

# Importance of Sports Medicine in Prevention of Overused Injuries in Rugby in Cameroon

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## I. INTRODUCTION

Over use injury etiology resembles that of acute injury and is often mistaken for acute injury thus rendering treatment not to be effective.

➤ *Renstrom and Johnson (2012) clearly stated that:*

Overuse injuries constitute a great diagnostic and therapeutic problem because the symptoms are often diffuse and uncharacteristic. An appropriate diagnosis followed by adequate treatment can improve or eliminate most of these conditions, but perhaps even more importantly a proper understanding of overuse syndromes should allow physicians to assist athletes, trainers, and coaches in preventing them

As the name “overuse” implies, it is the repetitive use of a tissue or group of body structure to more than it can support and usually over a long time that results to pain or discomfort. Roos and Marshall (2014) goes further, by indicating that that the onset is gradual and that it is mostly due to repetitive microtrauma. This type of injury occurs in rugby since it’s a collision or contact sports that needs well build muscles. If overuse injury is left untreated or not properly treated, then it will become more serious and can render the victim unfit to continue with sport. It is said that “prevention is better than cure”, so our focus here will be to bring out the role of Sport Medicine in overuse injury prevention in Cameroon Rugby. Nonetheless, what is sport medicine? Many scholars have different definition but it boils down to the same direction. Thus, **Sports Medicine** is a branch of medicine that deals with the prevention and treatment of injuries and other health issues related to sports, exercise and physical fitness. Sports medicine involves sports medicine specialists, physiotherapists, exercise physiologists, team doctors and trainers. So, sports medicine is somehow a teamwork to prevent and treat sports injuries and other sport related health issues. Although sports medicine involves all sports, exercise and other physical fitness activities, this study will focus on the importance of Sports Medicine in preventing of a type of trauma known as “overuse injury” in Rugby in Cameroon (as mentioned above). It should be noted that overused injury is hardly mention or treated as a special trauma with a different etiology. This shall be explained further. Rugby is becoming more popular in Cameroon and this timely research will help to enhance the relation between Rugby and sport medicine in order to prevent injury so as to keep performance high. Rugby is a team game played with an oval ball that may be kicked, carried, and passed from hand to hand. It is usually called a contact or collision sports. So we will be addressing the following questions; Is sports

Medicine important in overuse Injury prevention in Cameroon in Rugby? Is the Etiology of overuse injury in Cameroon Rugby well known? In other to do this we shall review a lot of literature. That is, we shall be dealing with secondary data. This data is from creditable sources with validity assured.

## II. LITERATURE REVIEW

➤ *General Case*

- *Types of Trauma in Rugby*

Since Rugby is called a collision sport, it is quite obvious that we should be talking about trauma. The rate of trauma in rugby is more than that in Football and many other sports. According Junge et al (2006 as cited by Bahr & Engebretsen 2011), the risk of injury differs from one sport to another and the international Olympic committee medical commission clearly noted this fact. Bahr & Engebretsen (2011) went further to mention Rugby as one of the sports with the highest risk of injury. Sport trauma is a discomfort (usually pain) associated to physical stress or external force resulting to an injury. It can be life threatening, needing urgent medical attention or it might be minor like overuse injury during inset. These minor injuries left untreated usually become major injuries. In rugby, we have the following types of frequent traumas: Concussion, sprain and strain, dislocation, slipped disc, overuse injury. This study is focus on one type of the minor trauma; called “overuse injury” and its prevention by Sports medicine. So we shall examine, what is overused injury and the various types.

