



PAIN MANAGEMENT PROCESS IN PHYSICAL ACTIVITIES

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Abstract

A sport lifestyle today requires some conditions that regular people are not always able to fulfill it. Overcrowded working program, stressful daily activities or bad meals program are some of the factors that can contribute fast to physical failure. More than this, even bad organized training program can lead to all kind of physical problems like pops, stings, tingles or even cracks. These types of sensations felt during or after physical activities are all consist in pains.

This article is going to highlight the phenomenon called management of pain, tring to figure out some explications about this and to describe some common therapies that can prevent or help the recovery process.

Keywords: *physical activities, pain management, therapy.*

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1. Introduction

There is a sport quote says “no pain, no gain”, which is suggesting that pain is the essence of the improving performances. The word *pain* usually refers to physical pain, but it is also a common synonym of suffering caused by injuries. The question is: is it pain the key to improve the performance or is it just a signal sent to our body telling us to stop practice? When pain can be a positive experience, and when pain can be the breaking point? The phenomenon called management of pain is tring to figure out some explications about acute pain and to describe some common methods that can prevent and help the recovery process.

2. Content

Acute pain is pain that occurs rapidly over a short period of time and in most cases instantly. The International Association for the Study of Pain's widely used definition states: "Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage". This is the kind of pain that most of the people who are practicing physical activities fear, because sudden pain felt while participating in some sort of exercise often leads to serious injury if ignored. The best response to acute pain is to stop the effort immediately. If the pain is continuous then medical assistance is

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required. If the pain is alleviated by rest, then the injury should be monitorized based on the symptoms. However, anytime acute pain is appearing the first decision should be taken is to stop the practice (Addison, T., Kremer, J., Bell, R., 2008).

Causes of pain - acute pain is the negative aspect of injuries that we all should try to avoid. Basically most of the injuries that occur are because of skipping a serious warm-up session, training mistakes, or sometimes just because inexperience.

Warm up is very important because when starts to practice the body needs to make a number of adjustments. These include: preparation of muscles and ligaments for stretching, increasing the energy-releasing reactions in the muscles, and promoting blood flow to the muscles to supply them with more oxygen (Ciomag, V., 2012). These adjustments do not occur straight away, but require a number of minutes to reach the necessary levels. So the purpose of a warm-up is to encourage these adjustments to occur gradually, by starting the exercise session at an easy level and increasing the intensity gradually. If it's to start exercising at a high level, without a warm-up, the body would be ill-prepared for the higher demands being made of it, which may cause injuries and pains.

Training mistakes can happen to anyone, from begginers to those ones who are training as hard as they can, pushing theyr bodies to the limits. Somehow those nagging aches and pains always manage to turn into an injury. One conclusion of this type of experiance is that could be ok to train through pain, but it is never ok to train through a serious injury. Because an injury is something that requires to take care of, right away before it turns into a chronic problem or gets worse. Sport is a very demanding physical activity, so pushing, pulling, and straining against opposite forces can often be quite dangerous by increasing the risk of injury.

Injuries can also be traced back to one common culprit – the inexperience. Beginners are not familiar with many of the techniques and exercises they will be required to perform. Ignorance of proper form and reluctance to ask for help, for fear of betraying that ignorance, can be a dangerous combination. The inexperience of people also means that they have not properly developed the muscles required to perform some movements, which also leads to injury. The inexperience also means they have no previous performances by which to judge their strength and ability. For this reason, they may train harder than their bodies can handle. Trying to do too much or not giving oneself enough rest in between sets can lead to muscle strains and joint dislocations. This is a factor not just in training, but in games and other athletic events. Many begginers don't realize their limits and may want to do much more than theyr real possibilities.

Injury types - generally there are three types of injuries: acute, sub-acute, and chronic.

An acute injury occurs immediately, and a few examples are spraining an ankle, tearing a muscle, or breaking a leg. Poor nutrition, failure to warm up, bad sport technique, and even bad luck can be contributing factors. These injuries are usually



serious, and hard training is not recommended.

A sub-acute injury is one that builds up over months or years. Examples are muscle strains and various wear and tear injuries that progressively get worse. These can be the most frustrating injuries of all because although the person can still train, but can't train at the maximum intensity level so the performance is hampered.

Chronic injuries can be devastating. Examples are joint injuries such as rotator cuff injury, shoulder bursitis, or tendonitis. These sorts of injuries must be handled with caution because just one tweak and the sportman could end up in the operating room. In this case the injured must be sure to take good care of chronic injury and follow the doctor's instructions to the tee.

