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**Methods to support guitarists to
recover from injuries and/or
maintain health**

A qualitative study

Summary

Musicians tend to suffer from a broad range of problematics related to their playing, from muscle/tendon injuries, to joint injuries, nerve compression disorders and central nervous system disorders. The purpose of this essay was therefore to explore methods used for health and wellbeing of guitarists. The research question was: Which actions are described to support guitarists to recover from injuries and/or maintain health? A qualitative approach was used to collect and analyse the data that were acquired through in-depth interviews and analysis of annotations of musicians who have been patients or were at the time of the interview been following a rehabilitation program in those centres. The analysis of the data produced eight common actions used by both the institutes. The result showed that there is a common ground between the two schools which could be a start for the development of further treatment strategies.

Keywords: Musicians, injuries, guitar, focal dystonia, Institut de l'Art, Allenamento Guidato, rehabilitation

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1 Introduction

The idea behind this research comes from a personal experience: about 5 years ago I was preparing my classical guitar diploma and I was practicing regularly about 8 to 12 hours a day. Practicing with not enough pauses and high levels of stress ended up in a quite serious injury in my right hand. I started immediately looking for physiotherapists who could help me, but after a first session with each of them all told me they didn't know how to help me. I eventually got to meet two professionals who were able to describe what had happened to my hand, why, and how to solve the problem. Niklas Hjelm, a physiotherapist of the "Momentum Rehab" clinic located in Stockholm was one of them. He is an experienced physiotherapist with knowledge in diverse treatment disciplines including Chinese medicine and Acupuncture. The other was and Fabio Federico, guitar professor at the Conservatory of Cosenza, Italy who developed the "Allenamento Guidato" method (from now called Guided Training with an English translation), a detailed down to the minute practice plan based upon a neuro-motor approach that helps overcoming and solving hand injuries while at the same time improving the technical skills of the player.

The process has been long and very meticulous (and still is) but the improvements have been impressive. In addition to this I got to see how often musicians suffer of injuries caused by practicing in the wrong way, most of the time saying that it's normal as a musician to have music-related injuries. According to me, this idea is completely wrong and it's not leading to a healthy musical career.

There are several other institutes that share similar approaches to this in treating injuries that musicians suffer from, the biggest and most renowned in Europe being the "Institut de l'Art" in Terrassa, Spain where all the types of problematic are treated, even Focal Dystonia. At the Institut de l'Art there are several specialists following every patient in order to develop an individual rehabilitation and practice plan, trying not to target just the problem per se but focusing on the whole human being behind the instrument, including analysing and changing life attitudes and routines.

The concept followed by the methods analysed in this essay is that practicing an instrument is exactly like physical training. This is the same as athletes need; a very specific tailored training schedule that takes in account all the body's physiology to be able to perform at the highest level and develop these skills as quickly as possible. In the same way a musician needs a very accurate practice schedule where every activity is described in terms of length in minutes and intensity, and it is followed by well specified recovery times.

2 Background

This chapter contains research about practice-related physical injuries in musicians and ends with a presentation of the purpose of this study.

2.1 Practice-related physical injuries in musicians

According to Kenny and Ackermann (2012) a working musician faces numerous challenges in his career. Physical and psychological stresses are a consequence of the need of being always in shape and of delivering top notch performances on daily bases. These two aspects, the physical and the psychological one, strongly influence each other and can be both cause to a physical injury or a mental strain. In this text I am going to focus more on the physical aspect, the risks and the main injuries musicians face and some of the methods that have been developed to solve physical problematic.

Like athletes, musician need superior sensorimotor integration, neuro-musculoskeletal skill and a constant and intensive practice to achieve and maintain a certain performance level (Altenmüller, Gruhn, Liebert & Parlitz, 2000). Evidences show that 80% of the interviewed musicians in a study have suffered some sort of short or long-time injury connected to their musical activity (Guptill, Zaza & Paul, 2000). According to Warrington et al. (quoted in Kenny & Ackermann, 2012), the type of injuries varies according to the instrument played, gender, years of performing repertoire and age. Older musicians are more likely to develop conditions that have a gradual deterioration in the structure of a body part, a so-called degenerative condition while performance related musculoskeletal pain is more likely to be manifested in younger performers. Over-practicing in a non-scheduled way without adequate rest breaks is a strong risk factor that can easily lead to injuries.

