

# **Injured Athlete in Team Sports – How to Help the Athlete Psychologically Through the Injury**

Antti Turunen

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<p><b>Author or authors</b> Antti Turunen</p>	<p><b>Group or year of entry</b> DP 8</p>
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<p>The project part of the Bachelor’s thesis was a guide called Injured athlete in team sport – How to help the athlete psychologically through the injury. The guide was primarily made for team sport coaches on competitive levels to help them to support their injured athletes.</p> <p>The guide was made because the particular areas were seen to have a lack of knowledge. Team sport coaches may not have been pay attention enough for injured athletes psychological well being. Proper support from a coach to an injured athlete influences positively to the recovery process and the return to play may have better possibilities to be successful.</p> <p>The purpose of this guide was to give coaches in team sports essential information about the athlete’s emotional responses to the injury, factors effecting to the emotional responses, and how the coach can support the athlete psychologically through the injury process.</p> <p>This guide contains information about physical healing process, importance of quality medical personnel and a model of “treatment chain”. In the guide can also been found an opening for the athletes emotional responses to injuries, and factors influencing to the emotional responses to injuries. The main part of the guide deals coach support types and how to use them. In the end of the guide the positive effects of injuries to the athletes – personal and athletic – life are dealt.</p>	
<p><b>Keywords</b> Sport injury, team sport, sport psychology, coach support</p>	

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# 1 Introduction

Even the injuries are not wanted aspect in athletes life, they are a part of the realism at some point of almost every athletes career. The injury is usually seen as a physical problem which starts from the occurrence of injury and ends when the athlete is back in the business, playing and competing. However the injury can influence widely to athletes daily routines, when the athlete can't take apart to one's normal training or competitions. Additionally the injury can effect also to athletes emotions, behavior, social contacts and even values in life. According to these facts the sport injury should be seen as a bigger whole than just a physical problem, and it should also be treated as a bigger whole. The psychological responses to an injury and throughout the recovery process can effect on the time used and the success of rehabilitation, and return to sport. So clearly psychological responses to an injury must be taken in notice and integrated to the treatment plan.

In the team sports coach might intentionally or unintentionally left the injured athlete "outside", without any proper contact with the coach or the team. Despite the athlete is injured, the coach still has a team to run. Some coaches might also think that when the athlete is injured, the athlete is useless. Directly speaking that might be the fact but it is important for the athletes rehabilitation project to stay in contact with the coach and the team. Proper contact between injured athlete and coach is beneficial for the rehabilitation outcomes and returning to sport. The coach can support the athlete in several ways during the injury time.

The guide was done for coaches in team sports and objective for this guide was to provide information about an injured athlete's emotional experiences to a sport injury and factors affecting to them. Another objective for the guide was to provide guidelines for the team sport coaches to support the injured athlete through the injury experience. This guide contains information about physical healing process, importance of quality medical personnel and a model of "treatment chain". In the guide can also been found an opening for the athletes emotional responses to injuries, and factors influencing to the emotional responses to injuries. The main part of the

guide deals coach support types and how to use them. In the end of the guide the positive effects of injuries to the athletes – personal and athletic – life are dealt.

## **2 Physical Aspects of Injury**

### **2.1 Definition of Sport Injury**

There is not universally agreed definition for sport injury, but Sachs, Sitler & Schuille (2007, 171-172) defined it rationally:

1. Being sports related
2. Resulting in a player's inability to participate one day after injury
3. Requiring medical attention

This definition lacks with the fact that it doesn't matter if the injury is sports related or not, if the athlete cannot participate into training and competitions, the athlete is on the route of injury. It can be even more stressful for the athlete if the injury is keeping him on the sidelines and it is not sports related (Interview A, 2012). The athlete might blame oneself more about the injury and feel embarrassed in front of the team or media.

### **2.2 Physical Recovery from Injury**

The body follows an orderly process of healing so that anatomical continuity can be regained (Leadbetter, 1978, in Flint, 2007, 320). "Throughout each phase of healing process, the body releases specific hormones and chemicals to remove dead tissue, limit swelling, create new arteries, and bring in collagen for tissue regeneration." (Flint, 2007, 320.) This process takes time in appropriate sequences and is not something that can easily be accelerated (Flint, 2007, 320). Commonly prophesy for most types of the injuries can be made and the injured area be tested to know if it is physically possible to return to full training and competition.

### **3 The Route Of Injury**

The psychology of sport injury can be divided in three phases which are related to physical healing process: The occurrence of injury-, the rehabilitation and recovery-, and return to full training and competition phase. Each phase has characteristics which should be taken in notice during recovery process.

#### **3.1 The Occurrence of The Injury**

The occurrence of the injury phase lasts until the rehabilitation and recovery phase can be started, and during this phase the athlete focuses most of the energy for seeking treatment (Bianco, 2007, 249). A good marker for moving to next stage is that the athlete starts to follow a rehabilitation program, which is done after diagnosis and prognosis of the injury. When the injury occurs athlete accompanies with emotional upheaval. Right after the injury the uncertainty with diagnosis, implications of injury and prolonged absence from sport are major stress and mood change producers. (Bianco, 2007, 248-249; Weinberg & Gould, 2007, 456.)

##### **3.1.1 The Importance of Quality Medical Personnel**

It is important for the medical staff to get the accurate diagnosis and prognosis as soon as possible and provide it truthfully to the injured athlete, so the athlete can start the rehabilitation and recovery process with knowing what is wrong and what there can be done for it to get back to the full training and competition. If the diagnosis and prognosis is delayed there is a big chance that athlete starts “floating” with negative emotions and frustration levels increase, because of not knowing what is wrong. The similar kind of effects usually occurs with chronic injuries. The “floating” can continue until reliable diagnosis is provided by the medical staff. Also if the diagnosis is not valid, or can't be made by the doctor without expertise for the injury type, the athlete might start to question himself and if he is injured at all, even the athlete feels pain trying to participate the sport. This is why it is very important for the team to have connections to doctors and physicians expertise with sport injuries. There also should be a plan to get the injured athlete to quality medical care as soon as possible, normally

within 1-3 days. (Bianco, 2007, 248-249; Interview F, 2012; Dietrich & Shuer, 1997, in Klenk, 2006.)

### **3.2 The Rehabilitation & Recovery**

The treatment and recovery phase can be relatively long and starts from the beginning of the treatment and goes through the whole rehabilitation time with all kind of emotional ups and downs depending on many factors (personal, situational and external) (Bianco 2007, 250-253).

### **3.3 The Return to Full Training & Competition**

The injury experience doesn't end with getting a clearance from the doctor (Bianco, Malo & Orlick, 1999; Heil, 1993; Udry, Gould, Bridges & Tuffey, 1997; Wiese-Bjornstal, & Smith, 1999, in Bianco, 2007, 253). The return to full training and competition is a phase where the athlete tests the injured area, and builds confidence to it. There can be a significant amount of holding back, because of the fear of the re-injury (Bianco 2007, 253).

The type, severity, course, location, and history of athletic injury all have an impact on the returning to play process (Andersen, 2001, 162). It is important to notice, that even it might influence the performance, that often athlete might be competing before this phase is finalized. Often the return to training and competition phase is finalized while competing. (Interview F, 2012)

## **4 Emotional Responses to Injury**

The emotional response to injury varies depending on personal factors (the athlete personality, age and injury type & severity) and situational factors (time in season, social support and playing status) (Wiese-Bjornstal, Smith, Shaffer & Morrey, 1998, in Petrie, 2007, 194).

