally persuaded me to change the instrument and I found one that was so much easier to play but had also that brilliant sound that I had always wanted. The good thing in that change was that I had already learned about the new, economical technique with my old
and difficult violin. Also, the new violin was so sensitive that I simply could not use too much force on it if I wanted to have a beautiful sound. I was actually taught by it. So what I truly learned from that was that it is also important to let your violin teach you about playing. The instrument will tell you when you are hurting it.

2.6 Previous injuries

This factor on Norris’ list is something I had to learn about over and over again during my rehabilitation process. As he mentions, starting to play again too soon after an injury or not truly realizing the reasons and solutions can cause a vicious circle, which is usually triggered by a stressful situation (Norris, 1993, p. 4, 8, 10)

Though I had started changing my technique already while studying with Juhani Palola in Lahti, Finland, the actual rehabilitation began in Austria with Professor Maria Kikel. Until that point, I had suffered from my injury on different levels, on and off, already for about two and a half years. It is impossible to say the exact moment of realizing that something was wrong. This type of chronic injury starts only as a mild feeling of discomfort, and it escalates slowly towards pain and inability to use the muscles as usual (Norris, 1993, p. 1-2). I was also already used to pain during and after playing, so I ignored any of the signs that were there to warn me before I actually couldn’t move my arm anymore. But what finally woke me up was that despite reducing practicing and resting for several days, the injury kept coming back. Why?

That kind of ignorant and almost arrogant attitude towards the warning signs must be typical for violin players. Norris writes in his book that the most common reason for the comeback of injuries is that players start practicing too much too soon (Norris, 1993, p. 15). It just happens that musicians miss playing too much to stay away from it long enough (Norris, 1993, p. 103-104). Exactly what Norris warns about happened to me, because the first moment the pain and discomfort went away, I started practicing as usual and took extra chamber music lessons, without telling my teacher. My brand new technique was not yet stable nor was it even close to being automatic, which led to a setback. But as I have learned, setbacks aren’t uncommon at all (Norris, 1993, p. 108). Professor Kikel noticed this and we had a serious talk about the importance of beginning slowly, beginning with easier pieces and listening to my body. These are the factors that are very important for recovery, and there are many ways to practice without stressing the injured part of the body. They can be for example mental practicing, doing the movements of playing in the air without actually holding the instrument, playing easier pieces in slower tempos and making a schedule that forces you to start practicing in a controlled and gradual manner (Norris, 1993, p. 104-107).

For me, the most effective method, away from correct practicing, was to start living and having more social life, which actually made my playing better on a much deeper level. It also helped me with my depression, which...
is also common when going through an injury affecting one’s ability to control the body, especially when one is very used to solving technical problems simply by practicing and training the muscles (Norris, 1993, p. 94).

The other important factor in the process of recovery is the actual changing of technique, which is in the end the only way to get rid of the injury for good. Also the importance of changing the full body mechanics, learning to move your body and think about your body in a completely different way than before cannot be emphasized enough. To achieve this, it is fundamentally helpful to learn about the neuromuscular re-education methods such as the Alexander Technique and the Feldenkrais method. (Norris, 1993, p. 16, 93-95) During these past four years of rehabilitation, I have studied both of those methods and found them incredibly useful.

2.7 Other activities straining the body

To avoid injuring yourself again and to help the recovery, it is important to pay attention to the non-musical activities that might cause extra strain to the injured part of the body (Norris, 1993, p. 9-10). In general, it would be helpful to violinists not to stress the hands and arms too much also when they are not playing (Norris, 1993, p. 4-5). I remember when I was still in high school and I had to write a lot of essays and also practice the violin more than ever before. That was incredibly painful and I had a lot of problems with my right hand technique at the time. I am right handed, so I did basically everything with my right hand. In the end, even brushing the teeth caused pain. Fortunately, after starting my Bachelor studies in Helsinki, I had a teacher who knew how to achieve a good bow technique by simple but effective exercises, which strengthened certain muscles in the hand and allowed the arm to relax. This was before I was aware of the problems in my left arm.

I believe that one of the reasons for injuring my left arm had something to do with the sudden increase of the training of my arm muscles. In the middle of my Bachelor studies, I found dancing and was completely hooked on it. I had worked out before during my professional violin studies, for example at the gym, but now I added the dance training to it, which meant a lot of extra push ups. I also did not eat enough, considering the huge amount of training in addition to practicing the violin. It all happened very fast and I most definitely did not pay enough attention to the recovery part of the training. I should have for example stretched my bicep and breast muscles much more. Also regular massage would have been useful. I don’t think I would have had so many problems afterwards if I would not have been a violinist. The stress that I was putting my arms through was simply too much.

Later, I continued dancing but added the stretching, taking care of my body and listening to my body to the training program. I also noticed that as a violinist I simply can’t train my arms that much, and as I have stated before, one does not even need strong arm muscles in violin playing (3.4.3 Finger
Avoiding injuries is all about a good technique and the balance between working out, practicing the violin and making sure of the proper recovery process (Norris, 1993, p. 8-9).

2.8 Anatomy

If one is not careful, the anatomical anomalies might also cause problems, especially in violin playing (Norris, 1993, p. 5). For example, probably one of the most common challenges is the so called Lazy Finger Syndrome, where flexor tendons of the ring finger and pinkie, which curl those fingers towards the palm, are joined together in different degrees. Sometimes even the middle finger is connected. (Norris, 1993, p. 87) There is a test to determine if you have that condition: First open your palm, straighten the thumb, index finger, middle finger and the ring finger and hold them in that position with your other hand while flexing the pinkie towards the palm from the first finger knuckle. If you are not able to flex the pinkie independently from the ring finger, it indicates that the tendons located in the wrist or the forearm or possibly both interconnect them. Secondly, you can release the extended ring finger to be flexed with the pinkie. But if there’s still resistance and the only way to easily flex the pinkie is to also flex the middle finger, all three of the fingers are interconnected. (Norris, 1993, p. 90) I did this test and it seems that all of my three fingers, the pinkie, the ring finger and the middle finger are strongly joined together in the tendons located in my forearm.