Types of injuries

The main areas under risk of injury analysed in this short chapter include muscles, tendons, joints, nerves, central nervous system.

Muscle/Tendon Injuries: Being the primary source of force to perform a motor skill, an over-use injury is a result of lack of muscular tolerance to deliver the quality and quantity of tasks requested. Repetitive fast movements in a static position, repeated without any moment of relaxation are more likely to build up tension, soreness and tiredness in the area under use and a consequent inability to deliver the type of movement requested from the musician (Hagberg et al, 1997). According to Witvrouw (2007) the systematic execution of stretches can help make the tendons more elastic, condition that helps prevent injuries and ease the eventual processes of rehabilitation.

Joint issues: Injuries that regard the joints are often degenerative, likely related to repetitive use and very often due to a specific regional overload. According to Chesky et al. (2000) an example of this issue is the right thumb of a clarinetist where all the weight of the instrument is concentrated. Carrying the weight of the instrument for hours every day can lead in the long term to a modification of the joint with degenerative changes.

Nerve compression disorders: Holding and sustaining an instrument in an awkward position for the body can lead to nerve compression, especially in the contact points between the instrument and the body or where a long muscular contraction is needed to maintain the instrument in position. Common disorders include the compression of nerves in the elbow, in the wrist, loss of sensitivity in the fingers or in the whole arm and on the back (Schuele & Lederman 2004). The classical guitar is a clear example of these problematic: the right forearm contacts the instrument on the upper bow and it presses down on the instrument for the whole time of the practice session. In the worst cases this can lead to numbness of the last or last two fingers of the hand because of the pressing exerted on the nerves of the right forearm.

Central nervous system disorders: Focal dystonia is the most common condition of the central nervous system related to playing an instrument. This condition is quite severe, and it hinders sharply the ability of a performer to play with accuracy and ease. This syndrome can be described by a motoric dysfunction due to some sort of disruption between the brain and the resulting movement. The symptoms are quite visible and include involuntary contractions or tensions in the hands or fingers. The causes remain still quite unclear, but they seem to be related to a continuous repetition of a fine movement (Hochberg & Hochberg, 2000).

According to Schuele and Lederman (2004) the strategies to handle these situations and conditions tend to address and solve the symptoms and restore the functionality of the hindered part, mostly through manual therapy even though these treatments are seldom based on scientific evidences while much more on clinical experience. A bad posture is also addressed as one of the conditions that can lead to problems onto the limbs as well a training schedule is used, like in sports, to support the recovery in an effective way. Retraining movements is another important strategy especially used in the treatment of focal dystonia aside with postural retraining strategies. For that to be possible there must be a specific training to reinforce and strengthen the whole body in order to avoid that the weakness of a certain muscular group can lead to an incorrect posture that can trigger other problematic.

What most of the musicians have perceived is that it's of great importance that the therapist who is following them has some degree of musical knowledge, of which movements are involved and required in performing on a musical instrument (Guptill, Zaza & Paul, 2000). Here lies an important problem lies: a physiotherapist knows a lot about the physiology and the functionality of muscles and tendons but has little detailed understanding of which use a musician makes of them.

In this essay I decided to contact some of the most renowned rehabilitation centres for musicians. I was not able to get in touch directly with the therapists, but I got to interview two patients and two former patients of these two institutions: “Guided Training” and “Institut de l’Art” (Institut de l’Art, 2019). Guided Training has been developed by a musician in conjunction with expert physiotherapists and it has in my opinion the ability filling the gap between the two separate sectors: musicians with no knowledge of anatomy and health professionals without any knowledge of performing music. This method has been developed, studied and tested with good results by several musicians but it has not yet published any scientific paper yet.

The Institut de l’Art in Spain is one of the main centres in Europe where most of the musicians with focal dystonia and other instrumental related injuries get treated. Their team is made mostly of physiotherapists who have been researching for more than twenty years on the problematic of practice related injuries on artists of all kind, from musicians to dancers and painters. They are the only centre who claims to be able to treat successfully focal dystonia, success that is proved by the numerous testimonials of musicians who fully recovered with the help of the Institute.