- *Overuse Injury and the Various Types in Rugby.*

As the name “overuse” implies, it is the repetitive use of a tissue or group of body structure to more than it can support and usually over a long time which then results to pain or discomfort. Roos and Marshall (2014) goes further, by indicating that that the onset is gradual and that it is mostly due to repetitive microtrauma. According to Bahr (2012), one of the symptoms of overuse injury is when the is plenty of pain and no known cause. This researcher went further to support the fact that overuse injury is often mistaken for acute injuries. The history of pain will lead the sport Medicine Specialist to the type of injury. Gabbett et al (2016) indicated that overuse injury is due to training load error. These researchers also indicated that both “overload and underload” can lead to overuse injury. On the other hand, from the definition of overuse injury, one will strongly oppose that, underload training will not cause overuse injury but will rather cause the individual to be susceptible to other injury and lower performance. Notwithstanding this, other

researchers like Aicale et al (2018) have proved how underload might cause overuse injury by stating that:

A lack of exposure to adequate levels of physiological stress over a prolonged time period or “underloading” may paradoxically predispose to overload injury [34]. An underloaded tendon may become unable to cope with increased demands imposed on it. Thus, underuse of a tendon may result in an imbalance between matrix metalloproteinases and their inhibitors (tissue inhibitors of matrix metalloproteinases), with resultant tendon degradation.

Jaspers et al (2018) came out with valid results that external overloading over a long time, is one of the main cause of overuse injury. Overuse injury can lead to lifetime injury where participation in sports will be impossible unless proper diagnosis and treatment is done. Nonetheless, what are the various types of overuse injuries? When stress is put on the musculoskeletal system, it can result to various types of overuse injuries, that can affect the tendons, bones, muscles, bursars and ligaments resulting to pain. Aicale et al (2018), supported this fact by noting that “the musculoskeletal system, if subjected to excessive stress, can suffer from various types of overuse injuries which may affect the bone, muscles, tendons, and ligaments”. Overuse injuries usually results in inflammation of the bursar or tendon called bursitis and tendinitis respectively and are commonly noticed in rugby players. Notwithstanding, Overuse injuries in muscles causes compartment syndromes and muscle soreness. Over stress of bones causes stress fractures, apophysitis and periostitis. If overuse injury usually left without proper intervention from the sports doctor, then it can lead to worst injury over time that reduces mobility and performance.

✓ According to Stefani L. (2018):

Overuse injuries such as knee tendinitis or ankle tendinitis, stress syndrome involved with the media tibia, and bursitis are very common in rugby players. Overextension and overuse injuries have been shown to account for 14.5% of injuries in rugby union in NSW. In the same study, we saw that over 50% of reported injuries did not result in lost games. Although these injuries are not as serious as head injuries and neck injuries, but without proper care and attention, they can affect the player's overall performance as well as complicate issues in the long run. Therefore, they should be checked out by a sports medicine professional.

Now that we know what is overuse injury in sports, let see what causes this overuse injury and how it can be prevented by sport medicine specialist.

- *Causes of Overuse Injury in Rugby and Role of Sport Medicine in its Prevention*

As we already know, overuse injury is a minor injury that can become a major problem over time, if not handled properly. But what causes it and how can it be prevented from occurring by the sport Medicine Specialist is our main interest here. All rugby players are at risk of overuse injury

but some risk factors include: Not using the correct exercise techniques, Overtraining, either by training too often, too frequently, or for too long, Playing the same sport year-round, wearing shoes that do not have enough support, having had a prior injury and lastly, having certain anatomical features specific to each joint or poor flexibility. How can the this be avoided? This causes can be avoided if (especially) sport medicine team gives proper advices to the players. If the trainer is well qualified and if the players respect these advices given to them. Sports medicine specialists must understand the etiology of overuse injury in rugby players before treatment. It should be noted here that most rugby players do extra strengthening exercise or muscle power building and have the tendency to overdo it thus resulting to overuse injury. But According to Verhagen, Stralen & Mechelen (2010), more research is needed in injury prevention in sports. This implies less research has been undertaken in this area. Notwithstanding, what is the importance of sport medicine in overuse injury prevention in a sport like rugby? Rugby is a sport like other sports, so, what is important in prevention of injury in general sport is important in Rugby too. In Rugby, special attention since rugby is a contact sports and the rate of injury is higher as compare to other sports. Since we are focus specifically on overuse injury. So what the importance of sport medicine in the prevention of overuse injury?