The difficulties that follow affect more the movements of the left hand, not so much the bow arm, as I have noticed. This is because it is important to be able to use the fingers of the left hand independently, for example when playing double stops and trills. (Norris, 1993, p. 87-88) In my early career, I was always told to either strengthen the pinkie or to avoid using it while playing because it was “weak”. I didn’t want to completely stop using it, so I tried to train it and used more force, which of course did nothing good and only stiffened my pinkie, as so often happens (Norris, 1993, p. 87).

There’s a very interesting proposition that Norris writes about. He throws in the idea of testing the players before starting their violin studies (Norris, 1993, p. 88). I think it would be helpful with building the correct technique from the beginning. My pinkie is tiny and it is interconnected with the other two fingers, but I still found a way to use my pinkie by changing my technique. Instead of using force, I tried to find ways to free the hand and the ring and the middle finger when using the pinkie. Professor Kikel gave me exercises for that. Through relaxation and freedom it is much easier to use the fingers independently, because by stressing the hand and the fingers the tendons that are joined together only work harder. They tense and stiffen the whole hand. That is a waste of energy, which makes it even more difficult to separate the movements of the fingers. I learned to play a beautiful vibrato with my pinkie by remembering not to press too hard and to occasionally wiggle the other fingers to prevent them from stiffening.
When the ring finger and middle finger are free to move at any moment, so is the pinkie, which then prevents the stiffening.

2.8.1 Gender

Then we come to the question of gender, which is of course connected to the anatomical variations. Norris mentions that the statistics show that young women are the highest risk group for having over-practice injuries. He mentions that although the reasons are unclear, the fact that women have usually smaller muscles make them more sensitive to injuries. Norris reminds that the size and build of a person, male or female, should not be in any way a reason not to play a certain instrument. It is all about finding the right technique, correct practice habits and taking care of the body. (Norris, 1993, p. 5) In the end, the physical aspects of a person do not make them better or worse suited to play the violin. What matters are the neural characteristics of motor organization, which can be trained (Szende and Nemessuri, 1971, p. 161-162). I totally agree with this and it was very reassuring to see this written down by medical experts. Maria Kikel has also demonstrated with her exercises that there are many useful tricks for people with small hands and tiny little fingers, and that stretching and warming up the entire body is very helpful for anyone trying to find a free and sensible way of playing.

2.9 Environment

Surprisingly, also the environment seems to have its effects on the development of an injury. Norris mentions things like lighting, the quality of sheet music, which can make the player lean forward affecting the posture, and cold temperature, which is harmful to the muscles (Norris, 1993, p. 5-6). I would add here the quality of the air in the room, and especially when playing chamber music or in an orchestra it is important to pay attention to what kind of chairs the players have to sit on during hours of rehearsals (Norris, 1993, p. 38). The violinist’s body meets challenges also outside the practice room. Sleep is a very important thing, but unfortunately it’s not always affecting you as you would like, since sleeping can also cause back and neck problems due to a bad pillow or a bad mattress (Norris, 1993, p. 26). I have definitely experienced this and these days I can truly value a good mattress.

Norris emphasizes the effects of a cold temperature (Norris, 1993, p. 5-6) and to me that has been a challenging factor when it comes to recovering my over-practice injuries. I have played in freezing churches while on tour, I have had to warm up next to open doors, cold corridors and to practice in drafty practice rooms. The difference between the time when I didn’t stretch and warm up the entire body before playing and the time when I started doing that is huge. I am much more aware of my body these days, it is much easier to relax my muscles and my body feels more flexible and adjustable, which means that I am much less affected by the environment. Norris explains that in cold temperatures the nerve conduction slows down and the
fluid in the joints thickens, which make it difficult to move and feel the fingers (Norris, 1993, p. 6). That gives a good reason to warm up properly before practicing and before performances, and also to wear something warm, at least before going on stage. Of course, this is not always possible and that is why a good and relaxed technique can be very helpful.

Having a good pillow, in addition to proper warm up routines and a compatible chin and shoulder rests could have probably solved a lot of neck problems (Norris, 1993, p. 26). That is a relatively easy problem to solve. But when it comes to sitting and finding a chair that fits the requirements of a violinist is a bit more difficult issue. The human body is not designed to sit with hips and knees in a 90-degree angle (Norris, 1993, p. 38). That position makes it impossible for the thigh bone to rotate in its socket more than 60 degrees, which leads to the flattening of the lumbar curve, forcing the center of gravity of the torso too much behind the sitting bones, causing a turning force on the back. To resist the forces that curve the spine one has to activate the abdominal muscles, back extensor and hip flexor muscles, and when one has to do that constantly it reduces the blood flow and in the end causes pain and muscle spasms. Also trying to flatten the lumbar curve can lead to adding pressure on the intervertebral disks and stretching the capsules of the facet joints in the back. (Norris, 1993, p. 39) These symptoms are far too familiar to me. I have to constantly stretch the muscles around my lower back and hip area after an orchestra rehearsal. Thankfully, most professional orchestras have tried to solve this problem by realizing the importance of the forward-sloping seat. It is important to find a way to sit directly on top of the sitting bones, to maintain the natural curve of the back and to have erect posture. That makes it possible to use the least amount of muscular effort when seated, while also attaining the freedom of movement and possibility to breath with ease. (Norris, 1993, p. 39-42)

2.10 Psychological factors

What one must remember is that in the end the body and the mind cannot be totally separated (Havas, 1973, p. 16). The mind affects the tensions of the body without question and the power of the mind should not be underestimated (Havas, 1973, p. 96-101). Emotional tension in stressful situations causes muscular tension, which is manifested for example in the primordial manner, an instinctive way to protect the neck from danger (Norris, 1993, p. 24).