2.2 Purpose

The purpose of this essay is to explore methods used for health and wellbeing of guitarists. The research question is: Which actions are described to support guitarists to recover from injuries and/or maintain health?

3 Method

This chapter begins with a short presentation of qualitative research followed by a description of data collection, selection, implementation, qualitative data analysis and ethical aspects. The chapter ends with some discussion about validity and variability in qualitative research.

3.1 Qualitative research

Since the purpose of this essay is to explore methods used for health and wellbeing of guitarists and focus on those actions described for support, a qualitative approach is needed. As stated in Bryman (2012) qualitative research is a strategy for systematic collection, organization and interpretation of textual information with attention to the context using inductive approaches to generate insights into phenomena that are difficult to measure quantitatively. Qualitative methods can generate a comprehensive description of processes, mechanisms or settings.

3.2 Data collection

The main ways of collecting data in qualitative research are according to Bryman (2012):

In-depth interview: to explore individual experiences and perceptions in rich detail

Focus group: to generate unique insights into shared experiences and social norms

Observation: to learn about behaviours and interactions in natural settings, and to study cultural aspects of a setting or a particular context.

Document review: to identify patterns of communication and describe the characteristics of organizations or processes.

The methodology used to collect data for this essay is in-depth interviews. In-depth interviews can be considered as “guided conversations” where the interviewed person is free to talk and hence the conversation can take different paths while the interviewer has to keep the control over the talk to avoid getting to too tangential topics. The interviewees have to be chosen among the “key informants”, individuals with experience or knowledge of the phenomena of interest and willing to speak about it. The number of interviewed individuals can vary depending on the complexity of the inquiry and can sometimes be quite restricted and can be determined by theoretical saturation (the point at which no new concepts emerge from the data). The interview sessions in this study have been led as an open conversation based on the questions I had prepared:

1. How is the practice session structured, and how long is it?
2. Are different technical gestures targeted individually?
3. Is rest alternated to exercise? And if so, is it a passive or active recovery?
4. How progressive is the day to day schedule? Does speed get increased daily? Does the schedule prescribe different exercises for different days of the week?
5. What role do daily physical exercise and physiotherapy have in this methodology?
6. How are check-ups structured? How often does the patient meet the therapist?

3.3 Selection

In this research about the actions described to support guitarists to recover from injuries and/or maintain health among different therapeutic schools, two of them have been chosen: “Guided Training” and Institut de l’Art. Guided training is a rehabilitation and practicing method that has been developed by Fabio Federico, classical guitar professor at the Conservatoire of Cosenza (Italy). His approach to rehabilitation is very similar to the one of a physiotherapist following an athlete during his recovery after an injury. The practice schedule is never longer than two and a half hours with six days per week of practicing and a full day of recovery. The scheme is extremely well detailed, and it is made of 7/8 blocks, each one addressing a different technical gesture on the instrument. The complexity of the exercises is progressive, and the last or last two blocks are dedicated to the practice of musical pieces of repertoire. Every block is approximately twenty minutes long and it is preceded and followed by five minutes of active rest (stretches, body mobilization). In this study, one guitarist was interviewed about Guided Training. I tried to interview Federico himself, but for reasons unknown to me, this was not possible.

The second method analysed in this method is Institut de l’Art, a world-renowned institution for the cure and rehabilitation of professionally related physical injuries in the field of arts, dancing and music. It is the first institute in Europe who claimed to have cured focal dystonia and numerous scientific papers and books have been published about the topic by the doctors of the institute. The approach of this institute is mainly physiotherapeutic, and it aims to help an artist to recover from an injury getting back to a state of physiological and efficient functioning, re-learning to perform basic and complex movements on the instrument following their guidelines.

A third institute should have been added to the study, but the lack of precise answers to the questions made the collected data not relevant enough for the purpose of this study. It was a difficult task getting in touch with the people who were willing to participate to this research even by answering to some simple questions. There has also been no possibility to obtain an interview with any of the main therapists responsible for both the schools.

The guitarists who decided to take part in the study are four and all of them are males: one of them is 35 years old, classical guitar and music teacher, still under treatment with Guided Training and has lived with practice related injuries for four years. The second subject is 40 years old, guitar instructor and still under treatment in Institut de l'Art. The third interviewee is 62 years old, music professor and lecturer and has recovered completely with the treatment of Institut de l'Art. The fourth subject is 44 years old and has recovered almost completely after a lighter injury following Guided Training.