“Researchers, in both quantitative and qualitative studies, have found that athletes can feel depressed/sad, anxious/worried, frustrated, confused, angry, afraid, self-pitying, denying, guilty, doubtful, and isolated/alienated.”(Leddy, Lambart & Ogles, 1994; Podlog & Eklund, 2006; Tracey, 2003; Udry, Gould, Bricket & Beck, 1997 in Petrie, 2007, 194-195.) Also Klenk’s study (2006, 32) “Psychological response to injury, recovery, and social support on NCAA Division one University athletes” (n=178) supports the literature and resulted injured athletes to be mostly (in this order) frustrated, in pain, angry, tense, depressed, discouraged, helpless and bored by injury. Other notable emotions in the results of the research were fear and optimism. Even though the emotional responses to injury are usually negative, Udry et al. (1997, in Petrie, 2007, 195) reminds that in some cases athlete might feel emotions which are labelled “positive”, such as relief, optimism and acceptance.

### **4.1 Emotional Responses to Injury Models**

For an athlete an injury is usually causing negative responses, not only physically but mentally as well. The common emotional responses are labelled “negative”. When examining the studies of athlete’s emotional responses to injury, one suggestion is that it is similar to response of people who have faced an imminent death. In many sources (i.e. Hardy & Crace, 1990, in Weinberg & Gould, 2007, 453;) it is called “grief response” process and it has five stages:

1. Denial
2. Anger
3. Bargaining
4. Depression
5. Acceptance and Reorganization

A Finnish 400 meters hurdles runner Jussi Ihämäki (2005, 34) describes his experiences of five staged grief response during chronic knee injury:

1. Denial; I believed that I could run, even though I couldn't do a single squat without pain.
2. Anger; When I had eventually understood the seriousness of the situation the anger rose up. Why is this always happening to me?
3. Bargaining; I wanted to give up. It's always the same thing.
4. Depression; I couldn't see any positive outcomes from this.
5. Acceptance and reorganization; That was the situation, but I had to figure out how to move forward from there. [Translated from Finnish.]

Although a grief response is widely cited in articles involved psychology in injuries, evidence shows that even an injured athlete can go through many of these emotions in response to being injured, athlete doesn't directly experience this stereotypical pattern or each emotion in these five stages (Brewer, 1994; Evans & Hardy, 1995; Quinn & Fallon, 1999; Udry, Gould, Bridges & Beck, 1997 in Weinberg & Gould, 2007, 453.). According to Brewer (2001, 4) the problem with grief response model is that it doesn't take in notice the individual differences in emotional reactions to sport injury. "Assuming that an athlete is proceeding through a predictable series of stages following injury may be grossly inaccurate, and potentially damaging to the patient-practitioner relationship." (Brewer, 2001, 4.)

"Sport psychologists now recommend that we view typical responses to injury in a more flexible and general way – people do not move neatly through set stages in a pre-determined order." (Weinberg & Gould, 2007, 453.) Udry et al. (1997, in Weinberg & Gould, 453) introduces a more flexible way to describe responses to injury in three categories of response:

1. Injury relevant information processing; The injured athlete is focused on the information about the injury: pain, how the injury happened, type and severity of the injury and the negative consequences or inconvenience.

2. Emotional upheaval and reactive behaviour; Athlete realizes that injury has occurred. Emotions can be vacillating and depleted; the athlete can experience emotions of isolation and disconnection, feel of shock, disbelief, denial, or self-pity.

3. Positive outlook and coping: The athlete accepts the injury and begins to cope positively with the new situation the injury has put the athlete into. The athlete shows good attitude and is optimistic.

The most athletes go through these three general stages, but the time spend on each stage varies from days to months. Athletes can also experience the toughness of the same stages very differently, when one goes through it very easily, other can experience it to be very hard to go through.

The period that immediately follows an injury or surgery usually causes the greatest negative emotions (Quinn & Fallon, 1999, in Weinberg & Gould, 2007, 453; Rock & Jones, 2002, in Petrie, 2007, 195). But there are also exceptions according to Wiese-Bjornstal (1998, in Petrie, 2007, 195); “emotions may vary over the course of rehabilitation. For example, a swimmer who has undergone surgery may experience an increase in frustration and depression throughout the course of rehabilitation every time he does not meet a physical therapy goal.”

There is little benefit of conceptualizing the recovery process to stages, even some proponents of stage models have specified that injured individuals can move back and forth through the various stages, such specifications limit the utility of the stage models, unless the conditions under which the movements occur are identified. (Evans & Hardy, 1995; Rape, Bush & Slavin, 1992, in Brewer, 2001, 4.)

According to many sources (i.e. Bianco 2007, 241; Wiese-Bjornstal, Smith, Shaffer & Morrey, 1998 in Brewer, 2001, 5) the athlete’s response to injury can be viewed as occurring at three levels: cognitive, emotional and behavioural.

Athletes’ emotional (e.g., frustration, anger sadness, relief) and through that behavioural responses (e.g., isolation, tardiness, adherence) are determined by how the ath-

lete sees and interprets ones injury and coping skills with it. Additionally Bianco (2007, 241) notes that the direction of influence can also go in reverse direction, from behavioural outcomes affecting through emotions followed by cognitions. Even though the injury is generally seen as primary stressor, the way the injury is perceived is the most important, in other words the fact that injury has occurred is less important than its meaningfulness. (Henschen & Shelley, 2007, 185.)

Cognitive response is determined firstly by how the athlete sees the injury's potential seriousness and effects on the athlete, and secondly how athlete's personal and social resources are available to cope with demands of the injury (Lazarus & Folkman, 1984, 1991, in Bianco, 2007, 242).

## **4.2 Factors Effecting Emotional Responses**

The athletes' cognitive appraisal is influenced by the interaction of personal and situational factors (Bianco 2007, 242; Henschen & Shelley, 2007, 184). The personal and situational factors should be carefully taken in notice, when observing and responding the injured athletes emotional stages and/or behaviour. The both factors are involved throughout the whole rehabilitation process and comeback to the competition. "Conceptual models developed specially to address rehabilitation issues point to a variety of situational and personal factors that might influence an injured athlete's thoughts, feelings, behaviours, and rehabilitation outcomes." (Brewer, 1994, 1998, 2001; Evans & Hardy, 1995; Grove 1993; Wiese-Bjornstal & Smith, 1993, in Grove & Cresswell, 2007, 53.)

### **4.2.1 Personal Factors**

Personal factors include general demographic variables (e.g. age) as well as injury history, coping resources, psychological skills (e.g., coping skills), and personality traits (e.g., self-esteem, self-motivation, introversion/extroversion) (Grove & Cresswell, 2007, 53-54; Henschen & Shelley, 2007, 186). "Psychological theory suggests a link between athlete's personality and the thoughts, feelings, and behaviours during rehabilitation." (Grove & Cresswell, 2007, 53-54; Henschen & Shelley, 2007, 186.)