Hungarian Kato Havas, a child prodigy and later a ground breaking violin pedagogue, who revolutionized the method of teaching the violin, writes a lot about the power of words and imagination (Havas, 1973, p. I). She mentions that a person might have the right kind of movements but is still not able to let go of the tensions in the body. It is very individual and often subconscious, but in Havas’ experience there are words that can have a strong relaxing effect. She lists words that tend to create static images causing tension, for example ‘hold’, ‘grip’ and ‘press’, etc. Instead, the teacher should use words like ‘rest’, ‘swing’, ‘curl’, ‘flow’ and ‘release’,
which have more positive and relaxing effect in the mind. (Havas, 1973, p. 96-98)

Havas mentions also the effects of self-doubt, and how it makes it more difficult to achieve the relaxed way of moving. It can do a lot of harm if the person is not psychologically balanced and positive. Also in cases of self-doubt it helps to create positive images, which then lead to physical release. (Havas, 1973, p. 98-99, 125) I have definitely experienced the devastating results of the lack of self-confidence and negative patterns in the way I think about my playing. It made me often panic practice and push myself over the edge both physically and mentally, which caused a lot of tension in my body.

I have noticed during this journey that I had misunderstood a lot of things because I didn’t totally and precisely understand the images or words my teachers used. Later on the other hand, the images that helped me were for example the idea that the fingerboard is like a trampoline, that the fingers bounce from the string like there was no need for any muscle activity to lift them. Also, the idea of the skeleton moving like there were no muscles holding it still, that there would be a flow of movements starting from one part and moving to another like a wave. For example these images stayed strongly in my mind after the lessons with Maria Kikel and helped me to get rid of some of the unnecessary tensions.

Garam writes also about the effects that negative thinking can have on the body, reminding us that we do not move like machines. He mentions things like fear, causing tension and paralysis, as well as lack of concentrative powers and how they affect our movements. Over-practicing, too high expectations, too high or low motivation and things related to those contribute also to the development of physical tension. (Garam, 1990, p. 13-14)

I agree totally with his notion that first the mental hygiene must be taken care of before the harmful physical patterns can be completely dealt with (Garam, 1990, p. 14). I also asked about this from my former teacher, Professor Kikel. Why was it possible for me to take all the information in and to adapt to the new technique so fast, or at all? For me it had to be a slightly traumatic and dramatic event to snap me out of my frustration and depression. The fact that my playing had obviously gotten worse, which I know because of the feedback I got from my last performance during my Bachelor studies, and that my arm simply did not move and my entire body became stiffer every day made me seek help from everywhere I could. I took several master classes, had to take a gap year and ended up in the Austrian Alps, completely away from the stressful environment of Finland, to a teacher who knew that everything had to slow down for me to start over. “You were mentally ready”, Professor Kikel said. I had gone through a trauma of thinking that this was it, my career is over. Also the gap year and finding a teacher, Juhani Palola, who knew how to handle me and calm me down helped. The smallest hint of hope kept me going. I remember thinking that I will do anything to make this work; I will dedicate the next years of
my life to this. I was completely broken, which made it possible to be completely open.

3. The warning signs

It is fascinating how much pain a person can take when there is enough motivation to get better and desire to express oneself through music. But if the signs that your body sends you are ignored long enough, finally the day will come when it all ends; the muscles refuse to work, the development stops, and then what will you do with all that motivation?

Already in my early teens, I had chronic pain in my back, mainly upper back and areas around my shoulder blades. That was a result of a bad bow technique, and around that time I also started to practice more and take part in youth orchestras. I was also always very used to having cramps in my neck area and sometimes I couldn’t even get out of bed and stand up normally in the mornings. Those symptoms occurred more often when I was preparing for a recital or an exam, which meant that I had periods when I practiced about eight hours a day, sometimes even more.

Later, when I started my professional studies in Helsinki, the stiffness of my body felt already normal to me. I was used to the feeling. Even though many improvements were made on my technique, the stiffness stayed and later caused a lot of frustration. No matter how hard I practiced, the development seemed to slow down and finally it stopped. My left arm was in a state of cramp and it could no longer take orders from my brain. When I look back, there were many warning signs before this happened. I had pain in my back, shoulders, wrists and fingers as well as numbness and tingling in my pinkie and in my left bicep, electric shock sensations in my left ring finger, just to name a few. Those feelings and sensations were not anymore in the same category with normal muscle pain that occurs after muscle training. The problem was that I did not know that. I was an athlete before and very used to thinking of the phrase: “No pain, no gain”.

How to tell when the symptoms are dangerous and leading to an over-practice injury? The overuse injuries, which can be felt as pain or discomfort, can be divided into five categories: First pain on one site only and only when practicing (my left bicep), secondly pain in multiple sites (oh yes, the fingers on my left hand and wrist), in the third category the pain can continue after playing and there can be problems with coordination (absolutely my entire left arm goes into this one, in addition to my back pain, neck pain and chin pain), in the fourth category one has all of the symptoms above and also feels pain in many daily activities (had pain while brushing my teeth or lifting my arms above my head while for example washing my hair, but no more than that) and finally the fifth category where
one has all of the symptoms above but only the activities where you have to use the injured part of the body cause pain (I’m more in this category). (Norris, 1993, p. 6)