3.4 Implementation

The four interviews have been performed at a distance since me and the interviewees are not living in the same country. I got in touch with the first musician because I got to know him during the first period of my rehabilitation; I interviewed him on the telephone recording the call with his permission. The interview was approximately 35 minutes long, and it was an open guided conversation led by the questions I asked, while still allowing the interviewee to add information that he considered of importance. The interview went smoothly with a relaxed attitude that allowed us both to contribute to the conversation. I contacted the second musician after seeing his testimonial on the Institut de l'Art website of one of the institutions in which he praised the results the method had had on him. It was very easy to get in touch with him and the interview was done by telephone the day after I emailed him. The phone call was recorded with his permission and the conversation was a bit longer than one hour, with the interviewee having a very positive and helpful approach. All the questions were answered extensively, and I also got some other insights of the institute in question and the philosophy behind their methodology. The third interview was done via WhatsApp, with a musician I got in touch with by a common acquaintance. The communication with this person was quite difficult at the beginning, but eventually it turned out great. I sent him the questions and it took about one week for him to answer, but the answers were very complete and detailed, without non necessary information, concise and straight to the point. A fourth person has been interviewed via telephone, but the information acquired was too vague to be inserted in this study.

3.5 Qualitative Data Analysis

According to Bryman (2012) qualitative data analysis is an iterative process of individual and group level review and interpretation of narrative data. Analysing data involves the identification of *Codes*: words or short phrases that represent the essence or key attribute of narrative or verbal information used to codify or categorize the data. The actual process of organizing the data into segments that are alike is called "Coding". The codes are then developed into a *Code Structure* that is a compilation of the emerging codes described with a brief definition or a series of quotes. The code structure could also include guidance for when and how to use the codes. When all the data has been coded a theory can be extracted by the code structure.

This system has been followed while analysing the interview and the notes, with a process that helped me identifying nine main categories both the schools base their methodology upon. They are shared criteria that are put in practice with differences while still keeping quite close to the core of the criterium as Bryman would describe it (2012).

3.6 Ethical aspects

While conducting an interview it is important to follow a set of ethical rules to protect the subjects of research according to Vetenskapsrådet (2002). This can be done with a set of four main requirements:

1. *Requirement of information*: the researcher shall inform the participants about their role in the research, they should be informed that their participation is voluntary and that they can cancel their participation at any time
2. *Requirement of consent*: the researcher must obtain the consent of the examiners and the study participants. In some cases, consent should also be obtained from the parent/guardian. The participants in a survey should have the right to independently decide on how long and under what conditions they will participate. In their decision to participate or cancel the participation, the study participants must not be subjected to undue pressure or influence.
3. *Confidentiality*: All the staff in research projects involving the use of ethically sensitive information about individual persons should sign a confidentiality obligation regarding such information. All the information about identifiable persons must be recorded, stored and reported in such a way that individuals cannot be identified by outsiders.
4. *Useful requirements*: Information about individuals collected for research purposes may not be used or borrowed for non-scientific purposes. Personal data collected for research purposes may not be used for decisions or measures that directly affect the individual except with the special consent of the person concerned.

In the research I followed all of these ethical guidelines thoroughly, the participants have chosen to participate voluntarily and they have been informed of the possibility to avoid answering to the questions or even to stop their participation at any time even after the interview had been done. The musicians interviewed have been asked the consent to use the data collected by their interviews to realize this essay and their personal data have never been mentioned and any personal reference to them has been avoided so that it is virtually impossible to reach to them.

3.7 Validity and reliability

Reliability is the degree to which a research instrument provides consistent results while *validity* is the degree of accuracy of a research instrument to measure what is being measured. Different concepts are used to describe the reliability and validity of a research; according to LeCompte and Goetz (1982) these criteria are:

- *External reliability*: the degree to which a study can be replicated. It is quite difficult to meet this criterion in qualitative research since as the authors state, it is not possible to recreate the circumstances of the first study in order to repeat the research expecting reasonably similar results.
- *Internal reliability*: the degree to which different members of the team or observer of the same situation agree on what they see and hear.
- *Internal validity*: this concept questions if there is a match between the observations of the team members and the theoretical propositions developed.
- *External validity*: it refers to the degree to which the results of the research can be valid generally across social settings.