When observing the athlete's behaviour and feelings during the rehabilitation, it is important to notice that athletes with different personality characters respond in different ways to an injury. Tedeschi (2000) has found that "athletes who deal with their feelings and focus on the future rather than the past have a tendency to advance through rehabilitation at an accelerated rate; Athletes who lack motivation, who are depressed, or in denial have difficulty with the rehabilitation process."

The athletic trainers compared, in Wiese & Weiss (1987, in Ninedek & Kolt, 2000, 192) study, personal traits for coping successfully or coping poorly with the athletic injury. "Those who coped most successfully had willingness to listen, a positive attitude, intrinsic motivation, and a willingness to learn about the injury and rehabilitation techniques." (Wiese & Weiss, 1987, in Ninedek & Kolt, 2000, 192.) Ninedek & Kolt (2000) examined sport physiotherapists views on psychological characteristics that distinguished athletes who cope well with injury from those who cope poorly. The findings from the study supported the previous findings (Wiese & Weiss, 1991; Andersen, Francis & Maley, 2000; Gordon, Grove & Milios, 1991, in Ninedek & Kolt, 2000, 201) in willingness to listen to the physiotherapists, desire to learn the injury and rehabilitation, attitude toward rehabilitation, and intrinsic motivation. These characteristics were agreed with more than 90 % by the sample (n=150). Additionally the patient's ability to communicate well with rehabilitation personnel was recognized as an important skill for enhancing injury recovery, and through communication skills the injured athlete can also access many types of support and encouragement during the rehabilitation period. (Ninedek & Kolt, 2000.)

Being an athlete requires commitment, determination, and passion (Klenk, 2006, 3). Often sport is a big part of athletes life and determinates the how the athlete organizes life, uses energy and manages time. An athlete might see and determinate the sport and being an athlete as a big part of one's self identity and personality. Participating in sports can benefit the athlete internally, developing physical mastery, positive self-concept, autonomy and self-control (Deutsch, 1985, in Klenk, 2006, 3).

An athlete might experience identity loss after an injury, because the athlete can't participate in sport (Petitpas & Danish, 1995, in Weinberg & Gould, 2007, 453). "Getting injured is a traumatic experience for athletes; what they have devoted so much time and energy to, can be suddenly, without warning, taken away." (Crossman, 1997, 334.) The time devoted for sports is a crucial factor defining negative effects on athlete self identity. "A stronger connection between athletics and self-identity is created as the athlete invests more time in sports." (Johnston & Carroll, 2000 in Klenk, 2006, p. 6.)

An athlete's age and life experience can also effect on how the athlete experiences an injury. Especially for the younger (e.g., under 21 years old) athletes an injury might be seen as a great loss, because they don't necessarily have much experience of setbacks or losses in their life. Because of that the adults (e.g., coaches) who are working with the younger high-level athletes should not underestimate or discount the impact of injury on student athletes. (Etzel, Zizzi, Newcomer-Appeneal, Ferrante & Perna, 2007, 158.)

All together it is important to take athletes age and life experience in notice when examining athlete's responses to injury. Self-perceptions, social influences, emotional responses, motivations, and self-regulation skills are different when comparing adolescents, and young, middle and older –adults (Weiss, 2003, in Klenk, 2006, 6). Manuel, Shilt, Curl, Smith, Durant & Lester (2002, in Klenk, 2006, 6) study of adolescent athletes coping with sport injuries showed that depressive symptoms decreased over time in a sample of injured adolescent athletes, and an increased social support was associated with lower initial depressive symptoms.

The athlete's injury history and previous experiences of rehabilitation can have a huge impact on emotional response to injury and how the athlete can deal with setbacks during the rehabilitation. Successful experiences during the rehabilitation in the past can help the athlete to respond less negatively to the injury, than if the athlete has negative or no experience of the rehabilitation. The experience also helps to cope with negative emotions during the whole injury process. (Brewer, 2001, 6-8.)

The previous injury history can also be a very negative aspect for an injured athlete. If the athlete has had several injuries during ones career, there might be feelings of frustration, desperation and depression in case. In these cases the athlete might not have motivation to start the rehabilitation, perform the rehabilitation properly, or have a fear of re-injury. (Interview, A, 2012)

#### **4.2.2 Situational Factors**

The severity and the type of the injury are crucial factors when an injured athlete is responding psychologically to the injury. Smith, Scott & Wiese (1990, in Klenk, 2006, 5) noted that the least seriously injured athletes expressed less depression, tension, fatigue, and confusion, and “in contrast, the most seriously injured athletes experienced significantly more tension, depression, anger, and decreased vigor compared to college norms”( Smith, Scott & Wiese, 1990, in Klenk, 2006). The more the injured body part is central in the sport, the more it affects athlete’s tendency to be anxious about re-injury, ruminate of not being in 100% shape, and even quit the sport (Andersen, 2001, 162). The injured body part can also affect to athlete’s mood stages, depending how much athlete’s daily activities and sport performances are impaired. For example concussions and back injuries can be most devastating for the injured athlete (Interview A, C & F, 2012).

Wasley’s & Cox’s (1998, in Klenk, 2006, 5) study “Self-esteem and coping responses of athletes with acute versus chronic injuries” suggests that “the type of injury may differentially affect self-esteem and coping behavior” and additionally the chronic injuries have a greater negative effect than acute injuries. Wasley & Cox (1998, in Klenk, 2006, 5) also recognized that chronically injured athletes didn’t have as much social support than traumatically injured athletes and chronically injured athletes tended to engage in more escape and avoidance type of behavior.

Dietrich and Shuer (1997, in Klenk 2006, 5) examined “Psychological effects of chronic injury in elite athletes” and compared the chronically injured athletes (n=117) with fire victims (n=92) and earthquake victims (n=211). In the study the chronically injured athletes scored higher Impact of Event Scale (IES, a 15 question tool that

measures subjective stress) –points in denial and avoidance (grief response stage) than the fire or earthquake victims. Dietrich and Shuer (1997, in Klenk, 2006, 5) explain the psychological stage when athlete is chronically injured: “stage is characterized by a constant flooding of thoughts of the injury and painful reminders of the event. These memory re-enactments may take the form of nightmares or flashbacks. Logically the “floating” within the negative thoughts and emotions can definitely effect negatively to the rehabilitation outcome. The chronic injury is difficult to tolerate, and one explanation for that is that there is usually no physical manifestation of the injury such as crutches. (Dietrich & Shuer, 1997, in Klenk, 2006.)

Having periods of non- or very little improvement or setbacks in rehabilitation progress can be very stressful for the injured athlete (Rotella & Heyman, 1993; Steadman, 1993; Taylor & Taylor, 1997, in Bianco, 2007, 238). It can make it very hard for the athlete to remain optimistic. It could also raise feelings of despondency and anxiety towards the future. These feelings are most common with chronic injuries and complicated recoveries. In these kind of cases the athlete might lose faith in the recovery and consider quitting their sport (Smith & Milliner, 1994, in Bianco, 2007, 238).

#### **4.2.3 External Factors**

Being injured can have a major influence in athletes’ social life including isolation from the team and the teammates (Bianco, Malo, & Orlik, 1999; Heil, 1993, in Bianco, 2007, 240). The athlete can experience a sense of loneliness and disconnection from the sport. Isolation appears to be a bigger problem for those who are involved in a team sports and are used to be a part of a large group (Bianco, 2007, 240).