The most puzzling thing about my injury in my left shoulder and arm was the fact that it rarely caused pain. I felt numbness, caused by nerve compression (Norris, 1993, p. 6-7), but not similar pain to what I felt in my back or my fingers. The main problem was the loss of coordination and the ability to move. Norris writes about the occupational cramp, more known as Focal Dystonia, in which the muscles do not contract and relax normally. He explains that when one muscle group contracts, the muscles on the other side should relax to make the body part move freely. In the occupational cramp, the muscles on both sides contract simultaneously and unwillingly making it impossible to move effortlessly or at all. (Norris, 1993, p. 91-92)

As it has been said many times, music making and especially violin playing is one of the most complex things a human being is capable of. Music making brings the nervous system to the limits of its functional capacity. This could be one of the reasons to over-practice injuries and especially uncontrolled cramps. Interestingly, the occupational cramp often happens after prolonged and intense practicing and is usually a result of a trauma or over-practicing and, as in my case, obsessive practicing. (Norris, 1993, p. 92) First it causes problems only when playing the instrument and then it escalates to affecting the daily activities as well (Norris, 1993, p. 93). One big part of the problem is the psychology behind it. The panic and confusion of suddenly not being able to control your own body can be devastating, and it can cause a vicious circle of more desperate practicing, which inevitably leads to only worse cramps. (Norris, 1993, p. 94) As I have discovered, the best way to recover from this kind of injuries is to completely change the technique and the attitude (Norris, 1993, p. 94-95).

How do the symptoms manifest themselves in the actual artistic performance? In my case, the first things I noticed were intonation problems and problems with producing vibrato, which contributed to a stiff and unvaried sound. In the end, this is what made me seek solutions to my problems. I was no longer capable of expressing myself as I wanted to. I had no freedom in my playing.

4. Practicing routines after an injury: Prevention and recovery

Now we have reached the key part of my investigation. How to prevent an injury while practicing for a performance? Especially when studying on a master level and working as a freelancer at the same time can truly be a challenge when recovering from an over-practice injury. While practicing for my final exam at the Royal College of Music I barely escaped injuring myself again, but in the end, I did avoid it by trying to remember everything I have learned so far.
Feldenkrais, the Alexander Technique and Body Mapping are ways to learn the difference between tension and freedom (Johnson, 2009, p. 2-3). There are also exercises on the violin to translate some of the principles learned from those methods into actual violin technique. The goal of those exercises is similar: How to tell the difference between too much pressure and not enough pressure? When does the energy flow freely through the body and when not? How to change the old patterns that simply do not work anymore?

### 4.1 Exercises

There are certain exercises I did, and still do, every day. I’ve gotten tips for them from Maria Kikel and Juhani Palola, as well as from the books of Lajos Garam. First of all, I started every practice session with stretching and warming up my entire body. After that, I did some relaxing exercises, similar to the ones you can find in Yehudi Menuhin’s book (Menuhin, 1971, p. 22-26, 59-60), where you try to find the circular movements without any excess muscle force. I also tried to find the natural posture by first swinging my body by focusing on my feet, applying my weight first on the toes, then on the heels, back and forth, also left and right. After finding the balance point on my feet I moved to swinging and circling my knees, then hip, back, shoulders, head and then finally trying to find a balanced way to stand with the least possible amount of muscle work.

Next, I played some Schradieck: The School of Violin-Technics, Book I. I started playing them very slowly by lifting every finger with a reflex-like movement from the string immediately after dropping them, not leaving them on the string, but placing one finger at a time. Here one must remember not to use too much force, only enough to hear the note. The fingers must be independent and as free and separated as possible. The movement is ‘a throw’ from the base joint, the finger tip must be sensitive and weightless (Havas, 1985, p. 31).

I also do this without the bow first just by dropping fingers on the fingerboard and the letting them bounce off the string like it was a trampoline. This can be done also when holding the violin as a guitar or just dropping and bouncing the fingers on top of a table to find the correct feeling. The most important thing in this exercise is not to use any other muscles but the ones that you need too move one finger. The other fingers must be passive and relaxed until it is their turn to move. If the finger does not easily bounce back after dropping it on the string or table, it is not relaxed enough and the movement is not reflex-like enough. This relaxation technique has helped me with etudes and pieces as well, especially in fast passages to avoid the stiffening of the hand.

The next stage is to play the chosen Schradieck-passage by releasing the string immediately to harmonics (the finger stays on the string but doesn’t press it down on the fingerboard) after the finger has been dropped on the string. This should also be like a reflex and the feeling should be just as relaxed as in the previous stage. When this feels effortless, the passage can
be played normally, but first by not leaving the fingers on the string. Lifting the fingers helps to make it easier to use them independently and to get the feeling where energy is used only on one finger at a time. At the same time one must remember the feeling of the previous stages and pay attention to how much pressure really is necessary to make the note sound. All this happens in a very slow tempo. Only after the effortless feeling has been achieved, one can start increasing the tempo step by step. In the end, of course there isn’t time to think about lifting the fingers, but the goal here is to make sure that the fingers that are not playing are passive and relaxed, no matter if they are left on the string or not.

Next in my routine, I played scales, first in the quiet nuances and in a very slow tempo, trying to find the feeling of minimum amount of tension (Garam, 1972, p. 24-25). The main focus was in breathing and finding a free and smooth movement. Later the focus can go more into resonance and intonation, but those come with much less effort if the relaxed, smooth feeling has been achieved. Slowly one can increase the tempo, while maintaining the same free and reflex like feeling as in the previous exercises. This includes arpeggios and double-stops. The goal is to find a way to play with the minimum force and minimum tension.

After these exercises I could finally move on to playing etudes and pieces.

