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Role of conditioning in promoting health standards and skills of athletes

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Abstract

Conditioning is considered as the basic pillar for any sports performance. It is considered to be the most important prerequisite for any sport training period. In the recent few years a lot of emphasis is laid on the importance of conditioning prior to any sporting activity. Conditioning is mainly based upon the type of exercises, time duration and exact period of time to do before real training or competition, consequently leading to achieve the health target of elevated heart rate and body temperature through the performance of general and specific exercises to prepare all the muscles that are to be involved in the forthcoming exercises.

Warming up exercises if not done properly may lead to the ill effects on athlete's health and muscles and may become more prone to injuries that will further lead to deterioration of his performance level. Conditioning is of utmost importance especially before the type of exercises that requires maximum efforts to be done in short period of time.

The purpose of this research is to bring into limelight the importance and benefits of proper conditioning prior to any sporting activity in order to reach the best health standards with the best performance outcomes. This research will also focus on the role of conditioning for the development of specific skills for a particular game.

Keywords: Conditioning, athlete, health, skills, muscles

1. Introduction

Conditioning sessions that are offered prior to training aims to prepare individuals physically and psychologically to perform the main part of training in the session properly and effectively. Conditioning varies from person to person, the reason for this difference depends upon muscle blood supply, facilitating movements of various joints and muscles in addition for good preparation of heart, lungs and other organs along with neural functions, therefore it is important to organise and plan the training sessions by dividing it into different sections each having different aims and objectives for effectively increasing the level of athletes to the targeted physical, psychological and technical level.

Muscles require a considerable amount of efforts to perform various sporting activities which requires large quantity of oxygen that can be delivered in regulating breathing and increasing its speed. Body adapts itself to the external conditions depending upon player's movement and efforts.

Therefore it is important for the player to increase gradually the amount of efforts and performance to keep pace with the internal organs of the player. Body undergoes a series of adaptations to the increasing level of exercises and as a result to the increasing level of the nutrient supply to different muscle groups to cater the need of the muscles. All these adaptations leads to various changes in the body that further help in increasing the performance and skill level of the player.

Importance of this research comes from the point that conditioning is essential to improve the performance level of the player and consequently it affects the output of the athlete's achievements.

2. Problem definition

Conditioning is considered to be most important part of the training session that play active role in preparation of player to perform his kinetic exercises in training.

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Player's performance is significantly increased when the muscles and organs of the body are warmed up properly before any training session.

Researchers found that improvement in sport activities can be achieved using other sports events activities, particularly athletic track to warm up, considering it as a form of exercises and transactions that can lead to upgrade skills and physical level.

3. Defining conditioning

Conditioning may be defined as the collection of physical activities that are done prior to any sporting activity for the purpose of preparing the muscles and organs for the upcoming tasks. It generally consists of a gradual increase in the intensity of physical activity, joint mobility exercise, and stretching followed by the training activity. Conditioning brings the body to a condition at which it safely responds to nerve signals for quick and efficient action.

For example, slow jog before running or playing an intensive sport to warm the muscles and increase the heart rate. It is important that conditioning is specific to the activity to be performed so that specific muscles are activated.

Conditioning can improve the strength of knee muscles, which in turn may decrease injuries. It is the process to prepare body through exercises before doing sport activities.

4. Need for conditioning

Oxygen demand for the muscles increases when the muscles perform extra efforts and this oxygen demand is fulfilled by regulating and increasing the speed of breathing and blood circulation. Simultaneously the speed of metabolism has to be increased in order to meet the demands of other body organs.

Therefore it is important for the player to increase his efforts gradually so that the body's internal organs can keep pace with player's efforts and movement. Player must adequately prepare his internal organs to fit with the expected physical efforts and to prevent the body from the injuries that results from the lack of proper warm up and preparation of the muscles and the internal body organs for the forth coming training session or competition.

5. Importance of conditioning

Conditioning aims at development of all the aspects of individual's health that is physical, physiological and kinesthetic in an organised and systematic way which helps the individual to participate more actively and efficiently in the training session as well as in the competition and further enhance his performance.

6. Importance of physical and physiological conditioning

- A. It helps in integration of the internal organs physiology with the training and competition for the best performance outcome without any injury.
- B. Preparing the body to contribute effectively physically, mentally and psychologically for the task.
- C. It helps in increasing the temperature of the muscles and increasing the blood supply to the muscle. After the Conditioning session of 10-15 minutes body temperature is increased by 2 degrees from 36 degrees to 38 degrees.
- D. With the increase in the muscle temperature, Conditioning helps to increase the contraction of muscles. Also when the oxygen carrying capacity of the blood and metabolic activities increases, it will help to decrease lactic acid concentration and increase the blood flow to the muscles resulting in higher rate of gas

exchange.

