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## Safety in Sports & Performance Enhancement: An Overview

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### **ABSTRACT:**

*The research paper is focuses on the importance of sports safety-specifically relating to overuse injuries and further to enhance the performance of sports person. The initiative not only raises awareness and provides education on injury reduction, but also highlights how playing safe and smart can enhance and extend a child's athletic career and create a lifelong love of exercise and healthy activity. Most of the children have dream to become a sports person. Therefore, they would likes to contribute and give their best results in their sports every year and while playing in ground; lots of children are diagnosed with overuse injuries every year as well. The sports of today have changed the way the players play the game. Starting on the professional sports level, bad sportsmanship behaviors, like the use of steroids or "throwing" a game or a match in an effort to please the sports gambler trying to get their big pay-off, has trickled down. Even though in*

*playgrounds We do know that these maladies most frequently result from overload or repetitive micro trauma stemming from extrinsic factors such as training errors, poor performance, poor techniques and inappropriate surfaces or intrinsic factors including misalignment and muscle imbalance. Here we are trying to get to know the facts of overuse injuries which curse the teenager. It includes the basic things such as ground techniques, handling mental pressure, and anticipation technique for each analysis in addition to reasons why it happens and how the teenage could overcome. Now it's time to be taught how to play in ground and how playing sports teaches an individual about how to work with other people and how to pull together as a family.*

### **INTRODUCTION:**

A number of studies prove that participating in sports comprise much more positive impact on children.

Sports can help children's health improve, help them develop new friends, and can help improve the children's self confidence. Sports may help improve children's overall health, but injury become hurdle in between. Sometimes preventing common sports injuries is beyond our control, but many times sports injuries are preventable. Some injuries we bring on ourselves because we're not conditioned for the activity. For this it is advised to sports person that Work out day after day and get twofold advantage — skill development and garner the health benefits. Every workout should start with a gentle warm-up to prevent common sports injuries. Scientifically proved that getting warmed up increases blood flow to the muscles, gets sports person more flexible, and could decrease injuries. Million dollar question is that "*Why do Injuries Occur?*"; when we revealed out there is couple of reasons behind it, a few of them is as follows:-

**Lack of Safety Measures:** Aside from the lack of proper skills and techniques, the absence of safety measures is also a

major reason injuries occur in youth sports. A common misconception by many adults is that safety precautions do not need to be taught until more advanced levels of play. However, the earlier safety techniques are implemented the more effective they will be. For example, in the sport of cricket, something as simple as learning to wear a helmet anytime a player is on the field protects that child from swinging bats. If safety measures are not followed it often creates an increased risk of injuries. Not practicing safety rules is simply ignorant and essentially endangers the lives of all of those who participate in the sport.

#### **Overtraining and Sports Psychology:**

An increasing problem amongst youth athletes in our country is overtraining, or burnout syndrome. Burnout, "a series of psychological, physiological, and hormonal changes that result in decreased sports performance", can have a serious impact on a young athlete and their future in sports. When an athlete experiences burnout syndrome their initiative and interest in their

activities significantly decreases in addition to their work performance and efficiency. They may also be fatigued and extremely stressed by normal activities as a result from excessive work outs without adequate recuperation time. Pressure from parents, coaches and peers is a major factor in burnout syndrome. These individuals often push the athlete against their will to perform at a higher level, and considering that only 0.2 percent to 0.5 percent of high school athletes make it to the professional level, parents or athletes dreams of doing so are often farfetched. It is recommended that athletes learn to recognize their mental and physical limits so as to protect themselves from injury, for if such boundaries are pushed, the damage may be irreversible.

**Lack of Skill:** In adolescent sports, many athletes lack the skills needed to play the sport effectively and safely, often resulting in injuries. A school going child has not enough skilled to play safe. Putting a child of that age into a team or contact sport endangers the child as well as the other athletes

playing. Therefore, it is often recommended to wait until introduce the child with safety features. It is the job and duty of the coach to make sure that an athlete has the skills needed to safely participate in a sport. A Sports person ought to be learned and recognize he must have left it all on the field and stop all the things when he is fatigued because muscle fatigue takes away all his protective mechanisms and really increases his risk of all injuries. He can always come out to play again next weekend — if he does not get injured today

### **INJURY PREVENTION TECHNIQUE**

Usually, common sports injuries are mild or moderate — there's some damage, but everything is still in place. Anyone can treat it at home but one should expect that some common sports injuries may take months to heal, even with good treatment. If a sprain or strain is severe, however, the entire muscle, tendon, or ligament is torn away, and surgery may be needed. Therefore a sportsperson must aware about the ***RICE (Rest, Ice, Compression, and***

*Elevation*) method to relieve pain, reduce swelling, and speed healing. Follow these steps right after the injury occurs and take *at least 48 hours rest to reduce regular activities to cure from injuries*

**Stretching:** The stretching is the most important and significant way to reduce the likelihood of injury when participating in sports. Competitive and recreational athletes typically perform warm-up and stretching activities to prepare for more strenuous exercise. These preliminary activities are used to enhance physical performance and to prevent sports-related injuries.