Some athletes might feel worthless when being injured. They can feel that internally, because they can’t help the team, or the pressure can come from the outside. Coaches may convey, consciously or otherwise, to the athlete that the coach don’t have any use for the athlete, because at the moment the athlete cannot help the team to win. (Weinberg & Gould, 2007, 452.)

Etzel, Zizzi, Newcomer-Appeneal, Ferrante & Perna (2007, 158-161) studied college athletes (age of approximately 18-21 years old) psychological and psychosocial re-

sponses to the injury and noticed that when the injured athlete cannot take part in day-to-day routines with the team or with the coach, become suddenly or over time separated from the teammates, coaches, and/or the people with whom they normally interact. When their regular daily routines and social interaction with their regular network is shattered it often effects negatively on the athlete and creates feelings of confusion and frustration. The injured athlete can also be intentionally or unintentionally ignored, set aside, or criticized by coaches or peers of being injured. (Etzl et al., 2007, 159.) For example teammates are used to play hoops on a free period during school day, and can't or don't want to find role for the injured athlete.

Additionally being an athlete can also benefit in social status, "being something in other people eyes", for example media interest, fans, or peers in school. Etzel et al. (2007, 159) also recognized that the injured student-athletes "special status" is lost or at least diminished and they face different academic situations and social changes. These changes in athletes life can have a huge impact on their self-identity and the question "Who am I if I'm not an athlete?" can be very difficult (even temporarily) because some athletes have "foreclosed" on their identities early in life (Marcia 1966, in Etzel et al., 2007, 161). Also Brewer (in Crossman, 1997, 336) reminds the danger when the sport plays a big part in athletes life: "Those athletes who possess a strong self-identity or sense of worth through the single social role of sport may experience a particularly difficult time adjusting to being injured."

There can be numerous parties trying to force the injured athlete to compete, before the athlete is physically and/or psychologically ready to do so. These pressures are called external pressures to return. Usually external pressures are caused by coaches, media, sport organization, sponsors, media and/or fans. (Podlog & Eklund, 2006, 211)

Especially in the elite-level sports after the injury the athletes usually compete as soon as the return is physically possible. The coaches, organization, sponsors, and fans are eager to get the best possible roster on each game or competition and there might be some pressure for the injured athlete and medical staff to get the athlete to be there for the team. The appearance and level of pressure depends on the athlete's status, condi-

tion level, the team's situation (i.e. standing in the league, success in previous games), and the time of the season (i.e. playoffs). (Interview F, 2012.)

There can be, especially with professional athletes, pressure from the media to return (Bianco, 2002; Petrie, 1993, in Bianco, 2007, 241). Media usually speculates with athlete's recovery status and time of coming back to competitions, and also the athlete's future in the sport after the injury. These speculations can be very stressful aspect during the recovery period for the athlete.

While being injured the athlete might experience stress from the financial problems as well. The problems can be direct or indirect. Direct costs from the injury can be for example medical care and rehabilitation. Indirect costs can come from decrease in salary or sponsors. For example an ice hockey player who have had several injuries during the last two seasons, might not have as good deal as before, or no deal at all, because of the players proneness to get injured. "The financial implications of injury are more likely to be of concern in the case of chronic injury, where the costs involved may exceed an athlete's medical coverage and result in significant financial strain." (Bianco 2002, in Bianco, 2007, 241; Andersen, 2011, 163-164.)

If there is an important competition or event coming up in the season or the injury has occurred just before one, it can be very stressful for the injured athlete to compete against time, or cope with the disappointment that he or she is going to miss the event. (Bianco, 2002; Leddy, Lambert & Ogles, 1994; Taylor & Taylor, in Bianco, 2007, 240.)

Not competing can raise concerns about losing position in the team or being replaced. There is a possibility that the replacement player will perform well, making it difficult for the injured player to return to one's former position. (Bianco, 2002; Gould, Udry, Bridges & Beck, 1997, in Bianco, 2007, 240; Podlog & Eklund, 2011.)

An athlete can also be concerned about losing one's fitness and skills, and not being able to catch up the level the athlete has performed before the injury. These concerns are usually bigger with athletes who haven't experienced same type of injuries or generally injuries before. Additionally the athlete might also fear if the injured body part will

effect on athletes technique. In some cases the athlete has to do some temporary or permanent technical adjustments because of the injury. (Bianco, 2007, p. 240; Podlog & Eklund, 2006, 211.)

The point the injury occurs in the career can make a difference in the amount of stress athlete experiences from the injury. For example getting injured during the final year in juniors, or a final year of contract can affect on athletes future negatively and feeling of uncertainty towards the career may rise. (Interview A, 2012; Interview B, 2012.)

## 5 Motivation

Motivation is an essential aspect influencing on successful recovery process (Taylor & Marlow, 2001, 103-108; Interview F, 2012). Motivation can be simply defined as direction and intensity of one's effort. "The direction of efforts refers to whether an individual seeks out, approaches, or is attracted to certain situations." (Weinberg & Gould, 2007, 52.) For example a athletes decision to go in the pool to do water running for conditioning. Intensity of effort means how much effort a person puts out in particular situation. (Weinberg & Gould, 2007, 52.) For example does the athlete follow the water running program, or does the athlete go to the hot tub before the program is completed.

According to Liukkonen and Jaakkola (2012, 48) motivation influences to a person action's:

- Intensity (how hard person tries to do something)
- Constancy (commitment)
- Choice (how challenging actions the person chooses)

Motivation can be divided into internal and external motivation. External motivation means that person's actions and effort in situations are done because of rewards or sanctions, in that case the action is strongly controlled from outside and it can be in contradiction with persons own wellbeing. External rewards can be fame, glory or some material reward (i.e. money). External sanction can be "loosing face front of others", or negative feedback from coach or parents. (Liukkonen & Jaakkola, 2012, 51.)

Internal motivation drives person to action firstly because of oneself. When an athlete is internally motivated, ones feel of autonomy and psychological wellbeing is on relatively high levels. Internally motivated athlete continues ones training, even if one would face adversities, for example injuries (Pelletier, Fortier, Vallerand & Briere, 2001; Ryan & Deci 2000, 2002; Vallerand, 1997, in Liukkonen & Jaakkola, 51). (Liukkonen & Jaakkola, 2012, 50-51.)

Internal motivation consists of three factors based on one's personal experiences, which have been commonly defined as a person's psychological basic needs (Ryan & Deci, 1999, 2000, in Liukkonen & Jaakkola, 2012, 21):

- Competency
- Autonomy
- Relatedness

Competency means the athlete's confidence on one's own abilities (Harter, 1999, in Liukkonen & Jaakkola, 2012, 51), and the need can be fulfilled when an athlete feels that desired outcomes could be effectively brought (Reis, Sheldon, Gable, Roscoe & Ryan, 2000, in Hayden & Lynch, 2011, 24). The feeling of competency can be threatened because of injury (Liukkonen & Jaakkola, 2012, 51) and especially when an athlete is returning to full training and competition, fear of re-injury, fear of performing under pre-injury levels and frustration - if it occurs - can decrease an athlete's feel of competency (Hayden & Lynch, 2011), and lead to decreased self-esteem (Podlog & Eklund, 2007, 215-217). The feeling of competency is connected to a person's self-esteem (Fox 1997, in Liukkonen & Jaakkola, 51). Self-esteem means a person's overall evaluation or appraisal of his or her own worth and is based on experiences of competence.