I have been following Guided Training for more than two years, and I have been able to collect a lot of information from my practice schedules and all the annotations I had written during the process of this thesis. Other valuable information I collected, came from the feedbacks and written texts and emails from the therapist during and in between the check-up lessons. I have tried to be as objective as possible while collecting the data and analysing my annotations, but as with the other interviewees, personal interpretations of the instructions given have probably partially influenced the result of the analysis.

4 Actions

This study focuses on the actions described to support guitarists to recover from injuries and/or maintain health. In this chapter I present the main common actions shared by the two approaches. Some of these actions are implemented in very similar ways, other are differently implemented. It is worth pointing out that there can be variations in the actual practice even in the same school because each one of the practice schedules is tailored to the needs and problematic of the specific musician. The actions are divided into nine categories presented below.

4.1 Categories

The presentation below is based upon the categories that describe the actions: *Time restricted practice*, *Targeted practice*, *Quality over quantity*, *Fixed practiced structure*, *Daily progressiveness*, *Active/passive recovery*, *First session*, *Check-up and follow up* and *Physiotherapeutic support*.

4.1.1 Time restricted practice

In Guided training the attention to time in the practice schedule is evident: the whole practice session is always roughly around two and a half hours. Each one of the 7/8 blocks that build the schedule is between 20 and 25 minutes long and it consists of a constant alternation of 1 minute of active practice and 1 minute of rest. In between every block there are five additional minutes of active rest and stretch.

The Institut de l'Art approach sets the time of daily practice to a maximum that varies between one hour and one and a half hours. The practice schedule is made of 6/7 blocks, each one is three, four or five minutes long. Every block is followed by 5 minutes of passive rest where the hand is not doing any movement. No stretches have to be done during the time of rest.

4.1.2 Targeted practice

The practice routines in Guided training are structured to target a single problematic at a time. Each box will address only one type of movement, being it for example working on one specific finger, or two fingers in a specific sequence, building up to sequences of four fingers. The most common combinations of fingers in downward or upward direction are targeted following the alternation of one minute of active practice and one minute of complete rest.

Some of the exercises included in the practice schedule target separately: single finger movements, two finger movements, three fingers in different combinations, rasgueados, arpeggios, scales played with different finger combinations. The last block is the only one

where musical pieces come into focus, always following the one minute practice one minute rest sequence.

In the Institut de l'Art method the exercises suggested are designed to target the specific problematic shown by the musician. Each box addresses one specific movement or one sequence of movements, repeated for the duration decided by the physiotherapists. Single finger exercises, two notes sequence, three notes sequences, four notes sequences in descending or ascending form are prescribed as long as musical pieces with increasing difficulty. The alternation of active exercising and passive rest is still present in the section dedicated to the repertoire.

4.1.3 Quality over quantity

In both the methods taken in analysis there is a clear interest in quality practice over the quantity of time dedicated to the practice. The analogy with sports is brought forward quite often, saying that an athlete cannot keep training for an extended period of time until the ultimate goal is achieved. The training needs to be structured carefully to avoid the overuse of the muscles that causes a decrease in performance and a risk of injury due to over training and over straining of the muscles. Recovery time is also greatly taken in consideration, and that's the main reason why the sessions try to be as compact and as efficient as possible so that the right time is left to practice. The rest of the day is given to the body to recover after the practice session.

4.1.4 Fixed practice structure

In Guided Training the structure of a practice session is well defined, and the building blocks cannot be moved or skipped. The sequence follows physiological reasons and tends to warm up the muscles of single fingers first and then combining them later. Each practice session will start and end with five minutes of stretches and body mobilization. Between the blocks, five additional minutes of stretch and mobilization are inserted to oxygenate the muscles and the brain to reduce pain coming from staying in a seated fixed position for a long time.

The difficulty of the blocks is also progressive, starting with one finger ending up to four fingers arpeggios in different sequences and ending with the repertoire pieces that include all the movements that had been worked on separately in the first phases.