4.2 Feldenkrais

Dr. Mosché Feldenkrais (1904-1984) developed Feldenkrais from the 1940’s until his death. Feldenkrais is a somatic learning method, sensomotoric re-learning through movement, and it’s based on the structure of the human body and how it works and moves. It is so called organic learning, how a child learns to move by studying the body and by trying how it works and reacts. In a way you learn from your body how to move. Feldenkrais deepens the awareness, knowledge and control of the body through the mind by sensing and feeling. (Homepages: Feldenkrais, Feldenkrais and Dynintegra)

I was introduced to the Feldenkrais method in Austria. I took private lessons with Ruth and Heinz Grühling, who are specialized in Feldenkrais and Dynintegra, a sensomotoric therapy, the teaching of movement through sensomotoric therapy (Sensomotorische Bewegungslehre, homepage: Feldenkrais and Dynintegra). I noticed results immediately. It helped that I had always been athletic, but to learn not to abuse my body, to let it move naturally, without effort or muscle stiffness was incredible. I am still not where I would like to be, I still have bad habits in my movement, especially when I’m stressed, but now at least I know how it should feel like, to move naturally and without physical or psychological baggage that comes with age, pressure and certain experiences.

I was surprised to see that Feldenkrais was mentioned several times in Norris’ book. It is often mentioned in the same sentence with the Alexander Technique. Norris mentions that it helps with posture, body mechanics,
freedom and ease in the technique of playing. It could be used with video feedback to help the player see and feel what is going on in the body. In some cases, it is also helpful in getting rid of muscle cramps and focal dystonia. (Norris, 1993, p. 4, 8, 25, 32, 95)

4.3 The Alexander Technique

The Alexander Technique belongs with Feldenkrais to the neuromuscular re-education methods (Norris, 1993, p. 95). It was developed by Frederick Matthias Alexander (1869-1955), who was an Australian actor. He started having problems with his voice, which developed into chronic laryngitis. Doctors couldn’t help him, because rest and medication could only alleviate the symptoms when he was not performing. Alexander started to investigate his condition and search for solutions himself. By studying his own movements and reactions with the help of mirrors he found that his problems were related to the position of his head and neck, which then affected his breathing and so on. (Homepage: Alexander Technique, Doyle, 1984, p. 87-88)

The most interesting thing Alexander noticed was that ‘feeling’ is not ‘knowing’. This means that when he felt like he was moving his head to a certain direction, he could see that it was actually not moving to the position he felt like it would. He also noticed that there were a lot of tensions in the entire body related to this. Alexander found out that by first consciously controlling his bad patterns made it possible to re-educate himself to react differently. The goal of these directions he gave himself was not to have physical responses, but to activate the concepts of them in the mind. (Doyle, 1984, p. 88-89)

The Alexander Technique can help by sharpening the kinaesthetic sense, increasing self-knowledge and self-control (Doyle, 1984, p. 93), it can teach you to co-ordinate and understand the mind-body complex and to apply and adopt a new reaction to stimuli (Doyle, 1984, p. 93-94). The Alexander Technique can affect both the body and the mind: It helps with everything from cramps, muscular tension, stress related diseases to neurological disorders, concentration problems and anxiety, only to mention a few (Doyle, 1984, p. 96, homepage: Alexander Technique).

I heard for the first time about the Alexander Technique in Helsinki while studying at the Metropolia University of Applied Sciences. I did not take it very seriously, because at the time I was still able to play despite the pain I experienced, and as I have told before, I was totally used to feeling uncomfortable when playing. Later, I found Feldenkrais and that experience blew my mind. Last summer, in 2015, I finally enrolled in an Alexander Technique course in Finland at the Nurmes Summer Academy to deepen my investigation for this thesis. We had group lessons and a private lesson with the teacher Lauri Angervo, who is also a cellist. I had not read anything more about the Technique in order to start from a clean slate and to avoid preconceptions. What surprised me was that the Alexander Technique has a lot in common with Feldenkrais.
During the Summer Academy I also practiced the Tchaikovsky Violin Concerto and was quite stressed, since my violin teacher there, Antti Tikkanen gave me contradicting advice to what I had gotten from previous teachers. He justified the advice very well with economy and with the size of my hands, since the piece is extremely straining to play, and it made my playing better very quickly. But I was still shocked in a way and practiced under pressure. When I practice under stress I clench my teeth and I have a lot of tension in my body, especially my upper body and back. So as usual in summer camps and master classes, I developed a muscle cramp, this time in my jaw. It was so painful that I couldn’t even eat normally. Then the Alexander Technique lessons started. Lauri Angervo spoke a lot about the principles of the Technique and at the end of the lessons we had a relaxation exercise. We lay on the floor and relaxed every body part one by one. Angervo said the name of the body part and told to let go, for example “let go of/release the toes” or “you don’t have to hold on to the shoulders, you can release them now” and we did that in our minds. I started to get better at it every time, in a sense that I started to be more aware of my body and I was actually able to “let go” of the body part I was thinking about. This manifested itself in the best possible way in my jaw; it completely relaxed and after the third time the pain and tension was completely gone. I have started to do this exercise whenever I feel tension or stress, especially before practicing. I have had no such muscle cramps after the summer. In comparison, the muscle cramps during my master studies in Stockholm were quite common under stressful situations, though not in the extent as before my studies in Austria, because in Finland they were everyday life to me.

5. My journey towards a performance

For three years now, I have wanted to investigate why I managed to learn to play again. When I got into the master program, I was excited but also terrified. Would I be injured again? How can I manage this suddenly much more difficult program? I took the challenge. For my final concert I chose a long, 90-minute program, and my body could barely take it. The biggest challenge seemed to be the first movement of the Tchaikovsky Violin Concerto. I was not able to play the entire first movement because I simply hadn’t found an economic way to play it. My main concern was the sound. I didn’t want to play the whole thing through in the expense of a beautiful, diverse, full and moving sound. It is, in my opinion, maybe the most important thing in violin playing.