✓ As Stated by Verhagen, Stralen & Mechelen (2012):

Different types of behaviour relate to injury risk factors and injury mechanisms. Behaviour that influences risk factors and injury mechanisms is not confined only to the athlete. Various types of behaviour by, for example, the coach, referee, physical therapist or sports associations, also influence risk factors and injury mechanisms.

This implies injury prevention is so complex and complicated. Even the Rugby players are involved. It should be the main role of the Sport Medicine to educate the other team members and players involved about the risk factors and preventive measures for overuse injuries. Concerning overuse injury, apart from the holistic approach, individual rugby players should be educated about the causes of overuse injury since most of these players do individual muscles buildup or strengthening exercise which usually lead to overuse injury. In order to succeed in injury prevention some major steps have to be taken to identify the cause, (risk factors) before implementing the preventive measures since all sports are different. Mechelen et al (2012), supported this fact by indicating steps to be followed; identifying sport injury problem, factors and mechanism of injury, introducing measures to reduce future risk/severity of the injury and finally, the effect of the measures must be evaluated by repeating the first step. According to the etiology of overuse injury and the nature, sport medicine plays a major rule in overuse injury prevention in Rugby. Anti-inflammatory drugs and pain killers do not treat overused injury if the cause is not identified and prevented. Given medication with putting preventive measures will prolong the injury and aggravate the problem. This fact was supported by Aicale et al (2018)

where they demonstrated with an example of tendonopathy due to overuse injury;

Tendinopathy has been hypothesized to result from inflammatory changes in the tendon, and secondary to its frequent or excessive use, assigning the label of “tendinitis” or “tendonitis” to such a presentation. However, anti-inflammatory agents are largely unsuccessful in the treatment of the condition, and with the increase in histopathological data showing degenerative changes but little inflammation, the inflammatory hypothesis in overuse tendon injury became decreasingly popular. The term “tendonitis” became increasingly replaced by “tendinosis”, but a definitive diagnosis of either should only be made following histopathological confirmation.

The sport physician himself cannot handle the prevention of this type of injury by himself. He must work in a holistic approach to avoid excessive training or overloading by coaches and players.

To give more support to this fact, Renstrom and Johnson (2012) indicated that;

Because knowledge of overuse syndromes is limited, the diagnosis and treatment of these conditions are a challenge to sports medicine physicians. Trial and error methods of treatment and too little attention to basic research have resulted in less than optimum solutions. We do know that these maladies most frequently result from overload or repetitive microtrauma stemming from extrinsic factors such as training errors, poor performance, poor techniques and inappropriate surfaces or intrinsic factors including malalignment and muscle imbalance.

This implies the role of Sport medicine in sports is very important in the prevention of overuse injury. Not that we have seen the importance of sport medicine in rugby in a global bases, lets move further to see if sport medicine is important in the prevention of overuse injury in rugby in Cameroon.

#### ➤ *Case of Cameroon*

##### • *Types of Trauma in Rugby in Cameroon.*

Rugby is still evolving in Cameroon and the population isn't aware of it as compare to other sports like football. It has reached a stage that concern has to be put on it especially as concerns the health of the players before, during and on retirement. Cameroon Rugby was affiliated to the world rugby in 1999. It is run by the Cameroon Rugby Federation. This researcher has been in the medical team with the rugby of Cameroon in one of the major team; Addax Petroleum Rugby club (now called red Dragon). This implies the researcher has firsthand knowledge of the of Cameroon rugby health issue. Cameroon has received less interest from the state and other stake holders as compare to other sports in Cameroon. No literature review has so far been done on the rugby club overuse injury prevention and so it was difficult to compare firsthand knowledge of the researcher to any other data. Rugby in Cameroon has