Pain types – pain is ever present in sport. An athlete's ability to tolerate pain is essential to success., because pain provides valuable information about the body and how it is performing. To maximize its usefulness it is important to understand what kind of pain should be listened to and what type is helpful or not. So there are different types of pain that can experienced:

Fatigue and discomfort - this is an unpleasant feeling produced by effort, but not strong enough to be labeled pain. Athletes learn to be "comfortable being uncomfortable" as such efforts are a regular and necessary part of most sports.

Positive training pain - this pain often occurs with endurance exercise, and includes muscle fatigue and sensations in the lungs and heart that can range from unpleasant to what is typically thought of as pain. It is neither threatening nor a sign of injury. Because athletes know the cause, are in control of their effort, and recognize that these feelings are beneficial and can enhance performance. In short, positive training pain is a good sign of effort and improvement.

Negative training pain-is still not indicative of an injury, but goes beyond positive signs of training benefit. An example may be extreme soreness that lasts for days. There may be an overtraining risk.

Negative warning pain-is similar to negative training pain, with the added element of threat. It may be a new experience of pain and a sign of injury occurring. It typically occurs gradually, and allows the athlete to evaluate potential training causes and respond appropriately.

Negative acute pain- is an intense and specific pain that occurs suddenly, often a result of injury. It is often localized to a specific body part and is labeled as threatening.

Numbness – is rare but of very serious concern. It is when the athlete feels nothing when soreness, fatigue or pain should be felt. Instead, limbs are numb. This may be a sign of serious injury or pushing one's body past its physical limits

Prevention methods – includes warming up session and suplemetation.



Warming up – one of the surest ways to prevent injuries is a warming up session, because adequate preparation can increase flexibility and reduce stiffness. The warm-up is widely viewed as a simple measure to prepare the body for exercise of a moderate to high intensity, and is believed to help prevent injury during exercise. Although there is a lack of clear scientific evidence that warming up prevents injuries, logic would suggest that a warm-up should reduce the risk and, at worst, not increase it. A pre-exercise warm-up does:

- increases blood flow to the muscles, which enhances the delivery of oxygen and nutrients;
- warms the muscles, which promotes the energy-releasing reactions used during exercise and makes the muscles more supple;
- prepares muscles and ligaments for stretching;
- prepares the heart for an increase in activity;
- prepares the athlete mentally for the upcoming exercise;
- primes the nerve-to-muscle pathways to be ready for exercise;
- prevents unnecessary stress and fatigue being placed on the muscles.

In order to make the warm-up effective, must be done movements that increase the heart rate and breathing, and slightly increase the temperature of the muscles. A good indication is warming up to the point where a light sweat appears. If it's exercising for general fitness, 5 to 10 minutes should be allowed for the pre-exercise warm-up (or slightly longer in cold weather). If it's exercising at a higher level than for general fitness, or for a particular sporting goal, might be necessary a longer warm-up, and one that is designed specifically for that sport.

Supplements – popularized as treatments for osteoarthritis, glucosamine and chondroitin sulfate supplements works for reducing the degradation of connective tissues in diseased joints, and other associated symptoms, such as pain, inflammation, stiffness, weakness, and poor flexibility. These two substances are worth including in the daily supplement program, especially when undergoing periods of strenuous training or athletic competition, or for speeding up the recovery from sports related injuries.

Research reports taking supplements can reduce pain and inflammation, in some cases as good as ibuprofen, and without the side effects common to NSAID's (non steroidal anti inflammatory drugs) and steroidal drugs. A double bonus is that G&CS builds the body in the process of reducing pain and inflammation, making the best of both world's possible. A summary of what some of the medical studies report about the numerous benefits people have experienced from taking high quality, research grade glucosamine and chondroitin sulfate and why should be consider including these supplements in the athletic nutrition program is: improved wound healing; faster recovery from injuries; pain relief /reduction in pain levels; reduction in pain at rest; reduction in joint tenderness; reduction in joint swelling; improved physical performance; reduction in rubbing noises of the joints; increased flexibility /range of motion; inhibition of connective tissue degradation; stabilize joint space width; treatment of osteoarthritis; joint health improvements; enhanced



synthesis of connective tissues; help reduce exercise related injuries; reduction in knee pain; slows tissue degradation; increases bone healing and repair; improves skin appearance; reduce skin wrinkles and fine lines (Manescu, C. O., 2010)

Treatment methods – are cryotherapy, physiotherapy, and NSAID (non steroidal anti inflammatory drugs) therapy

Cryotherapy – refers to a variety of cold applications that can be used in multiple ways to effectively treat sports injuries. Each method has its own advantages and disadvantages with some applications for the treatment of acute injuries and some for chronic injuries. Cryotherapy can be used for a number of therapeutic purposes including the treatment of acute or chronic pain, acute inflammation or injury, postsurgical pain and swelling. Cold application can be used before or after exercise depending on the type of injury. Some types of cryotherapy are also very effective when used in combination with a rehabilitation program.

