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## OTHER ASPECT OF SPORT TECHNOLOGY

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### ABSTRACT

**S**ports players and Children are participated in sport and other recreational activity. There has been increase in acute and overuse injuries. This study will help to volume of books of knowledge as far as distribution of causes, nature of injury and use of Technology to prevent them. Sport person understand how to technique of management and prevention of injury. Some treatment methods like Ultrasound, Cryotherapy etc will helpful for healing injury in fulfill manner.

**KEYWORDS:** Sport Technology , Sports players and Children .

### INTRODUCTION:

The world of sport is continually changing over the years, and the use of technology is just one of those areas that has made an impact on many sports in the modern day. One criticism of the use of technology is that it can slow down the speed of the game, but on the other hand for many people it makes watching it more enjoyable to see the correct decisions being made

A certain amount of physical activity is considered an important element in health promotion and public interest in health enhancing physical activities, including sport, is increasing. Interest in sporting activities has also grown. The

consequent upsurge in sporting activity and the intensity of training has caused a corresponding increase in sports injuries, both from acute and overuse trauma. Although many sports injuries are mild or moderate, treatment of injured athlete often requires special judgement and experience. Despite advanced knowledge, modern technology, and improved skills in sports medicine, many players fail to return. Therefore, the survey and prevention of injuries should be a major goal for every doctor and other staff working in the field of sports medicine.

According to the literature survey, there are no detailed epidemiological studies on the incidence and etiology of injuries In 1992, Sharma and shukla who did study on menarcheal age

among Indian sportswomen players in that study. the school level was found to be clear from the study of SEN. et. As (2003). This work also involved a partial study of injury pattern A survey on Indian college students (Sen and Sensarma 2004) related described participation in active game. Comparison of the results of the present study in difficult due to the scarcity of data in this specific arena of investigation to be best of the authors knowledge, this is the most comprehensive injury profile study of players. The test data do provide a good baseline and reference for coaches, sport physiologist and future research workers.

### SIGNIFICANCE OF THE STUDY

- Thus this study will be a



contributions towards literature related to injuries.

- The present study will definitely enlarged the volume of book of knowledge as far as sport injuries of sport person are concerned in regard to its nature, types, distribution, causes, prevention and safety.
- The present study will help the coaches/ professionals and sport persons to practice and training.
- As the cause of injuries are identified, required protective and preventive measures may be designed or taken care in a fruitful manner.

#### **OBJECTIVE OF THE STUDY :-**

- To study the nature and types of injuries in male and female players.
- To calculate and analyze the percentage distribution of injuries in specific game & Sport.
- To try and find the specific cause of the injuries.
- To suggest method of management and prevention of injuries in Sport.

#### **DEFINATION OF THE TERMS :-**

##### **Injuries:-**

“Any physical damage to the body caused by violence or accident or fracture etc”

“An accident that result in physical damage”.

##### **Players:-**

“An athlete or sportsperson who plays the game of and has represented their representative school, college, district, state at least.”

##### **Treatment Techniques in Sport Injuries:-**

##### **GENERAL PRINCIPLE :-**

In the utilization of therapeutic modalities the athlete trainer should consider

1. The injury:- its type & severity & the anatomical site.
2. The modality:- indication & contra indications
3. Operation of the modality:- individual treatment time & its frequency, & operational procedure: a) Warm up b) Safety procedures c) instruction to the athlete
4. Treatment & progress records

#### **A) ULTRASOUND**

Ultrasound therapy is associated with the transference of sound waves into the body.

The ultrasound wave may be interrupted or pulsed in order to reduce the heating effects.

#### **INDICATIONS**

Post acute Soft Tissue Trauma Sprain, Sprain, Contusions, Tendinitis, Bursitis, Joint Contracture

#### **CONTRA INDICATION & PRECAUTION**

##### **An actively hemorrhaging contusion**

Ultrasound should not be used in an area of limited vascularity that may not be able to meet the metabolic demands.

Precaution should be exercised when treating near the Heart, Endocrine Glands, Central Nervous System, Ear & Eye Epiphyses, and Reproductive Organs.

#### **THERAPUETIC & PHYSIOLOGICAL EFFECTS**

Increases the the temperature of the tissues.

The diffusion of ions across the cell membrane.

Change in the biochemistry of the tendon & joint capsule collagens.

**TREATMENT TECHNIQUE****i) DIRECT-CONTACT TECHNIQUE**

- This is useful over flat & smooth surface.
- Apply a coupling medium to the skin so as to transmit the sound wave from the transducer into the area in need of treatment.
- Hold the transducer at right angle to the skin surface and keep it constantly moving with small circular or longitudinal stroke at a speed of about one inch per second.
- Treatment time average 5 to 8 minute.
- The minimum treatments are 3 per week.
- The prescribe dosage intensity can be adjusted while the transducer is moving.

**ii) UNDERWATER TECHNIQUE**

- This is used on uneven surface or body areas which are highly sensitive to pressure.
- Place the body part to be treated under water, & hold the transducer one-half to one inch from the surface.
- As with the direct-contact method, keep the transducer moving.

**B) CRYOTHERAPY**

When applied to the injured part, ice or cold packs result in the cooling of that part by the transfer of heat energy.

**INDICATIONS**

Muscle Spasm, Trigger Point

**CONTRA INDICATION & PRECAUTION**

Circulatory Disturbance Such As

Reynaud's diseases or her sensitivity to cold.

Be cautious about placing ice near or onto a superficial nerve, as this can lead to damage that result in temporary or permanent impairment of the nerve function

**THERAPUETIC & PHYSIOLOGICAL EFFECTS**

- 1.Reduction in pain through an anesthetic effect.
- 2.Reduction In swelling and inflammation.
- 3.Reduction in the metabolic and oxygen needs of the injured tissues.
- 4.Decrease in muscle spasm .

**TREATMENT TECHNIQUES****1.ICE MASSAGE**

- a. Freeze water in a Styrofoam cup
- b. Rub the skin in circular or to-&-fro movements.
- c. Apply treatment for approximately 3 to 10 minutes & repeat a number of times per day.

**2.IMMERSION**

Select desired water temperature.

- a.Tap water – 12.8o c
- b.Water with ice ( slush ) – approximately 0o c to 4o c

**3.ICE PACKS**

A.Use crushed or shaved ice, as this conforms more easily to the body part. Place in a double-layered disposable plastic bag.

B.Apply treatment for approximately 20 minute per hour and repeat a number of times per day.

#### 4 REFREEZABLE COMMERCIAL PACKS

Follow instructions which accompany each specific make.

#### 5. EVAPORATIVE COOLING

Ethyl chloride or FluriMethane spray.

#### SUMMARY

- 1.Rehabilitation begins immediately after injury assessment with the use of therapeutic modalities to limit pain, inflammation, and loss of ROM.
- 2.Therapeutic modalities, with the exception of ultrasound,fall under the electromagnetic spectrum based on their wavelength or frequency
- 3 .Cryotherapy is used to decrease pain, inflammation, muscle guarding and spasm, and to facilitate mobilization.

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