

# Physiological and Psychological Effects of Warm Up and Cool Down in Games and Sports

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**Abstract – Proper and comprehensive athletic warm up and cool down proto calls are essential To short-term exercise performance, as well as long term injury prevention and generally health. The warm up and cool down sequences are very beneficial to athletic Performance as the athlete' stabilities in the sports itself. Proper and systematic warming up and cooling down before and after competitions and training sessions is a very easy way for every sports person to improve their athletic performance. warming up and cooling down exercises play a very effective role in preparing the body for training programmer or competition and assisting in full recovery. when we talk about particularly warming up it means mild, preparatory activity performed Before participating in a sports or exercise. it is one of the best activity fort he Preparation of the sports man to prepare his/her body and mind for the upcoming activity. System active warming up improves blood flow to the heart, help to increase Muscle temperature of the body and also makes muscles more pliable. It's also helps to the sports men to increase the blood flow to the heart and exercising muscles. on the whole we can say that the activity of warming upon to only prepare the cardio secular system of the sports men for the main activity but it also help to prepare respiratory system, nervous system, and muscular skeletal system for the upcoming physical activity. Warming up prepare the sports men not only physically, it also prepare the sports men, mentally, physiologically, psychological for the upcoming main activity and also helps to minimize threat of injuries which help to improve performance of the sportsman.**

**Cool Down: The activity of slowly decreasing the temperature of the body along with decreasing the heart rate and slowly lowering the breath in grate following by some slow intensity and stretching exercise. the primarily aim of cool down is to gradually decrease the body temperature and body return to normal position. When the activity ends, blood pressure decreases due to which sports man feel dizziness or sometimes faint. proper cooling down prevent blood pooling and return the blood back to the heart rather hen to pool in the muscles bring the heart rate back down, gradually. it also help to reduce the blood lactic acids. proper cool down exercise decrease the chance of sudden pooling of blood in extremities and re-circulates blood return to the heart, skeletal muscles and brain. this phase of athlete workout helps prevent muscles stiffness so soreness and also help to prevents post-exercise muscles soreness (also known as delay done set muscles soreness or doms). In this phase the intensity of the exercise should below intensity exercise after vigorous work out and duration should be 10 to 15 minute sufficient which helps the players boring back in a normal position and also helps top repair the body for next activity.**

**Keywords: - Warm Up, Cool Down, Nervous System, Sports Men, Mentally, Physiologically & Psychological**

## INTRODUCTION

Pre and post work out exercises play a very effective role in preparing the body for activity and assisting in full recovery. In the field of games and sports warm up is the essential part before start of any physical activity. Warm up exercise is the Preparatory activity for preparing the body physiologically and psychologically and Minimize the incidence of injuries. After the main activity, it is very important to

cool Down the body. Cool down activity means decrease the intensity of work out and Lowering the temperature of the body, normalize the system of the body, prevent the Sudden pooling of blood from extremities and prevent the post exercise muscles Soreness etc. the act of gradually lower the body temperature heart rate and Breathing rate following exercise. The cooling down activity help the athletes to Prevent the stiffness and also help to prevent post exercise muscles soreness. Proper and systematic warm up and cooling down before and after

competitions And training sessions is a very easy way for every sports man to improve their performance. Warming up and cooling down will increase the physical and mental efficiency which help the an athlete's to improve the performance level and also increase the recovery process required before and after training or competitions. It is the duty of every coach or experts, to encourage the athlete to regard the warm up and cool down as an essential part of both the training and competition itself. Warm up and cooling down exercises have many beneficial effects on overall health. So any exercise sessions must start with warm up and end with a cool down.

### WARMINGUP

It is a primarily preparatory activity in which through physiological and psychological preparation, a sports men adjust himself for the full fill men to main activity. It is very essential to warm up the body before start any type of activity. Warm up is reparatory activity for preparing the body, physiologically and psychologically and also minimize the chance of muscles, joints and bones injuries. Warming up is necessary for every performers who performed the performance on the stage, playground etc. and very important before start of any activity to prepare himself/herself to achieve the main goal. It prepares the muscles for strenuous activity or actions.

### WHAT HAPPENS IN OUR BODY

When an athlete starts to exercise, cardio respiratory and neuron muscular system and metabolic energy path way of the athlete are stimulated. Muscles contract and to Meet the increasing demands of oxygen, athletes heart rate blood flow, cardiac Output and breathing rate increase. Blood moves faster through the arteries of the Athletes and is slowly routed to working muscles. The temperature of the body Increase and more oxygen is released quickly increasing the temperature of the muscles. In this process muscles use glucose and fatty acids to burn calories and provide energy for the physical activity. This process prepares the athletes for strenuous actions and also help to reduce the change of injuries.

### TYPE OF WARMING UP

The rear two types of warming up

#### 1. General warming up

#### 2. Specific warming up

1. **General warming up:** In general warming up sports person goes through a Series of physical movement of general nature of whole body such as jogging, striding, calisthenics, stretching etc. Concentration, flexibility and coordinative ability also increase through this process.