Generally, cryotherapy affects the body in a number of ways including reducing blood flow to an injured area (thereby reducing swelling), acting as an analgesic (numbing agent), reducing muscle spasm, and reducing tissue metabolism. Because of its ability to reduce blood flow to an area and reduce pain, cryotherapy is the modality of choice for acute injuries. Acute injuries are injuries that have a known mechanism of injury and usually result in immediate pain.

Types of cryotherapy are: ice packs applied to painfull area, cold immersions, ice massages, commercial frozen gels, chemical frozen packs, cold compression units.

Physiotherapy – sometimes pain treatment can be accomplished through physical therapy. Physical therapy (PT), also known as physiotherapy, involves the treatment, healing, and prevention of injuries or disabilities. PT helps to relieve pain, promote healing, and restore function and movement. PT is practiced by a professionally trained physical therapist under the referral of a doctor. A physical therapist is a specialist skilled and educated specifically in proper rehabilitation.

A therapist may focus on decreasing pain with either passive or active therapy. Examples of passive physical therapy include: heat/ice packs, TENS units, or ultrasound. Examples of active physical therapy include stretching, strengthening exercises, pain relief exercises, low-impact aerobic conditioning.

An important aspect about physical therapy is that it is individualized to meet each person's individual needs. Each person may respond differently to therapy. People have different types of bodies, different patterns of movement, different alignments, and different habits.

NSAID (non steroidal anti inflammatory drugs) therapy – refers to mild chronic pain that can be debilitating by taking a pain reliever in order to make the hurt go away. Aspirin and ibuprofen belong to a large class of drugs known as nonsteroidal anti-inflammatory drugs, commonly called NSAIDs. NSAIDs and acetaminophen can block the pain. Together, they make up the most widely used group of drugs for treating pain conditions. The primary difference between NSAIDs and



acetaminophen (Actamin, Pandadol, Tylenol) lies in the way each relieves pain. Acetaminophen works primarily in the brain to block pain messages and seems to influence the parts of the brain that help reduce fever. That means it can help relieve headaches and minor pains. But it's not as effective against pain associated with inflammation. Inflammation is a common feature of many chronic conditions and injuries. NSAIDs reduce the level of certain chemicals called prostaglandins that are involved in inflammation. Treatment with NSAIDs can lead to less swelling and less pain.

Several types of NSAIDs are very familiar. For instance, aspirin is a widely used pain pill and once, aspirin was the only NSAID available without a prescription. Other NSAIDs, such as ibuprofen or naproxen sodium, began as prescription drugs. Other examples of NSAIDs include: diclofenac, etodolac, fenoprofen, flurbiprofen, naproxen, oxaprozi.

Based on the principle of combining prophylactic and therapeutic means in the context of complex treatments, we can associate medical means, hygiene, diets, natural physical agents (air, water, sun) and artificial means and therapeutic methods and other factors that strengthen and enhance the capacity of specific means of action. (Domintean, T., 2005)

3. Conclusions and recommendations

- Pain is part of physical activities
- Living with chronic pain is very difficult and requires attention to figure out what works and what doesn't during physical activity.
- Serious pain must be a sign to put the training on hold and see a doctor.
- Beginning the treatment on the right step is critical towards getting over the injury quicker. Not doing the correct initial medical first aid, may result sometimes in doubling or tripling the recovery time.
- First steps to be taken after an injury occurs are: stop any activity; immobilize the area; apply ice to painful area; when available and not contraindicated, use an anti-inflammatory medication; keep area safe from other environmental factors; keep the area as clean as possible
- Recovering from injury becomes much harder as the person gets older. Older muscle fibers, tendons, and ligaments need more time to recover. For a nagging injury age plays a very important role in determining when it is safe to return to normal activity.
- After a serious injury, always must be taken the approval and recommendation of a doctor before returning to the physical activity, because the risk of developing a long term injury just doesn't worth.



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