Q/25 - Sports medicine

(a) Direct injuries refers to injuries which are caused by direct contact with an external object causing an injury at the point of contact. Examples include, a corked thigh after a rugby player was kneed in the thigh by an other play (soft tissue direct injury) or a chipped tooth after being hit with a hockey stick (hard tissue direct injury).

An indirect injury refers to an injury as a result of an internal force where the injury occurs at a distance from the point of impact.

Examples include, a broken collar bone after a gymnast falls on an outstretched arm (hard tissue, indirect injury) or a torn hamstring muscle after a sprinter performs an explosive start without warming up correctly (soft tissue, indirect injury).

(b)

Physical preparation is vital in the prevention of sports injuries and refers to an athletes readiness and ability to perform in physical activity safely.

~~It is made up of aspects.~~

The first consideration is correct technique and safe sporting movements. Having the correct technique is vital in the prevention of sports injuries and it is therefore the role of the coach to teach the correct technique, emphasis safe sporting movement and perhaps postpone or modify a performance if safe sporting movement is not possible.

For example, a gymnast should be discouraged from performing a skill if there is not the correct mats and equipment.

An athlete must also be physically prepared in terms of strength as an athlete with a well developed strength base is at less risk of injuries, particularly those caused from undeveloped muscles or muscle umbalances between agonist and antagonist muscle groups.

Endurance is another consideration, and an athlete must have both muscular endurance and cardiovascular

endurance if they are to perform with the lowest risk of injury.

Endurance will delay ~~the~~ onset of fatigue and the accompanying loss of technique which leads to injury. Fatigue also reduces the bodies ability to absorb force and prevent injury.

An athlete flexibility must also be developed to the level which it is required for the performance of a particular skill or activity. The 3 main methods used to train flexibility include static, ballistic and PNF and should all be utilised when progressively overloading muscles and preparing them for performance in an attempt to decrease the liklihood of injury. Warm-up and stretching is also important here as it prepares the athlete both physically and mentally for competition.

Physical preparation must also incorporate the principle of specificity to ensure that the athlete is prepared for the particular activity they will be performing in. The coach or trainer must therefore consider

sport specific skills and movements as well as the requirements of various individuals playing varying positions within a sport.

For example, a softball pitcher may need to stretch their arms more than the rest of the team in order to prepare the muscles for pitching and decrease the chance of injury.

Physical preparation therefore plays a large and extensive role in the prevention of injuries as an athlete who performes before being physically prepared is at a much higher risk of injury.

(c)

An athlete readiness to return to play is a complex situation which is influenced by many factors and regulates by various policies and procedures.

In most cases it is the athletes individual choice when they return to play however due to many conflicting reasons they are often pressured in returning before completely ready.

Pressures to return to play include internal factors such as boredom, fear of loosing position on a team, feelings of letting the team down and a desire to compete and succeed. External pressures also exist and include financial factors, pressure of fans and the media, family and friend, and team members and coaches.

The decision regarding an athletes readiness to return to play while ultimately the athletes is considered by doctors, physio's, sports trainers and coaches who ~~prev~~ discourage an athlete from returning until they are at pre-injury physical condition and are ~~mentally~~ also mentally ready

In some situations there are rules regarding when an athlete can return to play such as if an athlete has been knocked out, they are prevented from returning during that game and in other games until they are checked out by a doctor.

Indications of an athletes readiness to return to play include, the injured site is free from all pain, moves in alignment with the opposite ~~part~~ side, is at pre-injury strength and is capable of performing under game like situations without pain or restriction. The athlete should also have reobtained total body fitness and basic skills necessary for competition.

An athletes readiness to return to play can be analysed or determined by a number of strength and skills tests which show that they are adequately fit. For example, a basketball player who had an injured ankle should be tested and asked to perform basic skills such as passing, dribbling and shooting as well as short sprints, and side steps.

If this does not give a clear enough indication

of whether the athlete is ready to return to play they can be put through a number of tests and the results compared to those taken prior to the injury.

Tests such as timing line sprints and both the vertical and horizontal jumps can be conducted and the results compared to past results. If the results are significantly varied, this is an indication that the athlete is not ready to return to play.

If the coach, sports trainer and athlete all agree that the athlete is physically able to return, their psycological state should be assessed through questioning and discussion.

If the athlete is physically ready and ~~not~~ psychological prepared there is no reason why they should not return to play.

An athlete who has reached this stage would have followed a rehabilitation program strictly and followed the principles of recovering from injury including progressive mobilisation, stretching, strengthening, warm-up, taping and bandaging ~~and~~

as well as beginning at a level below that which they were used to and gradually working their way back to pre-injury condition.

Even once they have been diagnosed and ready to return to play they may need to continue to place emphasis on that area during warm-up and stretching and may need to continue straping the area to prevent re-injury.