2. **Specific warming up:** In specific warming up athletes go through such Movement which are to be performed later on in the main activity or competition Such ass printer may go through short distance run, volley ball player may prepare his Joint for main activity and warm up with ball for example he play with ball like Under hand, upper hand, batting etc. hockey player with stick and ball may goes Through the different skill which he has performed later on in the main activity.

### METHODS

1. **Active method:** In this method players go through direct physical preparation procedures, which involve either utilizing the skill or activity that will be used during competition (general warming up and specific warming up).

2. **Passive method:** In this method players does not involve physical exercises, Instead it involves external stimulus such as massage, steam both, diathermy, Whirlpool bath sand other such means through which physiological changes takes Place.

#### Duration of warming up:

Training state and level of competition experience decided duration of warm up. Generally warming up of 15 to 30 minutes is sufficient for an activity of 60 to 90 minutes. 5 to10 minutes warming up is sufficient for non-sports man and common man.

#### Physiological basis of warming up:

Warming up slowly improve the cardio secular system by increasing the body Temperature and increasing blood flow to you muscles. Warming up may also help To reduce muscles soreness and reduce the chance of injury.

1. Warming up increase the body temperature. If the core temperature of the Body is increases by 1°C then (BMR) is increased by 14 % increased thus enhance The physical work capacity.

2. Greater strength of contraction due to improve elasticity of muscles fibers.

3. Improve speed of contraction which is necessary former transmission to Muscles fibers.

4. It helps to minimize threat of injuries which helps to increase speed of Contraction due to an increase in blood flow which help stormed more oxygen Supply to the muscles.

5. Because of this physiological adaptation physical work capacity is increased Through warm up.
6. Warming up not only help to prepare the Craiova secular system of the Sports men for the upcoming activity but it also help to prepare respiratory system, Nervous system, muscular skeletal for the main physical activity.
7. Warming up helps to increase chemical reactions and release more energy to the Muscles along with increased blood flow to the muscles to increase supply more Oxygen and remove waste product from the body.
8. Rate of contraction of muscles become faster as the viscosity is lowered. Thus The chances of injuries or wear and tear are minimized.

#### **Psychological basis of warming up:**

Warming up prepare the athletes not only psychically but it also help the at late to prepare mentally for the upcoming activity. It also prepare the sportsman psychological. Warm up activity not only help stop prepare the sports man physically for the main activity/competition but it also helps to improve the concentration and also increasing focus towards the main goal. It helps to control anxiety for main activity or competitions and also motivate the sports person to achieve the goal.

1. The advantage of warming up before main activity help to averts needless Stress and fatigue of the athletes.
2. It improves concentration required for the main task or competition.
3. It reduce tension and nervousness.
4. It improves co-ordination.

#### **COOLING DOWN:**

Cooling down means gradually reducing the intensity of the main workout/competition by performing limbering and stretching exercises followed by long and deep breathing exercises is called cooling down or limbering down.

#### **NEED AND IMPORTANCE OF COOLING DOWN:**

When an athlete performed workout/training session/competition then there is a lot Of blood flow in his/her muscles. If the sports man stop the activity immediately after The strenuous activity the remain be pooling of blood in the extremities and cause Giddiness and sometime collapse. Cooling down play a very effective role in the Field of games and sports

and help the athlete to release the extremity blood into Circulation and also help him to make the exchange easier. It also help the athlete to Prevent the post exercise soreness and stiffness. The main aim of cooling down exercise for recovering to pre exercise/workout state and to help the normalize the various function of physical, physiological, biochemical and psychological, calisthenics, flexibility, stretching exercises and deep breathing and relaxation techniques are performed during cooling down. Cooling down is very important part because It help the athlete or educe heart rate And breathing rates, gradually cooling temperature and return muscles to their Normal position, also reduce the venous pooling of blood in their lower extremities, Which may cause dizziness and helps to normalize physiological system of the body.

#### **Psychological and physiological basis of cooling down:**

1. Recovery of the immune system.
2. Removal of metabolic byproduct.
3. Delayed on set muscles soreness.
4. Cooling down activity help the sportsman quick recovery of the Cardiova secular and respiratory system after main activity and also lead to minimize the chance of post exercise syncope and cardiova secular complication.

#### **PROCEDURE AND DURATION OF COOLING DOWN:**

It is very essential to know the important steps to ensure and effective cool down. After exercise, slowly decrease the exercise intensity (such as from a fast run to a slow jog to a brisk walk).The second step is stretching, it allows the muscles to elongated and length ended and the next step is now re-hydration. It is important part of the procedure and should be done either urging stretching or after these steps. Refueling the body with water and sports drink will keep the body hydrate. Duration of cooling down activity is different from player to player, but 5 to15 minutes is sufficient.

#### **CONCLUSION:**

Proper and systematic warming up and cooling down before and after main activity/competition/training session is very effective and helpful for the development of sports performance. Warming up and cooling down play a very effective role in preparing the body for training programmed or competition and assisting in full recovery warming up is a primarily preparatory activity in which through physiological and psychological preparation, a player adjust himself fort he full fill men to the main activity and cooling down exercise is very essential after remain activity or strenuous physical activity because eight help to

player to decrease body temperature gradually until lower back to normal and also lead to reduction in the incidence of post exercise syncope and cardiovascular complication.

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