Even the Institut de l'Art proposes fixed practice schedules, with a specific sequence of exercises each one of which needs to be executed for the suggested time. No block can be skipped or moved. In the first phases the repertoire pieces are easy arpeggios that work along the more focused exercises performed previously.

4.1.5 Daily progressiveness

When addressing the recovery from an injury, Guided Training starts by lowering significantly the tempo of execution, so that every movement and the following relaxation can

be done with the right time and the in the best possible way. The speed is kept fixed throughout the whole practice session with the help of a metronome. It is crucial in this method to use a metronome so that every movement will be developed at the same speed. Every day the speed gets increased by one beat per minute, so that the change of speed can be felt almost as imperceptible on the short term while resulting in constant and quick progresses if seen in the long term. As an example, on a span of three months the speed will be increased by 90 beats per minute while the day to day change will still be negligible.

At the Institut de l'Art the musician is given a sequence of pre-recorded tracks containing a metronome tracks, so that the player knows exactly when to start playing and when to stop. The speed gets increased very slowly on daily basis even if in the beginning of the process the speed can be kept slow and constant. The goal is to reset the hand taking it back to executing natural and physiological movements, avoiding unwanted muscular activation compensation.

4.1.6 Active/Passive recovery

Both active and passive rest and recovery are fundamental staples of Guided training. Every practice block is preceded and followed by a five minutes long moment of stretch and warm-up where the main areas of the body are stretched. The attention goes primarily on the flexors and extensors of the fingers. As previously stated, every minute of active practice is followed by one minute of either passive or active rest which is decided by the teacher and can be varying from exercise to exercise or from week to week. If passive rest is prescribed the hand has to stand still for the whole minute, and in case of active rest the movement just performed has to be repeated away from the instrument.

Recovery is always considered passive according to the Institut de l'Art. During the rest phase, no task should be performed by the hands so that the recovery can be as effective as possible. The institute suggests also to avoid any activity related to guitar playing after the practice routine is over and to try to keep the mind away from the problem or from the practice session.

4.1.7 First session, Check-up and follow up

In Guided Training the first session is done with the therapist in the spawn of 2/3 days. The actual condition of the musician is checked and tested both with the performance of a piece of music and with key question about the sensation felt while playing. The therapist then explains all the guidelines to the student and three guided practice lessons are done before the end of the first session. The check-up is a key moment: The student has to send three detailed videos twice a week to the teacher where some of the exercises of the practice schedule are shown. In addition, a written description of the general sensations or of the tensions felt in the hands has to be reported to the teacher. Every two weeks a lesson is scheduled with the teacher to evaluate the progresses and to make the necessary adjustments to the practice schedule.

In the Institut de l'Art the first encounter of the musician with the physiotherapists is about one week long, it has to be spent at the institution and it is needed to explain the various exercises the musician has to do. The topics addressed are such as: posture, physiological movements, alternation of tension and release in the movements on the instrument, description of the exercises the student needs to do and the reason behind it. A metal support for the hand can also be provided to the student to help isolating the movements and to block compensatory movements the injured hand tends to do. After this week at the institute the student can start practicing daily following his own specific practice schedule. The check-up phase is done every month and a half, and it consists of a review of all the exercises the student has worked on. The perceived tension during the performance of certain movements or a set of movements is assessed so that the physiotherapist can decide how to continue with the work adjusting the practice schedule accordingly.

4.1.8 Physiotherapeutic support

The support of a constant physiotherapeutic support is essential in Guided Training because even in a practice regime strictly under control, various problematics can be triggered much more easily in a subject who has already suffered from playing related injuries. The estimate recovery without the support of physiotherapy is considered to be around 60% of the pre-injury skills and abilities while with the support of a specialist the percentage can raise up to 85-90% which can be considered a total recovery.

There is no prescribed additional physiotherapy prescribed by the Institut de l'Art. As the musician will be shown some stretches and physical exercises to perform daily, hence there is no necessity of the additional help of a physiotherapist in the recovering process.

5 Discussion

In this chapter, a discussion is held in terms of both physical and mental health. The method of the study is discussed, and further research are suggested.