- E. Conditioning helps to increase blood circulation and also reduces the risk of early muscle contraction.
- F. Conditioning helps to increase heart pumping rate there by increasing ventilation and also increases oxidation of glucose and other oxidative processes.
- G. Conditioning reduces the risk of muscle injuries such as strain and sprain.
- H. It helps in vasodilation thereby increasing the blood supply to the muscles. It also helps in increasing the flexibility of muscles thus avoiding injuries.
- I. Conditioning reduces pulling strings of the muscles which could happen to the player when the efforts get harder. It strengthens ligaments and cartilages for more flexibility.
- J. Conditioning initiates chemical reactions within the body which aids in supply of energy to the muscles for the work to be done.

7. Importance of Kinesthetic conditioning

- A. It helps in regulation of movement and improves alignment.
- B. It helps in regulating muscle coordination and improves its function effectively.
- C. More efficient rhythm for kinesthetic performance.
- D. It helps to reach the maximum power of reaction.
- E. Concentration and precision in performing skills.
- F. Setup and configuration of special kinesthetic skills.

8. Psychological benefits and importance of conditioning

- A. Raising level of attention intensity and concentration in dynamic exercises.
- B. Conditioning helps in the psychological preparation of the player for the upcoming training load by gaining self-confidence.
- C. It helps to reach the best level of positive emotional excitability and control of emotions and attain the best level of performance in training and competition.

9. Objectives of conditioning

- A. Prepare all the body organs to integrate and function properly.
- B. Increasing the flexibility of muscles and joints thereby making the movements more efficient.
- C. Raising the body and muscles temperature to prepare them for the training session.
- D. Increases the heart pulse rate and amount of blood pumped for every pulse.
- E. Increase the reflex action of the muscles.
- F. Regulation of respiration and blood circulation to meet the oxygen as well as nutrient supply to the activated muscles.
- G. Increases the concentration and gaining of control over the emotions for best possible results in the training as well as competition.
- H. Psychological preparation of the player for the training loads.

10. Psychological aspects of conditioning

Sports psychology have a great impact on the sports performance thereby it is gaining more and more importance in the field of research for the sports scientists. It is found that the psychological condition of the player effects the performance outcome to a great extent. Psychological preparation before the competition helps the player to control

the emotions such as anxiety, aggression etc. in a way that the performance outcome is not negatively affected.

Conditioning helps in the preparation of muscles as well as psychological preparation of the player to tackle the upcoming training or competition load thereby helping the players to overcome the problems of stress, anxiety or match pressure.

11. General and specific conditioning

General conditioning refers to the general increase in the temperature of the body which can be achieved by jogging, running, walking, stretching and some other flexibility exercises. It helps in the overall preparation of the body organs, muscles, joints for the training session but it is not sufficient for the preparation of the player for the hard training sessions unless it involves the preparation of muscles involved in the specific task.

Specific Conditioning refers to the preparation of the specific muscles that are involved in the task. For example doing lunges and standing broad jumps in preparation for the long jump in order to activate the specific muscles of the legs for performing long jump.

12. Impact of conditioning on performance factors

Relationship between the conditioning and the performance factors such as speed, power, endurance, strength etc. have been established by many researchers. Some of the researches shows that muscle strength increases after the regular conditioning sessions that includes physical movement of body organs along with some extra resistance added whereas some other researches shows that the passive heating of the body muscles does not help in increasing the stamina of the players.

13. Electronic conditioning

It refers to the increase in body temperature with the use of some electronic gadgets such as thermal blankets. Some of the scientists have indicated that the passive warm-up of the body using electronic gadgets to increase the body temperature artificially is better than normal one. Researchers from University of Manchester Metropolitan Subway explained that there is 8% to 10% increase in the muscle strength per one degree rise in temperature of the muscles. Sports scientist "Antony Sargent" suggests that the increase in muscle temperature artificially is better than natural increase in body temperature, because the temperature will be raised without any exhaustion of muscles.

14. Conditioning time

It is suggested that the time for conditioning should be half the time allocated for the training session in order to get best results in competition not to lead to exhaustion and fatigue before competition. There should be a gap of 3 to 5 minutes between the warm-up and start of the competition. Conditioning is more efficient if it takes less time to recover from temporary fatigue without losing its results. Conditioning is done in a way that it increases the temperature of the body by 1 degree to 2 degrees that is from 36 degrees to 38 degrees.

Duration of conditioning is dependent upon two factors as under

A. Permanent factors

1. Sex, age and academic level of the players.
2. Physical, psychological and artistic level of the players.

3. Phases of training sessions; preparatory phase, competition phase and transition phase.
4. Other conditions affecting the player such as transport medium, nature of the work etc.

B. External factors

1. Time of training; morning, afternoon or evening
2. Environmental conditions such as temperature, weather, humidity (low temperature requires more time for increasing body temperature).

15. Conclusion

It can be concluded that the conditioning is the most integral part of any training session. It is the base for any training session by which the motor abilities such as speed, strength, power, endurance etc. can be significantly increased. It not only prepares the muscles and internal organs for the upcoming energy supply but also helps in psychological preparation of the players.

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