I will analyse some things from my exam concert, but the main focus is in the first movement of the Tchaikovsky Violin Concerto. The reason I chose it is that it is physically challenging in the sense that it is very emotional piece and the violin sound is a very important factor in that particular piece. Also phrasing, vibrato and intonation are important, because they are affected by tension in the body, as well as nervousness, which is often the cause of the tension and concentration problems. Especially Tchaikovsky
has to be performed with a very relaxed body and mind, even though the interpretation has fire and tension in it, because one cannot waste energy in order to interpret as desired and to even be able to physically play it through.

5.1 The goal

My ultimate goal was to be able to play the entire first movement of the Tchaikovsky Violin Concerto in my final recital in Stockholm. The rest of the program included the entire Fauré Violin Sonata in A major, movements Grave and Fugue from the Bach Solo Sonata number 2 in a minor and movements Andante con moto and Rondo all Zingarese: Presto from the Brahms Piano Quartet number 1 in g minor.

In the end, I was not able to play the whole first movement of Tchaikovsky on the level I wanted to, so I chose to end it with the Cadenza. I had a violin from the Royal College of Music in Stockholm, an old Italian from the 1750’s, which I had played only for six months and I had barely learned to play it because it was totally different from my own instrument. That caused extra stress and challenge. There were two reasons for this choice. First of all, the school was awarded with the valuable instrument by a philanthropist, which meant that the violin was not in the common waiting list of instruments owned by the school, and my teacher, Cecilia Zilliacus was given the possibility to choose the student she thought would benefit from the experience the most. She chose me, which I considered a great honour. Even though I had my doubts due to my background and the fact that my final exam was going to be soon, I simply could not refuse this probably once in a lifetime experience. Secondly, Zilliacus justified her choice by saying that I have had the tendency to search for different colours and sounds, and that this old and noble instrument would give me a chance to investigate and learn about the limitless possibilities of an instrument that has existed and been played for hundreds of years. I only wish I would have gotten this chance sooner. But still, after listening to the recording, I must say that the violin sounds absolutely beautiful and brilliant. The potential was great, only the time was limited and I wish I could one day experience that again properly, especially now that I have solved some more of my technical problems.

After the recital I decided to have a break from the concerto and take it again and play the whole movement with my own violin after having some master classes and Alexander Technique. Finally in December 2015, I managed to reach that goal of playing the entire first movement at the Lahti Conservatory in Finland, free of injury.

5.2 Practicing Tchaikovsky

There are certain challenges that came on my way while practicing Tchaikovsky: rhythm and phrasing, intonation, different sounds and colours,
vibrato and practicality, meaning the solutions that are economically practical, how to save energy.

For me it is especially difficult to play an emotional piece of music without wasting energy. Also, the Tchaikovsky was very difficult to learn by heart. The first movement has two parts, before and after the Cadenza, and they are very similar – except that they are not. This is why it has to be learned very well both mentally, knowing every note and into the muscle memory. If there are mistakes made in the process of learning the piece and making it “automatic”, there will be a lot of problems later, because there is really no time to think. Wrong movements waste energy, because when you are on your way to some direction and you suddenly have to change the direction of movement, you have to use more force. If this happens too often, you will be more and more exhausted towards the end, which makes it impossible to continue a good quality of playing. In the concert, the situation is ideal when the concentration can be spent only into music making.

5.2.1 The Concerts: Problems with memory

For me it was very important to learn the piece by heart. It is much easier to relax the body and let the music come out freely if you can play the piece without music and if you know the piece as well as possible (Havas, 1973, p. 96). I wanted to achieve this, even if it meant that I was taking the risk of making mistakes on stage and in the recordings.

In every performance I had some problems with my memory, which mostly had a lot to do with my nerves, mainly because I hadn’t performed the piece often enough. But there are mistakes also in my practicing methods. The bars that needed most work when I started to memorize were from ‘Ben sostenuto il tempo’ to the letter B and the corresponding passage after the Cadenza, ‘Ben sostenuto’ to the letter K. In my final exam the black out in ‘Ben sostenuto il tempo’ happened and I mixed some bars in my head, which is confusing, since it is not otherwise a difficult passage. I had problems remembering the seventh bar from the letter B as well, where I made a mistake also in my final exam version (recording number 1). There were also many other mistakes that happened because I mixed some places together or blacked out due to of lack of concentration or nervousness. They definitely contributed to the wasting of energy. There were moments where I was able to save the situation, but those can be heard in the intonation. When I didn’t have any memory problems, the entire quality was on a much higher level. In the future, memorizing and practicing with more concentration will be the things I will develop. (Tchaikovsky, 1956, the violin part, p. 4-21)

The cure for this is to practice slowly; to play so lowly that the mind can follow every note and the body can be as relaxed as possible (3.3 Bad practicing habits). Also the mind must be in the right state, positive and aware. If the correct balances of the mind and body are there, when there’s no unnecessary pressure and when the focus is in achieving the good coordination, one can achieve a lot in a small amount of time. It is simply not enough to rely on muscular habit. (Havas, 1973, p. 125-128) When I
managed to do this, most of the memory problems were dealt with. The next thing affecting the memory was the nervousness, which I know I can get rid of if I had the chance to perform the piece more.