The competency can be divided to several areas, for example:

- Social (ability to come along with people and get new friends)
- Emotional (ability to empathize and deal with own feelings)
- Intellectual (ability success in studies and work, ability to know and understand relative things in life)
- Physical (Motoric competency, satisfied with one's own body)

The influence these areas of competency can have on a person's self-esteem depends on the person's values, and how important the certain area of competency is for the person. For an athlete there is a fatal danger if the athlete's self-esteem is built only for the feeling of competency in sports. (Liukkonen & Jaakkola, 2012, 51-53.)

Experienced autonomy means that the person feels that there is a possibility of making choices (Deci & Ryan, 2000, in Liukkonen & Jaakkola, 2012, 53). This feeling is very

important for the athlete's motivation and that's why the athlete should be able to affect for example one's training plan or goal-setting (Liukkonen & Jaakkola, 2012, 53).

Relatedness means person's need to experience feelings of closeness with significant others (Reis, et al., 2000, in Hayden & Lynch, 2011, 25). The experiences of relatedness are also significant sources of motivation (Liukkonen & Jaakkola, 2012, 53).

## 6 Psychological Skills

There are some researches on how psychological stress and emotions influence the physiology of injury recovery. For example Cramer, Roh, and Perna (2000, in Weinberg & Gould, 2007, 453) indicated that the body's natural healing process can be disturbed by high levels of depression and stress through increased catecholamines and glucocorticoids, which impair the movement of healing immune cells to the site of the injury and interfere with removal of damaged tissue. Prolonged stress may also decrease the actions of insulin-like growth hormones that are critical during the rebuilding process. Stress is also believed to cause sleep disturbance, another factor identified to interfere with physiological recovery (Perna, Antoni, Baum, Gordon & Schneiderman, 2003, in Weinberg & Gould, 2007, 453). (Weinberg & Gould, 2007, 453.)

As stated in the chapter about personal factors, the athletes have different coping resources and they cope differently with implements of injury. The coach should be aware if the athlete has problems coping with feelings and be able to help the athlete. Psychological skills can be defined to be a tool for the athlete to cope with one's emotions and feelings. These skills can be integrated as a natural part of the rehabilitation process for injured athletes. (Monsma, Mensch & Farroll, 2009, 410.)

“Sport-injury professionals have reported that certain psychological interventions and strategies are often required to overcome the emotions and behaviors experienced by injured athletes.” (Gordon, Potter & Hamer, 2001, 63). The use of psychological skills training during rehabilitation from the sport injury has been found to be beneficial during the recovery. (Brewer, Jeffers, Petitpas & Van Raalte, 1994; Granito, Hogan & Varnum, 1995; Green, 1992; Potter & Grove, 1999; Richardson & Latuda, 1995; Striegel, Hedgpeth & Sowa, 1996; Wiese-Bjornstal & Smith, 1999, in Gordon et al., 2001, 63).

The most important psychological skills to learn for rehabilitation are goal setting, positive self-talk, imagery and relaxation training (Hardy & Grace, 1990; Petitpas & Dan-

ish, 1995; Wiese & Weiss, 1987, in Weinberg & Gould, 2007, 457.; Green, 1992; Potter & Grove, 1999; Richardson & Latuda, 1995; Wiese-Bjornstal & Smith, 1999; Basset & Petrie, 1999; DePalma & DePalma, 1989, in Gordon et al., 2001, 63).

These techniques can be provided and educated during rehabilitation to help the athlete to cope with pain, anxiety, negative and irrational thinking, and to maintain or regain motivation and compliance. ( Gordon et al, 2001, 63.)

## **6.1 Goal Setting**

Once the injury has occurred it is important for the medical staff (usually physiotherapist) to educate the athlete of what to expect from the rehabilitation process and provide a framework for the rehabilitation. The physiotherapist provides a treatment plan and based on that the physiotherapist and the injured athlete should set collaborative goals. Several researches have emphasized the injured athlete's active participation during the goal setting process (Potter & Grove, 1999; Basset & Petrie, 1999; Cott & Finch, 1990; Wiese & Weiss, 1987, in Gordon et al., 2001, 66). This kind of goal setting can help the injured athlete to put the injury and his position in the rehabilitation process in perspective and may prompt to him to ask questions and take an active role. The goal setting should include short-term, medium-term, and long-term goals depending on the injury severity and the prognosis of it. The goals set should be specific, measurable, acceptable, realistic, time-based, evaluated, and recorded. These goals can be related to physical or mental parts of the rehabilitation. (Gordon et at., 2001, 66-67.)

The physical aspects of the rehabilitation can be divided on rehabilitation related and conditioning related. Depending of the type and severity of the injury, and the stage of rehabilitation the athlete can regain, maintain or even improve some parts of their fitness during the rehabilitation period. This important part of rehabilitation period should be taken in notice when setting the collaborative goals with the athlete to enhance motivation. (Interview F, 2012; Interview D, 2012)

## 6.2 Self-Talk

Athletes are used to battle with their feelings during the games and competitions and trying to set their feelings on optimal level for their best performance. As Miller states in his book *Hockey Tough it can be done through thinking* (2003, 6): “Feelings and thoughts are linked. How we think affects how we feel and how we feel affects how we think.” This kind of cycle of thoughts and feelings can be adapted from the competition-like environment to help the injured athlete to use this skill during the rehabilitation process.

A human being speaks inside ones head about 50 000 words per day at average (Plate & Plate, 2005, in Roos-Salmi, 2012, 164). This kind of inner conversation is called self-talk as a psychological technique and it is an active process, which can be affected.

Self-talk influences on persons thought which are linked on ones emotions. Self-talk can be positive, neutral, or negative and the type of self-talk can directly influence the emotions also to be positive, neutral or negative. (Roos-Salmi, 2012, 164-165.)

The process of changing the negative thoughts to positive is called thought-stopping and as the name tells it involves stopping the negative thoughts and replacing them with positive ones using a mental cue. (Crossman 2001, 129.)

“We all have conversations going inside our heads. I call it self-talk. Every athlete hears two competing voices. One is negative critic, and the other is positive coach. Which voice we listen is a matter of choice.” (Mack & Casstevens, 2001, p. 115.)

During the early stages of rehabilitation the athletes self-talk is mainly negative. For example: “I’m never going to get back to where I was.” Negative self-talk involves critical, self-demeaning, self-defeating, counterproductive thoughts, which will affect decreasingly to the athletes effort in rehabilitation, decrease self-esteem, and increase anxiety, feelings of helplessness, and levels of depression. (Crossman, 2001, 128.)

According to above, it is easy to state that the content of athletes thought influences recovery and that’s why the injured athlete should receive help to turn negative thinking into a positive. “Positive self-talk or affirmations, which are really just mental pats

on the back, serve to motivate the athlete to work through rehabilitation with confidence and sustained effort.” (Crossman, 2001, 129.)

### **6.3 Rational Thinking**

The injured athletes often have irrational thoughts about their injury: some injured athletes tend to either exaggerate the extent of their injury or downplay it (Crossman, 2001, 131). To minimize the risk this to happen it is important that the medical staff educate the athlete realistically about the injury, rehabilitation process and prognosis. Also the coach should have a conversation with the athlete about ones situation and role in the team. The injured athlete can also irrationally blame someone else for the injury or setbacks during the rehabilitation. (Crossman, 2001, 130-132.)

