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Muscle Cramp and Its Rehabilitation

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Abstract – Injuries are common in Sports. That may be acute injury or chronic injury/overuse injuries Participation in sports improve physical fitness, coordination and self-discipline and gives opportunities to learn teamwork. Games and sports also results in injuries some minor, some serious and still others resulting in lifelong medical problems. Participation in sports improves physical fitness, coordination and self-discipline and gives children opportunities to learn teamwork. Youngster athletes taking part in games or physical activities are in majority and they are merely small adults. Their bones, muscles, tendons and ligaments are still growing, which makes them more susceptible to injuries. The area of developing cartilages where bone growth occurs in youngsters or weaker than the nearby ligaments and tendons. Pre-cautionary measures to be taken before doing the activity. Treatment and rehabilitation plays an important role to overcome the injury.

Key word: Injury-Treatment-Rehabilitation-Play

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INTRODUCTION

A **cramp** is a sudden, involuntary muscle contraction on over-shortening; while generally temporary and non-damaging, they can cause mild-to-excruciating pain, and a paralysis like immobility of the affected muscle(s). Onset is usually sudden, and it resolves on its own over a period of several seconds, minutes, or hours. Cramps may occur in a skeletal or smooth muscles. Skeletal muscle cramps may be caused by the fatigue of the muscle or a lack of inorganic salts. Cramps of smooth muscle may be due to menstruation and gastric problems.

PURPOSE:

To know the knowledge of rehabilitation procedure to overcome the cramps in sports.

RECOMMENDATIONS:

Painful involuntary contraction of a muscle or muscles, typically caused by fatigue or strain.

Causes of cramping include hyper flexion, hypoxia, exposure to large changes in temperature, dehydration, or low blood salt.

Electrolyte disturbance may cause cramping and mu scle tetany, particularly hypokalemia and hypocalcae mia. This disturbance arises as the body loses large amounts of interstitial fluid through sweat. This interstitial fluid comprises mostly water and salt (sodium chloride). The loss of osmotic ally-active particles outside of muscle cells leads to a disturbance of the osmotic balance and therefore shrinking of muscle cells, as these contain more osmotic ally-active particles. This causes the calcium pump between the muscle sarcoplasm and sarcoplasmic reticulum to "short circuit"; the calcium ions remain bound to the troponin, continuing muscle contraction.

CAUSES:

Common as they are and painful as they can be, a shroud of mystery surrounds the cause of muscle spasms and cramps. Some researchers believe that inadequate stretching and muscle fatigue leads to cramps. According to the University of Michigan, other possible factors include a low level of fitness, overexertion (especially in intense heat), stress, and depletion of electrolytes through excess sweating or dehydration. Certain diuretic medications can also cause cramping due to a loss of sodium, potassium, and magnesium.

SKELETAL MUSCLE CRAMPS:

Skeletal muscles can be voluntarily controlled, under normal circumstances. Skeletal muscles that cramp the most often are the calves, thighs, and arches of the foot, and are sometimes called a "Charley horse" or a "corky". Such cramping is associated with strenuous physical activity and can be intensely painful; however, they can even occur while inactive and relaxed. Around 40% of people who experience skeletal cramps are likely to endure extreme muscle pain, and may be unable to

use the entire limb that contains the "locked-up" muscle group. It may take up to seven days for the muscle to return to a pain-free stat skeletal muscles work as antagonistic pairs. Contracting one skeletal muscle requires the relaxation of the opposing muscle in the pair. Cramps can occur when muscles are unable to relax properly due to myosin fibers not fully detaching from actin filaments. In skeletal muscle, adenosine triphosphate (ATP) must attach to the myosin heads for them to disassociate from the actin and allow relaxation; the absence of ATP in sufficient quantities means that the myosin heads remains attached to actin. An attempt to force a muscle cramped in this way to extend (by contracting the opposing muscle) can tear muscle tissue and worsen the pain. The muscle must be allowed to recover (resynthesize ATP), before the myosin fibers can detach and allow the muscle to relax.

SMOOTH MUSCLE CRAMPS:

Smooth muscle contractions may be symptomatic of endometriosis or other health problems. Menstrual cramps may also occur both before and during a menstrual cycle.

REHABILITATION:

Stretching, massage and drinking plenty of fluid, such as water, may be helpful in treating simple muscle cramps.[16]With exertion heat cramps due to electrolyte abnormalities (primarily sodium loss and not calcium, magnesium, and potassium), appropriate fluids and sufficient salt improves symptoms. Adequate conditioning, stretching, mental preparation, hydration, and electrolyte balance are likely helpful in preventing muscle cramps.

Typically, muscle cramps require no treatment other than patience and stretching; medicines are not generally needed to treat an ordinary muscle cramp. Gentle and gradual stretching, along with massage, may ease the pain and hasten recovery. When a muscle spasm or cramp is the result of an injury, applying ice packs for the first two to three days may help alleviate the pain. Spasms that last a long time may be treated with moist heat for 20 minutes several times a day. If you tend to get muscle cramps during exercise, make sure you drink enough fluids and, after your workout, consider a warm Epsom salt bath followed by stretching of the affected muscles. Generally speaking, water is sufficient for rehydration; however, some may find a sports drink or juice beneficial as a means to restore their body's electrolyte balance. If your muscle cramps are associated with a specific medical condition, keep in mind that you need to address the underlying health problem for the cramps to subside.

CONCLUSION:

Here by I conclude that sports person or athletes and the general public as well can sustain this injury. People at risk for the injury have a history of cramps or In poor physical condition. So every sportsmen, coaches and physical educators should have knowledge about the sports injuries and rehabilitation programs.

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