5.2.2 Economy: Elimination of muscle tension

To achieve more free way of playing I did the relaxation exercises I wrote about before (5.1 Exercises) and tried to apply them also into Tchaikovsky. Good examples of this are the fast passages, where the hand easily cramped and became clumsy, for example after letter B, before letter D, in ‘Poco piu lento’ and the trills after letter E, some fast bars in the Cadenza, after the letter K, four bars before M and three bars before the letter O and then after O. First they were easy when I played them in the practice room or in front of my teacher but I had difficulties always during performances, because my whole body always tenses under pressure. After some time the exercises started to show results. I also played the passages a lot very slowly with different rhythms and staccato. It was also very important to know exactly which notes to play, what scale it is and the names of the notes, especially four bars before the letter D and two after D, as well as four bars before M and after M, because the differences are very small but significant. So I did that a lot, I played it so slowly that I could think about every single note and I increased the tempo slowly. When doing this: the hand must be completely relaxed, the finger pressure minimal, there should be no extra movements, only the ones that are needed, and the shifts should be calm, very light and on the string, no jumping accepted. All of this is done to achieve the most energy saving way of playing, as Juhani Palola has taught me. Finally, I didn’t seem to have problems there during my two performances I recorded.

Before, I had also muscle tension during the slow parts, such as ‘con molto espressione’ (before and after the letter C) and ‘molto espressivo’ (before and after the letter L). In those cantabile–passages my teacher Juhani Palola reminded me always to play as they were relaxing points, where there’s time to focus on not pressing too much, breathing, long lines with the bow and the flow of the vibrato. In my second performance (recording number 2) I achieved this feeling of rest, so to speak. Before my arm was always a bit tired after them, which is very bad considering that the fast scales come right after.

The main reason why I couldn’t play the whole movement in my final recital was that my left hand cramped in the end of the piece, mainly in the letter O, where there is the beginning of a stringendo with double stops. Later I worked on that and got very good tips from a master class of Antti Tikkanen at the Nurmes Summer Academy. He told me simply not to play it “as a long phrase”, even though it is a long phrase. But the idea was to have a new beginning and a relaxation of the hand between every triplet. First it had to be practiced only with the lower or the higher notes, then only with the double stop without the triplet and finally, but first slowly, as written. In this passage, also the bow arm can help by giving small attacks (but not accents) in the beginning of every triplet, and then relaxing immediately after the energy has been given. This gives kind of a psychological energy
boost for the left hand. This is a way of taking advantage of the fact that the arms work easily together as a unit. When the right arm relaxes, so does the left one. I write about this for example in 3.4.3 Finger pressure. The bow arm can help the left hand also in the beginning of the piece, for example two bars before the letter B and some bars after it by giving a tiny attack in the beginning of every group or slur and then relaxing. The long phrase can be heard if the thought of it is there, but as Tikkanen said, there is simply no reason to waste all of the energy already in the beginning of the piece. It is possible to find the relaxing points almost everywhere in the piece and still maintain the heavy and romantic feeling of the long phrases of Tchaikovsky.

The same idea of not playing physically long phrases can help also in the double stop passage in ‘Poco piu lento’. I tried to learn to relax after every triplet. I practiced intonation by playing the double stops slowly, with different rhythms and so on, but the main focus was on trying not to press too much, because it really is not necessary even if one might first think so. It is also important to practice the shifts both by lightly and smoothly sliding on the string and by giving the fingers an attack and relaxation. The grip must be as relaxed as possible. I had to make sure that I didn’t squeeze the hand and that I didn’t make too many movements. The same applied also in the ‘Molto sostenuto il tempo, moderatissimo’ part, where there are difficult double stops and shifts as well.

5.2.3 Intonation

In my case, excessive muscle tension can be heard in the intonation. That’s why at times my intonation is very good and then suddenly something strange happens. This can be heard in the recordings, which was affected by several things. First, as I have stated before, tension and especially excessive finger pressure affect the intonation. Secondly, these moments of tension are affected by concentration problems, which then again are affected by nervousness and stress. Practicing the right way, which is in a positive mind-set, as relaxed, calm and focused as possible, can minimize nervousness and stress (3.3 Bad practicing habits). Unfortunately I didn’t exactly achieve the stress free feeling at my final recital, but I played still relatively well, because I had tried to achieve a relaxed way of playing in general. I was extremely tired, both physically and mentally, because it was the first time I attempted to play the 90-minute recital through, and well, actually it was the first time I ever attempted to play such a long solo program. I knew that I should have had many practice concerts where I could have played through the whole thing but it wasn’t possible at the time.

Also the second concert, where I was finally able to play the entire movement, was a bit stressful, because the general rehearsal before that went very well and I was relaxed (of course I didn’t record that), so I had way too high expectations for myself for the concert. I wanted perfection, which is an old bad habit, and it led to nervousness and muscle stiffness. But still, the practicing methods had helped and I was able to play it through and I wasn’t even tired afterwards. Even though I am bothered by some of
the intonation problems and the memory problems, the fact that I did it and survived without any pain was a victory!

An example of how relaxing the hand after every movement helps with intonation in the Cadenza of the Tchaikovsky concerto, recording number 5.

5.2.4 Vibrato

I had to learn the vibrato again in Austria with Maria Kikel, because due to the cramp in my left arm I couldn’t really play a healthy vibrato for many years. The first step towards learning it was to learn to play with less finger pressure (3.4.3 Finger pressure). First I did exercises without the violin by waving my arms in circular movements, checking that my wrist was relaxed and the movement came from the upper back muscle (not the shoulder, which has to be relaxed and passive but free). I focused on the movement of my elbow, that it made a circle and that that was kind of the starting point of the movement (even if it is actually moved by the back muscles). I worked on the trampoline feeling of the fingers and the flexibility the joints on the string. Then I learned the finger vibrato (Garam, 1972, p. 102). There you softly push the finger up and down vertically on the string to create a small vibrato. The movement should be very sensitive and flexible. Then I learned the wrist vibrato (Garam, 1972, p. 102-103). I practiced first by playing in the fourth or fifth position and resting the hand on the body of the violin. First I did a bigger movement by sliding the finger on the string and then I made the movement smaller step by step and finally I stopped the finger on one spot but kept the movement big and loose. I made the movement smaller and the bigger again, just to find the relaxed and free feeling. The finger vibrato was still there in my mind, the finger going up and down but never leaving the string, stopping me from pressing too much. From this I was eventually able to continue to the arm vibrato, but I still tried to mix all of the different types to avoid the stiffening of the wrist or fingers.