It is important that medical staff and coaches assist the injured athlete by teaching to think in positive, realistic and constructive ways that direct the athlete towards achieving goals in the rehabilitation. Through this kind of assist the injured athlete alone can control how they execute the rehabilitation, or think and feel to be true and execute the rehabilitation. (Crossman, 2001, 132.)

### **6.4 Relaxation**

Through relaxation technique, the athlete learns to control the autonomic nervous system, which regulates for example vitality levels. The skill of relaxation gives the athlete a change control one’s own mind and thoughts. When the athlete is relaxed, the external distractions and influences can be set aside or totally blocked. The relaxation can also be seen as a state of muscle relaxation. The muscle relaxation helps the muscles to decrease tension and through that it helps in recovering process. Other benefits for relaxation are for example an increased ability to focus, stress relief, and decreased sleeping problems. Relaxation can be practiced and needs to be practiced to master it. (Kataja, 2012, 181-183.)

Several sport psychologists and medical practitioners’ support the idea that a systematic program of relaxation can be beneficial to injured athletes during the process of recov-

ery (Gieck, 1990; Pargman, 1993; Carroll, 1993; Davis, Eschelmann & McCay, 1995, in Crossman, 2001, 132).

It is known that relaxation can reduce muscle tension, and through that reduces the amount of pain experienced (Linton & Gotestam, 1984, in Corssman, 2001, 132). Relaxation reduces the feelings of frustration, depression, and anger, which are related to the onset of injury (Crossman, 2001, 132).

Learning the relaxation technique, athlete goes through three stages and their state of relaxation increases and sense of control heightens (Crossman, 2001, 133). The three levels are:

1. The symbolic level – Breathing will slow down and the knowledge of tension or relaxation increases.
2. The mental level – Sense of calm takes place and the athlete begins to focus attention away from anxiety causing distractions, enhancing control over oneself.
3. The physical level – The athlete become able to reach a deep relaxed state, which allows one to have control over any mental or physical anxieties which may be harmful for the recovery.

## **6.5 Imaginary**

The term imaginary directly means creation or recreation of visual (sight) experience, but in psychology the experience can also be produced through other ways (senses) in mind: audio (hear), kinesthetic (feelings in body), smell, and taste. Imaginary can be internal or external. In internal imaginary athlete feels oneself in the experience, and in external imaginary athlete views oneself from outside own body in the experience. (Kataja, 2012, 199.) Typically the goal for imaginary is for example to prepare for competition, develop skill, or learn a new tactical aspect, but imagery can also be beneficial during the recovery process.

Several sport psychologists and medical practitioners have documented their belief in the potential value of imaginary (Pargman, 1993; Heil, 1993; Durso-Cupal, 1996; Green, 1992; Jones & Stuth, 1997; Brewer et al., 1994, in Crossman, 2001, 137) and its ability to speed up the recovery process (Richardson & Latula, 1995; Green, 1992,

Ievleva & Orlik, 1991; Loundagin & Fisher, 1993, in Crossman, 2001, 137). Crossman (2001, 137) also states that “testimonies supporting the use of imagery as a tool to enhance and even speed up healing are anecdotal in nature and no direct link has been empirically established.”

Imaginary training, where the athlete imagines some motoric movement (i.e technical skill) and is doing little movements (micro movements) at the same time is called idea-motoric training. If this kind of technique is done focused enough, it raises blood circulation in the same area in brains than “actually” doing the movement. Also muscle tension and electric activation in nervous cells increases. Through these mentioned factors idea-motoric imaginary strengthens automation of motoric movements, speeds up motoric movement learning, and certainty of motoric movement increases. Even though these changes are weaker than during physical training, this type of imaginary stimulates the same kind of nervous tracks as physical training. (Kataja, 2012, 201.) This kind of imaginary can be beneficial for the injured athlete especially during the return to full training and competition phase, when catching up technical skills and tactical aspects of the sport.

## **7 Social Support**

Social support can be beneficial the same way as coping is. It can help reduce stress, enhance mood, increase motivation for rehabilitation, and improve treatment adherence (Weinberg & Gould, 2007, 458). The social support can be defined as “an exchange of resources intended to benefit the recipient.” (Shumaker & Brownell, 1984, in Udry, 2001, 149.)

Social support, to be effective, is more about the quality social contacts than the number of them. Commonly this kind of “quality” social supporter can be family member, friend, teammate, physiotherapist and/ or coach. These supporters can be called “the significant others.” The social support, to be beneficial for the athlete, should meet the athlete’s needs or expectations for type, amount and the frequency of the support. Meaning that the right type of support should be provided at the right time and with the right amount – that is called “optimal matching framework.” (Udry, 2001, 148-149, 152.)

### **7.1 The Type of Social Support**

It has been demonstrated many times that social support is a multidimensional construct and no type of support is universally preferred (Thoits, 1995; Martin, Davis, Baron, Suls & Blanchard, 1994; Dakof & Taylor, 1990, in Udry 2001, 150.). Udry (2001, p. 150) presents an example of one determination, which was collected from interviews with individuals experiencing variety of health problems (i.e. cancer). In Udry’s research the patients have indicated three types of social support to be salient: emotional support, informational support, and tangible support.

#### **7.1.1 Emotional Support**

Emotional support includes expressions of concern, empathy, niceness and behaviours as listening, physical presence, etc. (Udry, 2001, 150). Providing emotional support means a significant other to be there for the athlete: listening without giving advice,

showing empathy and concern, and challenging the athlete to see things from different perspective (Hardly et. al., 1999, in Bianco, 2007, 246).

### **7.1.2 Informational Support**

Informational support is defined as information provision in an attempt to help individuals engage in problem-solving efforts, and includes the provision of sound technical information (Udry, 2001, 150). Additionally, according to Hardy “informational support includes behaviours aimed at validating one’s experiences, recognizing and supporting coping efforts, and challenging people to keep up the good work.” (1999, in Bianco, 2007, 246.)

The athletes have also found beneficial that a significant other shares one’s own (or second hand information) experiences with injuries from the past to made the athlete feel that the supporter knows what is going on and understands what the athlete is going through (Bianco, 2007, 252).

### **7.1.3 Tangible Support**

Tangible support includes effective practical assistance and the provision of technically competent medical care (Udry, 2001, 150). A significant other can also provide material or personal assistance as a tangible support for the injured athlete. Material assistance can be for example financial assistance or products. (Hardly et. al., 1999, in Bianco, 2007, 246-247.) For example one junior team coach loaned his blender for the player who’s jaw was broken.

Personal assistance means that a significant other gives one’s time, skills, knowledge and/or expertise to help the athlete to progress with rehabilitation process (Hardly et. al., 1999, in Bianco, 2007, 265). It can be for example coach’s designed training program for the athlete.

## **7.2 The Amount of Social Support**

The social support must be provided in the right amounts to be most useful and beneficial. The amount has to be correct to exceed the recipient's expectations or desires. The provided social support can be over the recipient's expectations or desires, for example by family members offering physical assistance for injured athlete and the athlete might view that as too coddling or doting. The social support can be also too weak at some points during the rehabilitation process to match the recipient's expectations or desires. The injured athlete usually receives the social support at the start of the route of injury but the amount of support decreases over time of rehabilitation. (Udry, 2001, 151-152.)