A flexible muscle is less likely to become injured from a slightly extensive movement. By increasing the range of motion in a particular joint through stretching, may decrease the resistance on muscles during various activities. It also helps relieve post-exercise aches and pains.

Warm-up techniques are primarily used to increase body temperature and are classified in 3 major categories: (a) passive warm-up — increases temperature by some

external means; (b) general warm-up — increases temperature by nonspecific body movements; and (c) specific warm-up — increases temperature using similar body parts that will be used in the subsequent, more strenuous activity. The best of these appears to be specific warm-up because this method provides a rehearsal of the activity or event. The intensity and duration of warm-up must be individualized according to the athlete's physical capabilities and in consideration of environmental factors which may alter the temperature response.

The majority of the benefits of warm-up are related to temperature-dependent physiological processes. An elevation in body temperature produces an increase in the dissociation of oxygen from haemoglobin and myoglobin, a lowering of the activation energy rates of metabolic chemical reactions, an increase in muscle blood flow, a reduction in muscle viscosity, an increase in the sensitivity of nerve receptors, and an increase in the speed of nervous impulses. Warm-up also appears to reduce the incidence and

likelihood of sports-related musculoskeletal injuries.

**Adaptive Sports Technique:** A coach/trainer/ system give a unique focus on sportsman technique. Technique is the cornerstone of any athletic activity, any human movement. Improving technique alone will make a dramatic difference in health and can alleviate him from injuries. Many sports involve a particular technique which can minimize the risk of injury. It is important to learn the correct techniques associated with chosen sport. By practicing good technique an individual can greatly reduce the risk of sports-related injury to muscles, tendons and bones. This is also important on the ground, where experts will be on hand to help you use all equipment safely and effectively. A coach has tremendous influence on the physical and psychological development of their athletes. The main responsibility of the coach is to enable their athletes to attain levels of performance not otherwise achievable. Coaches therefore need to *motivate athletes and establish the right conditions* for learning. *Effective*

*coaches have many skills.* Quality training or practising provide opportunities for athletes to grow up rather to attain injury in field. Training involves the provision of tuition about physical, tactical, technical, and mental aspects of the sport, therefore, there is less chance of hurt. Although some coaches also teach their athletes psychological skills to help them learn and perform new skills, hence an athlete can execute in good health.

**Precautionary Equipment:** With the increase in number of people engaging in sporting activities, the number of injuries has surged. Constant exercise is beneficial for health and although there are always risks involved, the benefits far outweigh them. Through usage of protective equipments when engaging in sporting activities can help reduce injuries and make the sports much safer. However, it is important to use the correct protective equipment meant for the particular sporting activity. Using a pair of soccer boots help to protect the ankle from ankle injuries as the studs help to provide a firm grip. However, using the same pair of boots for running

will cause serious injuries. Some sports, such as inline skating and skateboarding, include wrist, knee and elbow guards as standard equipment. These hard plastic guards prevent cuts, scrapes and abrasions and reduce the odds of a major sprain, strain or even a fracture after a hard fall. Sports shoe also plays a major role to prevent from injuries. These are important during field sports, such as football, baseball and soccer. The right running shoes can decrease your risk of overuse injuries. Special cycling shoes can reduce foot pain and increase your pedaling efficiency. Court shoes with support and good traction are designed specifically for basketball, tennis and racquetball.

**Learn Sport Specific Skills:** For children participating in organized sports, learning sports specific skills is essential to the prevention of injuries to themselves and others. While youth sports should be geared towards fun, individual success, and learning, mastering basic sports specific skills at an early age could save a lot of time and effort in correcting bad technique. For example, it is critical that a little league

player knows the correct mechanics of swinging a baseball bat before they step foot on the field. Otherwise he may endanger the catcher by swinging backwards or other players on the field or bystanders by throwing the bat. Likewise for a basketball player in that they are not permitted to run the length of the court flailing their arms for the risk of injuring another player is too great, and it is simply unsportsmanlike. Also, finding the “right fit” for a child in a particular sport will make the experience determinably more enjoyable in that they will be more willing to comply with the rules of the game and they will also be more engaged in the game, creating a safe environment for all. Some children are simply not anatomically or mentally adept to play certain sports and forcing an activity upon them could put that child and others participating in danger. It is also in the best interest of all athletes involved if they are matched evenly with their opposition by size, maturation or skill level.