I had worked a lot on the vibrato, because that was where I first noticed that something was horribly wrong with my arm. First it had been too loose, big and slow, so I started desperately to try and make it faster and smaller. That combined with all the tension in my body ended up causing the cramp in my left arm. This is what Garam also warns about. In addition to learning the vibrato again from the beginning it helps to play a lot without vibrato to make sure the arm is completely relaxed. (Garam, 1972, p. 107) That is what I did every now and then while practicing Tchaikovsky, and I am actually very surprised how well the vibrato turned out. It was intense and in general it wasn’t too wide or too narrow. Unfortunately the second recording was not very good quality, because the settings in my device were not correct for the room I played in. The room had also terrible acoustics. But I could hear the sound and the different vibratos better in the first recording from my final recital. Even though I would have liked to have more different colours in the vibrato, I am satisfied with what it sounds like in the recording. Now I know what to do and how to improve my vibrato in the future.
5.2.5 Sound

My main goal after learning to play again and after learning the new technique and new vibrato was to improve my overall sound. For this, the Tchaikovsky is a very challenging piece. Only to learn the notes, to learn to play it by heart and with adequate intonation as well as being able to play it without getting exhausted was difficult for me, so to have different colours as well made the possibilities for development much greater and much more challenging, and I believe that without challenge there is no development.

What makes a good sound? The freedom of the bow arm and a good bow technique are of course important, but when it comes to the left hand, basically it consists of three things: intonation, vibrato and sensitivity of the fingertip. A good intonation helps the instrument to resonate, because every note a violinist plays is a compound sound, which consists of the ground note and its harmonics (Havas, 1985, p. 31-32). Intonation and vibration brings us to the sensitivity of the fingertip. The basics of a good intonation come from the finger pressure and a relaxed hand, which make it possible for the instrument to resonate without suffocating it. This helps also in the practicing process, because the resonance tells you if the note is in tune and with the sensitive finger you can correct it. Without the fundamental balances the resonance is also very difficult to achieve (3.4.1 Posture and movement). And as I have stated before, if the hand is cramped and there’s too much finger pressure, also the vibrato becomes stiff and difficult to produce. These all three factors are connected and they all affect the sound together. (Havas, 1985, p. 30)

When the left hand, arm and everything affecting it are relaxed and free, it is possible to create more variety in playing, more different colours, and the tone production becomes an expressive force, just like the human singing voice. I could say that vibrato and economy create together the possibilities to have a beautiful and expressive sound, even throughout the Tchaikovsky Violin Concerto. The tensions in my body due to nervousness limited my abilities to have as much variety in the sound as I originally wanted to, but still I managed to have good moments and I can hear and feel the development.

Examples of this can be heard especially in the beginning of the Tchaikovsky and I the slow parts, where I was able to play different kinds of characters even if there were other problems with concentration.

If you are interested in listening to the piece with sheet music:
https://www.youtube.com/watch?v=Zl6JGTfrwE0
6. Conclusions

As Jennifer Johnson writes in her book (Johnson, 2009, p. 1), I also think that every violinist has noticed that there are two kinds of us: the ones that find violin playing absolutely natural and easy and the ones that find it a struggle. I don’t know if I have always belonged to the last category but I have felt like I do since I was a teenager. Perhaps it was something I learned. Most violinists are taught to hold the violin with muscular force, as was I, and it doesn’t have to be that way. And for us who have gone through difficulties with violin playing, there are solutions like Body Mapping, where you study the internal representation that you hold of yourself in the brain (Johnson, 2009, p. 3), Alexander Technique and Feldenkrais. There are other people who have survived an over-practice injury and they have knowledge of a good violin technique. We should talk more openly, share information and support each other.

There have been so many misconceptions about the violin playing and the violin pedagogy. Lajos Garam writes so beautifully about teaching, that a good teacher helps the student to find their strengths, and that the best way to make the student develop is by giving them praise (Garam, 2000, p. 50-52). He writes that in the old days in the Soviet Union the culture of teaching was about humiliation and constantly reminding the students that they do not practice enough. Garam writes that he has had these students at master classes and they had a lot of pain in their arms. Their teachers did not care about that and only told them that their muscles are too weak because they don’t practice enough. (Garam, 2000, p. 52) I can relate. I have also heard too many times at master classes, that someone has “weak fingers”. I have seen teachers put students down, and teachers have also put me down. Only after I started to get positive feedback in a positive environment my problems seemed have solutions.

Even though my Tchaikovsky isn’t perfect or even nearly on the level that would satisfy me, I simply have to be happy about my achievement. I reached my goal, even if it took some time. Now I can finally admit to myself that the hard work was worth it, and I can finally believe that with this new information and with the exercises the injury won’t come back anymore. I feel like I passed the test. With this new freedom, even with a small amount of it, I can express myself through the violin and through music much better.

Finally, what I learned from all this, in a nutshell, is that perseverance is truly the key to success, whatever that means to each individual, and that violin playing is so much more than simple body mechanics. It is about sensing, feeling, vibrating, listening and giving, and if that is forgotten, one will surely have serious problems sooner or later. I will end this thesis with the words of one of my violin heroes, Kato Havas, who’s anecdote didn’t
make sense to me before but now sums up the essence of the violin technique: “Violin playing is never difficult; it is either easy, or it is impossible.” (Havas, 1973, p. 136)

7. References


The Internet Sources:

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