## **7.3 The Time for Social Support**

For the social support to be effective, the right type of support has to be provided at the right times. At the start of the injury route the athlete usually needs mostly emotional support, and over time informational and tangible support are more expected. Based on the above, those in contact with injured athlete should try to notice when and which type of social support should be provided. (Bianco, 2007, 265)

## **7.4 Family Members & Friends**

Family members are an essential part of the injured athlete's social network and are often the only support providers that have been through all aspects, ups and downs of the injury with the athlete. Family members are especially prone to feel overly emotionally and frustrated when the injury is chronic, particularly severe or difficult to diagnose. (Udry, 2001, 152-153.)

It is important to take in notice, that the family members worry and overly emotional actions might affect the athlete negatively. The injured athletes relay on family members for emotional-, and tangible support, and to a lesser extend for informational support. (Udry, 1997; Gould, Udry, Bridges & Beck, 1997, in Udry, 2001, 153.)

## **7.5 Teammates**

The role of the teammates can vary from minimal to profound, depending on several factors: time of the injury in relation to the competitive season (e.g. pre-season versus playoffs), the length of time the team has been together (e.g. newly formed versus long-standing social contact among team members), and gender (e.g. female athletes may prefer greater amounts of contact with the teammates as compared to males). (Udry, 2001, 154.) Teammates can be an important source of all types of social support (emotional, informational and tangible).

The injured athlete-teammate relationship can be difficult because of many aspects. It may be hard for the injured athlete to watch other team members to replace him/her in the roster. Seeing others developing through competing and practicing might make the injured athlete wonder if he/she is falling behind and able to take back his/hers previous role in the team when returning to play. This might cause difficulties between team member's social relationships. (Udry, 2001, 154.)

## **7.6 The Role of Physiotherapists**

The physiotherapists have an essential role in sports injury rehabilitation, obviously physiologically, but also psychologically. The physiotherapist is usually the person from the medical staff who controls the rehabilitation and is in contact to the injured athlete more than other medical or even team personnel including coaches. Through that essential role of rehabilitation process and their expertise the physiotherapists often creates a tight social bond with the injured athlete. (Brewer, Judy, Van Raalte & Petitpas, 2007, 79-80.)

As one elite-level ice hockey player put it well, when asked the importance of physiotherapists: "The physiotherapist was the most important person during my rehabilitation. He understood my ups and especially downs during the rehabilitation, he was my "cry-wall" and, because of him I could go home and play with my kids with a positive mindset. Maybe my marriage was going better because of him too."

The physiotherapist should be trained on the multiple areas and should have an understanding of the principles of physical therapy, biomechanics, psychology, exercise prescription, and nutrition. For the whole route of injury to be successful, it is essential the physiotherapists to have the full confidence of the injured athlete. (Gerrard, 2001, p. 55.)

## **7.7 The Coach Support**

Coach's role in athlete's life is very relevant helping the athlete in recovery process. Coach can ease the athletes concerns about how the injury could affect ones athletic career (Bianco, 2007, 246). The stress can rise from concerns about athlete's role in the team, injury's effect on the development or being away from an important event (etc. the Olympic Games, playoffs). Also, coach plays an important role motivating the athlete to go through the recovery process whit all the recovery practices and maintaining the physical condition levels (Bianco, 2007, 246).

“Several authors have recognized that maintaining links with coaches throughout injury is critical to rehabilitation.” (Bianco, 2001; 2002; Hardy, Burke & Crace, 1999; Heil, 1993; Johnston & Carroll, 1998; Robbins & Rosenfield, 2001; Rotella & Heyman, 1993; Shelley, 1999 in Bianco 2007, 246.)

The coach's, as any other significant others', help for injured athlete can be divided into three main categories: Emotional-, informational-, and tangible support (Hardly et al., 1999, in Bianco, 2007, 246). Podlog & Eklund found in their study that the coach's social support (emotional, informational and tangible), knowledge of the athletes personality and background, and keeping athlete involved in sport are beneficial for the rehabilitation process and return to sport (Podlog & Eklund, 2007, 211-214).

## **7.8 The Effects of Social Support**

The injured athletes with high social support are more likely to cope successfully with the rehabilitation (Wiese, Weiss & Yukelson, 1991, in Udry, 2001, 155). It is important that the injured athlete feels that there is someone who will listen the concerns and

provide an emotional outlet for the injured athlete. When the injured athlete receives information about the injury, it can relieve their anxiety and fears of rehabilitation. Beneficial information can be provided by medical staff, coach, and/or teammates and include for example:

- What to expect from rehabilitation period psychologically
- How the recovery will develop
- How the injured area could feel during the different stages of rehabilitation

The significant others can also push the injured athlete during the rehabilitation period and provide essential motivational support. (Udry, 2001, 155-156)

## 8 Positive Effects of Injury

Even though it is widely proved that getting injured in sports have mostly negative psychological consequences, the athlete can also benefit psychologically from the injury. The injury offers the athlete a different kind of situation than the sport usually and that kind of situation can be turned into a developmental experience and the athlete could even surpass their pre-injury level in sport. (Interview B, 2012; Interview D, 2012.)

Some athletes will experience “positive” emotions such as relief, optimism, acceptance, or may view a season-ending injury as a benefit, something that allows them to grow personally (e.g., learn to manage time better, develop outside interests, clarify priorities) and/or become psychologically tougher (e.g., increase motivation, improve confidence) (Udry, Gould, Bridges & Beck, 1997 in Petrie, 2007, 195).

Udry, Gould, Bridges & Beck (1997, in Wadey, Evans, Evans & Mitchell 2010, 143) conducted a study where they interviewed 21 U.S Ski Team athletes who had sustained season-ending injuries about their perceived benefits of the injury. Twenty of 21 participants reported more than one benefit, which were divided into three global dimensions:

1. Personal growth benefits (e.g., gaining a sense of perspective, personality development, developing aspects of non-skiing life and learning better time management.)
2. Psychologically based performance enhancements (e.g., efficacy/toughness, enhanced motivation and realistic expectations about own abilities)
3. Physical and technical development benefits (e.g., learnt to ski smarter and got stronger than before injury)

Wadey et al.(2010) made qualitative examination of perceived benefits following sport injury and their study supports the previous findings. The participants were 10 male team sport players who performed on club to national levels and their time loss from training and competition ranged from two to 27 months. In the study interviews and

results were divided into three different categories: Injury onset, rehabilitation and return to competitive sports. The participants reported four perceived benefits in the injury onset category:

- a) Increased knowledge of anatomy and risk factors of injury
- b) Increased ability to understand, express, and regulate ones emotions
- c) Strengthened social network
- d) Increased perception of social network.