5.1 Discussion over the results

Some questions that should be raised while discussing the two different approaches are about physical and mental health:

5.1.1 Physical health

Why isn't stretching considered so important in all the methods? In Guided Training the stretches are a fundamental part of the practice routine. A five minutes stretch session and mild workout is prescribed before and after every block of exercise, and the stretches open and close the whole practice session. In the Institut de l'Art stretches and workouts are not included in the daily practice schedule. As described by Witvrouw et al. (2007) it is regarded as vital for the physiological functioning of the muscles and tendons that stretches are performed regularly to improve the elasticity of the tendons and muscles, helping prevent further injuries and speeding up the processes of recovery.

Why isn't there in all methods a routine to keep the whole body healthy and in shape? As stated by Schuele and Lederman (2004) keeping an overall fit and healthy condition helps speeding up the process of recovery and preventing problematic connected to the wrong recruiting of muscular groups for a specific movement. In Guided training there is a specific attention to the overall fit condition of the body of the patient, but this focus is missing in the other methodology.

5.1.2 Mental Health

Why isn't any method taking the psychological aspect in consideration while it has been proved to be of extreme importance? As explained by Kenny and Ackermann (2012) the psychological situation of a patient can strongly influence the physical state and the quality and speed of the improvements. It is hence interesting to notice that in none of the methods described any attention is dedicated to the psychological state of a patient, especially since in most cases the whole career of the musician being treated depends on the success of the rehabilitation therapy, putting a lot of stress and expectations on the patient's psyche.

5.2 Discussion on the method

Discussing about the methodology, a question came up quite strongly:

Why is it so difficult to get in touch with the people responsible for the development of the methods and why even when in touch with them, is it hard to get clear answers to the questions?

What I experienced in the collection of the data, is that there are very few official publications on the methodology the various institutions utilize to treat the patients, and the procedures and actions described on their websites are very general and often philosophical. Trying to get in touch with an organization has often led to nothing, no response to emails or no answers to the questions asked via phone. The answers I got were mostly protectionist, and my interpretation of it is that the institutions don't want to spread their knowledge too much to avoid their methodology to be stolen after investing time and resources on it.

5.3 Further research

The absence of a broad range of studies on the topic and of a clear and shared strategy to face and solve the injuries connected to instrumental practice is, in my opinion, dangerous. Moreover, the lack of willingness of the various therapeutic institutes to share their views, their results and strategies is indeed detrimental for the development of effective methods whose goal would be helping an injured musician to recover and to go back to a fulfilling artistic activity. I have understood that the various schools are very protective of their methods and strategies because of the time and money invested in the research, protecting their work with secrecy and minimized disclosure. I personally think, however, that opening "to the world", confronting with other ideas and approaches would help greatly in improving therapies that are already functioning, providing a further fine tuning of the methodologies incorporating also results obtained by other institutes or researchers. All of this could be done without abandoning the unique approach and philosophy on which each institution bases their strategies upon. The decision of the vast majority of the people I contacted of not taking part in the interview and not even answering to phone calls, emails, answering in an elusive way or even insulting me personally gave me a pretty clear image of the reluctance of the institutions to collaborate not even with a student like me, more so with other institutions.

One of the problematic I find in both the methods I analysed is this: in Guided Training the main therapist is a guitar teacher but not a physiotherapist, and in the Institut de l'Art the therapists are physiotherapists with no knowledge of guitar playing. A collaboration of both professional figures would be of great value, especially after the first stage of rehabilitation where the physical injuries are solved, and the musician must re-learn to perform the basic movements and incorporate them in his/her daily practice. As stated previously, the musician considers extremely important the presence of a therapist who is also a musician and who understand the type of movements required to perform efficiently a piece of music.

Another problem caused by the secrecy kept around these institutes is that an injured musician has an extreme difficulty to find the right person or the right institute to be followed by. What

I have noticed interviewing the participants is that all of them have gone through 10-15 different visits with different specialists all over Europe before finding a professional with enough knowledge to at least give them a diagnose. This is caused by a massive lack of information which should, in my opinion, be promoted on the field by the institutions that aim to help musicians to recover. If a big campaign of information was done, the musicians who encounter those problematics would know immediately which institution to contact, avoiding a blindfolded search that most of the times leads to nowhere and obtaining a reasonably fast diagnose and a specific and effective treatment.

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