Most sports vary in conditioning methods and it is important to adhere to

general guidelines for each sport when training or conditioning. The principle of periodization states that training workouts should be changed throughout the year so that cardiovascular and muscle strength conditioning can progress at a steady, healthy rate. Conditioning of young athletes should also be monitored by a coach, pediatrician, or professional with knowledge on proper techniques in training such as weight lifting, cardiovascular strength and endurance, and flexibility as well as the growth and development of children. Another way to prevent injuries in young athletes is to follow the principle of progressive overload, meaning that muscles, bones, or functioning systems of the body should not be subjected to excessive stress too quickly. For example, if the goal of a young soccer player is to run two miles a day to be prepared for the running endured during a game, they should not start out running two miles a day. Instead, they should start out running about a half of a mile a day, progressively working up to two miles. The rate at which the mileage increases depends on the success of the player in

completing their scheduled running as well as their fitness level. In theory, their cardiovascular fitness and muscle endurance should increase in direct relation with the mileage.

**Follow and Know Safety Rules:**

A general knowledge of personal hygiene and medical basics is beneficial for coaches, parents, and even athletes to know. Proper hygiene such as regular showers, clean clothing, and hand washing all help protect the athlete and others from issues such as lice or diseases which thrive in unclean environments. Also, it is suggested and highly looked upon that coaches be trained in first aid and CPR to ensure that incidents can be addressed before first aid responders arrive. Coaches can also be members of the National Youth Sports Coaches Association which certifies that they are knowledgeable about successful ways of instructing young athletes and they have been through first aid training courses.

It is also the responsibility of the coach to see that players are following safety rules. Equipment of all players should be fitted and worn properly;

otherwise it is ineffective in protecting regions of the body from harm. For youth sports, equipment or other protective devices should be certified by various safety organizations, depending on the age group and skill level of the athletes in addition to the geographical region in which the sport is being played. Additionally, coaches should critique playing and skill techniques of the players to ensure that they are not putting themselves or others in danger. For example intentional head down contact into an opponent with intent to do harm, called spearing, is not permitted in the National Football League nor anywhere else and therefore should be addressed immediately if it is seen being practiced by any player.

**RICE:** Once an injury has occurred, the best known universal initial treatment is called RICE- rest, ice, compression, and elevation. Resting from an acute injury takes the pressure and gravitational forces off of the affected area, theoretically allowing the swelling to disband and some of the discomfort to ease. Ice aids in the decrease in swelling, offsetting the heat

associated with inflammation and allowing the blood to move freely out of the injured region. It is common for an acute injury such as an ankle sprain to be wrapped, or compressed. Certain techniques are used, depending on the injury, but the general goal is to reduce the inflammation or keep out the swelling all together. Elevation with an acute injury also encourages the reduction of swelling, countering the forces of gravity by directing the blood flow towards the trunk of the body as opposed to the appendages. This treatment can often prevent development of chronic injuries.

Stress Fractures is the most common injury for sports person. Treatment of a stress fracture is based primarily on moderation and rehabilitation. Once diagnosed, the injured area should be relieved of as much stress as possible through varied means such as a walking boot or crutches. If the affected region is not permitted to rest the injury may intensify with activity and daily activities, causing extensive and complicated issues. If swelling is

present, ice can help in the reduction of the discomfort which often presents itself as intense pressure in a concentrated region (Oakes). Anti-inflammatory medications can also be taken to reduce the swelling and allow the blood to flow more easily. Rehabilitation should begin after the initial injury phase and should include target work outs as well as cross training exercises. It is also essential to the success of the treatment of a stress fracture to perform the exercises properly because “failure to properly rehabilitate an athlete’s initial injury can be an important risk factor for recurrent injuries.

Prevention of stress fractures in young athletes often relies on the intensity of their involvement in sports and what is deemed acceptable. Athletes who participate in multiple sports are at a greater risk of developing overuse injuries if they do not receive sufficient rest. This is because the bones and growth plates of children are not capable of withstanding the same stress as that of an adult and playing multiple sports at one time increases the

stress placed on the young body significantly. For adolescent athletes, it is recommended by numerous pediatricians that two to three months out of the year be dedicated to healing, conditioning, and strengthening rather than playing any sports. It is also advised that children be limited to one sport at a time that practices no more than five days a week, with at least one day off each week.

#### **CONCLUSION:**

Although the motives behind participation in youth sports are sometimes questionable in today’s society, they have become a fundamental part of our nation. When the safety measures and rules involved with youth sports are followed, the experience can be enjoyable and beneficial to both athletes and all others who take part in the experience. As long as parents and coaches harbor good intentions of letting the children have fun and develop fundamental skills such as teamwork and socializing the risk of athletes developing overuse injuries decreases. The problem comes when

parents try to fulfill their sports dreams through their children and push them to be better, stronger, or faster than they are mentally, physically, or hormonally ready to be. This influence can have detrimental effects on the athlete and even lead to permanent physical trauma while also dissolving the relationship between the athlete and their parents. Being as there is no way to determine the actual intentions of the human mind, it is up to us as a community of coaches, athletes, parents, fans, and bystanders to remain true to the good, moral intentions of youth sports.

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