In the Rehabilitation category participants reported 12 perceived benefits. Because during the rehabilitation period the injured athlete have more free time than usually, the athlete had time to reflect on ones sporting and general lifelong goals and aspirations, and spend more time with the family and friends, meet new people and spend time doing academic work. In the rehabilitation period the athlete is unable to train and compete with the team, which made it possible to attend training sessions as a spectator and/or assistant. Through that unfamiliar role in the training- or competing events the participants felt that they improved their technical and tactical awareness, relationship with the coach, and were able to develop their sport-specific skills. When athlete is going through the rehabilitation process, there are most likely scheduled meetings with physiotherapist and a rehabilitation program written by them. The participants felt these factors beneficial in four ways

- a) Improved some or many physical abilities above/beyond pre-injury levels
- b) Improvement in technique (to reduce risk of injury)
- c) Increased knowledge of anatomy
- d) Decreased risk of injury

The “b)” and “c)” benefits could be seen especially when doing an exercise, there were more knowledge about which main points to concentrate and through that the quality of exercise has been better after the injury. When returning back to competitive sport the participants reported three perceived benefits: They felt themselves to be mentally tougher and more able to cope with adversity. They could put things better into perspective. They also felt themselves more caring and unselfish individuals, and had

greater ability to empathize with injured athletes. (Wadey, Evans, Evans & Mitchell 2010.)

## 9 Empirical Part

### 9.1 Project planning

The idea for the project came to my mind when watching a HBO television series “Hard Knocks” – a documentary series of NFL training camps. In the documentary, Kansas City Chiefs coach was walking on the football field and one injured player was warming up in the line with “healthy” players. The coach said hello to all the healthy athletes in line, but ignored the injured one. The injured athlete wanted to know the reason for that, and the coach responded: “You are injured, you’re nothing to me.”

I have personally experienced several injuries which have kept me out of games from three to six months and according to that I feel that I have an experience about what it is like to be injured and how devastating it can psychologically be. At the time I saw that NFL professional coach to say that to the athlete in one of the biggest sport leagues in the world. That happened in sport, where coaching have been taken to extremity on tactical side. This caught me thinking: “This is really happening at 21<sup>st</sup> century.” I decided to start planning a project where is information about an injured athletes emotional experiences and factors affecting on them. I also wanted to provide coaches some guidelines to help the athlete psychologically during the recovery process.

After I got the idea I talked with some ice hockey players and coaches and got support for implementing the project. During these conversations I got confirmation that this kind of information can be useful for the coaches in team sports. I started to list my experiences about what is it like to be injured in team sports and I remembered multiple feelings and factors which were affecting to the feelings. After listing the memories I started to do research from the literature and internet if I could find new information, and/or terms and definitions to the memories and found out that there are some researches made about the subject. Surprisingly, I didn’t find almost any new information about the subject for me, but I got a confirmation and terms for the feelings I had during my own injuries.

## 9.2 Project implementation

The guide provides information for the coaches about what should be taken in notice before the injury, when the injury occurs, during the rehabilitation, and when returning player to the games. A treatment chain model, importance of quality medical personnel, coach support types, and timing for the support are dealt.

The first part of the guide contains information about what should be taken care of before the injury occurs. I decided to include this part to the guide because it affects essentially to the athletes emotional responses to the injury. Without quality medical personnel and a plan how to use it, the athlete doesn't get accurate diagnosis for the injury or prognosis for the estimated recovery time. These factors are very important for the athlete's successful recovery process. There is a "chain of treatment" –model provided in the first part.

In the second part I decided to tell about emotional responses to injury and factors effecting to emotional responses. There are several factors influencing to the athletes emotional responses and it is essential for the coaches to understand the possible reasons behind the athlete's feelings and behaviours.

The third part contains information about what kind of support the coach can provide to the injured athlete. The part also includes a short description of three psychological phases of the injury and information about how the coach can support the injured athlete on each phase. This information is also provided as a checklist in the end of the guide.

There can also be, and often is, positive sides in the injury and rehabilitation experience. These are dealt in the fourth part of the guide. It is important for the coach to show these possible sides to the athlete, because athletes often understand the injury to be only negative thing for them.

### **9.3 Project outcome**

I was satisfied with the outcome of the project. I believe that there is useful information for the coaches in team sports about this subject and it helps the coaches to understand and help the athlete during the injury and rehabilitation experience. I do understand that this subject is not the centre point when coaching a team, but it can be handled well while coaching the team. I believe this shows, for the whole team, that the coach cares the athletes and is there for them when the athletes needs that. There can be argued if something should be dropped out from the guide or be added to it, but I personally found these aspects to be relevant for the subject.

## 10 Summary & Discussion

The objectives for the guide were to provide information about an injured athletes emotional experiences and factors affecting on them. I also wanted to provide coaches some guidelines to help the athlete psychologically during the recovery process. I wanted to have the guide in a compact package, because the nature of this subject and the target group. This subject is not the centre point when coaching a team and that's why the coach may not use too much time to familiarize oneself to the subject. I choose these objectives, because I think that many coaches doesn't even know what is going on with the injured athlete and they just wonder why the negative emotions and behaviours occurs. I was satisfied with outcome of the project and I think that it could provide useful "overall" information for the coaches about the life of an injured athlete and how the coach can support one.

I started the project because of my own experiences and knowledge of the sport injuries and the life of an injured athlete. I had some good models for the coach support from my previous coaches, luckily there is not any very bad experiences. This work project wasn't done because of bitterness.

From the literature I could find only some new information but multiple terms and definitions to my own experiences and found some researches about the subject. Overall there are sources for the subject, but the first hand sources were hard to get in hands, and because of that I had to rely on only few first hand sources and additionally quite much to second hand sources. That levels down the reliability and validity of the project. I also used interviews to collect information about the subject and the interviews were very useful for deepen the information and knowledge I had, and also provided another points of view according to experience, not just my own. The interviews mostly supported my own experiences. Because of the nature of the topic the interviewers were offered a change to be anonymous. I think that helped the interviewers to share their experiences more openly.

I also had some problems what to contain or not to the project. There are several factor associated with the subject and it was hard to speculate especially what to left out from the project. That raises a question if the subject was too wide. This problem also caused another problem. Some areas of the subject were dealt too narrowly, having only scratch of the information I wanted to provide. Another question is if there could be chose other angle to approach the subject. The self-determination theory would have been better - and maybe more simple by structure – point of view. It is now mentioned there inside different topics (not by name), but the thesis would be more clear if the point of view would have been more from the self-determination theory.

The guide provides to team sport coaches information about the injured athletes’ “psychological life” and which factors are affecting to that. It also gives guidance for coaches how to help the athlete during the injury period and the return to sport phase. Other than problems or lacks mentioned above, I think I accomplished my objectives well.

Handling the injured athlete in team sports is very hard to be done well. There is always the whole team to run and the main focus is in the performing unit. Especially with professional teams, where the result means more than in junior teams the coaches may prioritise their time and focus more on the performing athletes. There can also be problems according to the injured athlete’s personality and playing status. If the athlete doesn’t seek the coaches attention, even the athlete would need it and he/she recognizes it, there may not be “natural” contact between the athlete and the coach. Also if the athletes personality is something the coach may not like, and/or the athlete is not so important for the team success, the coach may intentionally or unintentionally ignore the injured athlete. According to these possible problems of interaction between coach and injured athlete, there should be a plan made and routines created for the interaction between a coach and an injured athlete.

For the future there could be done a manual for enhancing the positive effects of injury. Maybe a title “take everything out of your injury” could be good one. The positive effects are widely underestimated. If the athlete can see a change to develop physically

and psychologically during the injury process, the negative emotions may be set aside. The coaches should emphasize this positive aspect inside the mostly negatively seen sport injury experience. The whole injury period can be easier mentally for the athlete and the impacts of the injury period can be psychologically positive.

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