experienced all the types of trauma mentioned above and the medical team is usually absent or incomplete in many rugby teams in Cameroon. The highest that a team can get in its medical team is a physiotherapist. This implies sport medicine in rugby in Cameroon needs to be updated and upgraded. Thus injury (overuse) prevention in rugby is minimal. It left at the mercy of the Coach and sometimes the physiotherapist. Sport medicine has been introduced not long ago in Cameroon universities to give a solution to sport related health issues. That said, there are many other additional risk factors that can result to injury; like rough playing ground and wrong foot wear. Most of the players are engage in safe muscle strength building which subsequently leads to overload and overuse injury. The players are forced by their coaches to train excessively and thus exposing them to overuse injury. In Cameroon rugby the overuse injury that is more rampant is tendinitis especially of the knee, wrist and ankle joints. Most of the ligaments of the knee and ankle joints are usually affected. Most often there is the issue of back pain with pathology history indicating overuse injury of ligaments and tendons of the spine. The rugby federation of Cameroon is open to all the risk of overuse injury since the lack the sport medicine team.

##### • *Types of Overuse Injuries in Rugby in Cameroon*

Overuse injuries do exist in the Cameroon Rugby teams due to the absence of sport medicine in most of the team. It has been proven above that Sport Medicine is very necessary for overuse injury prevention. This has been supported by Kirkendall & Dvorak (2010) who stated that One of the goals of a sports medicine professional, is injury prevention. Since it isn't well developed in Cameroon Rugby, the players are bound to be open to overuse injury couple to the fact that they mostly do self-strengthening of muscles, without proper guide and without the knowledge of overuse injury. Difiori et al (nd) stated that excessive focus on early intensive training and competition at young ages rather than skill development can lead to overuse injury and burnout. It should be noted that there is excessive training in most rugby teams instead of focusing on skill development is normal and this usually leads to overuse injury.

##### • *Causes of Overuse Injuries in Rugby in Cameroon.*

As already indicated, no literature was found indicating any issue about Cameroon Rugby. Moreover, no literature was gotten about sport medicine and injury prevention in Cameroon. This implies Cameroon rugby players are open to all types of injury. Thus, all the causes of overused injury do exist in Cameroon Rugby Club. The sport medicine specialists have to sensitize the public and especially the Rugby Club of Cameroon about the role of Sport Medicine in prevention of Injury. Kirkendall & Dvorak (2010) stated that, it is an important goal of the sports medicine community to inform physicians and other sports medicine professionals about the effectiveness of prevention programs to increase use and compliance.

- *Role of Sport Medicine in Overused Injury Prevention in Cameroon*

At this stage it should be noted that minimal effort has been done by the Rugby teams to engage with sport Medicine specialists due to Financial setbacks and lack of proper information of the role of sports medicine in enhancing their performance and minimizing injury (overuse). The role of injury prevention has been left to the hands of Physiotherapist for the few clubs who have been able to get one.

### III. SHORT COMING IN THE SECONDARY DATA RESEARCH

Solid epidemiological research is currently lacking in overuse injury prevention in rugby in Cameroon.

### IV. CONCLUSION/RECOMMENDATION

Overuse injury is as a result of repetitive use or due to excessive stress on soft and hard tissue. Thus Overuse injuries can affect the muscle, tendon, and bone which can give rise to substantial morbidity, and current understanding of the mechanisms involved is essential for its prevention and proper treatment. The role of Sport medicine in overuse injury is no doubt very important in its prevention and treatment. But in Cameroon, this role in overuse injury prevention in Rugby sports has been neglected due to ignorance or lack of finances from the Rugby team sport.

Since current understanding of the mechanisms involved in overuse injury especially tendon injury and repair is limited, research in overuse injury and its method of registration should be carried out in Cameroon. Rugby team sport and Federation should incorporate sport medicine as essential for high performance and to keep the players healthy.

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