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Water and it's Importance in Sports

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Abstract

The purpose of my paper is to enlighten the importance of water for a sports person and an individual. The use of water starts from the early morning, when we take a cup of tea. A person can leave a week without having food but can't a day without water. In other example we can store fat in the muscles of the body but water can't store in the body for a long time. The demand of water for a body is same in the summer and winter but because of cold condition maximum time people skip water intake in winter. The daily consumption of water is different according to the person to person. A sportsman doesn't know the water intake quantity.

Keywords: Water, Importance, Consumption, Nutrition, Fluids.

Introduction

The latest information given by "INSTITUTE OF MEDICINES AND NUTRITION BOARD in their sixth report they recommended for the women at approximately 2.7 liters (about 8 Glass) of total water of all beverages and food each day and a man an average of approximately 3.7 liters (about 12 glasses) of total water"[1] .We don't have particular formula to calculate the water requirement of a person but H_20 requirement can be calculated on the basis of total bodyweight of an individual. If a person knows his accurate weight in labs then he can know the water requirement of a day. "Divided your weight in half to determine the number of ounce of water you should have daily, as an example, a 120 lb person should have 60 oz ,or five 12 oz glasses per day"[2].This water requirement must be watched two week to increases according to the consumption need of an individual. The requirement of water can be fulfill with thirst and appetite and the total daily water input is 2000-4000 ml per day. The daily water output is also same 2000-4000ml per day. The input sources of water are fluid, foods, and metabolism. The output sources of water are urine, feces, skin, lungs etc.

The need of water for a player is depend upon the types of sports, duration and intensity, Sex, body size composition genetics and fitness, environment condition and clothing all effect an individual fluid intake requirement. Now we will see why water is useful for a sports person. The main role of water is to regulate body temperature. We have seen during the exercise heat increased in our body and only water can equalize temperature by the transporting heat from one part to another in circulating fluids. In another situation during exercise sweat come out from skins because of water evaporation. From skin to lungs offers of the best ways of getting rid of unwanted heat generated in body. We have also seen after the exercise and training many body cell and tissues has been broken up but water play important role in tissue building material. This is because water is prominent and essential constituent of every kind of tissue, "From a solid tissue like bone which is one-third water to a fluid tissue such as whole blood which consists of four-fifths water"3. Water roles are invisible. It can't see by naked eyes. It acts as a lubricant and washes each and every cell and tissues of the body. If water will not work as transportation system than body traffic will jam. (E.g. Nutrient and Drugs supply, hormones and peptides) can be transported to the cell. Its source by which all body waste material removed via the kidneys. If we talk about the energy production then we will see without water our metabolism system will not work, as an example of energy supply generator can't supply without water because water control all heat of generator. In the same way if the quantity of water will not proper in the body then supply of heat will be affected.

If a player not taking water in proper amount then he can face the problem of dehydration. These problem are very common in this condition such as, Urinary tract ,Mantle Irritation and Depression, Heart burn and Stomach ache, Blood pressure, loss of appetite, Muscle Cramp, Dry Skin Etc. Problem for a sports person are described as:-

Physiological responses to Dehydration
Increase in

(i) Gastrointestinal Distress
(ii) Plasma Osmolality

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(iii) Blood Viscosity
(iv) Heart rate
(v) Core temperature at which sweating begins
(vi) Core temperature at a which flow increases in skin
(vii) Core temperature at a given exercise intensity
(viii) Muscle glycogen use

Decrease in
(i) Plasma Volume
(ii) Splanchnic and renal blood flow
(iii) Central blood volume
(iv) Central Venous Pressure
(v) Stroke Volume
(vi) Cardiac Output
(vii) Sweet rate at a given core temperature
(viii) Maximal sweat rate
(ix) Skin blood flow at a given core temperature
(x) Performance
(xi) Endurance Capacity (Exercise to Exhaustion)

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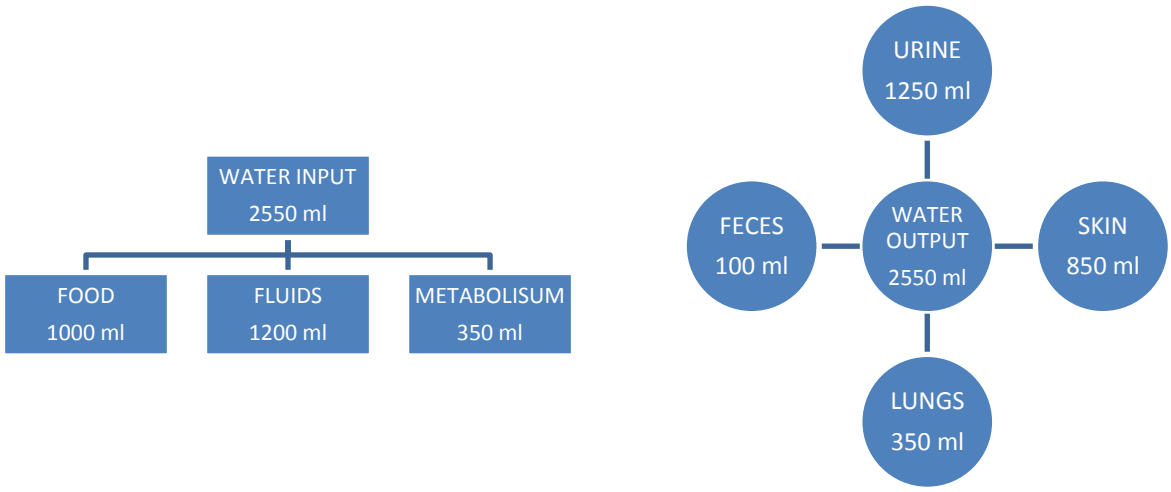
Table I. Water Balance in Average Adult under Various Conditions

Water	**Normal**	**Hot Environment**	**Strenuous Work**
Fluid Intake (ml/d)			
Drinking	1200	2200	3400
Food	1000	1000	1150
Oxidation	300	300	450
Total	2500	3500	5000
Fluid Output (ml/d)			
Urine	1400	1200	500
Skin	400	400	400
Lungs	400	300	600
Sweat	100	1400	3300
Stool	200	200	200
Total	2500	3500	5000

Figure . Some Use of Water in the Body



Environment Condition

The environment condition also play important role in dehydration. The sportsman and coaches ignore the symptoms of this problem but they don't know how their performances can be affected because of this condition. Now before to know-how the environment can affect the performance of a player we will check out a table of temperature.

Table II. Exercise Recommendation for Various Wet Bulb Globe Temperatures (W B G Ts)

Wet Bulb Globe Temperature	Exercise	Comment
Less than 80* F (27*C)	All can Exercise	Activity may be performed by most individuals without a risk of heat problem.
80* to 85*F (27-29*C)	Exercise with Caution	Take Frequent water breaks, Look of sign of heat illness (dizziness, rapid heart burn, nausea, chilling. Do not attempt distances greater than 10 Km when(28*C)
85* TO 88*F (29 TO 31*C)	Limited Exercise	Unconditioned and unacclimatized individual should suspend activities break is necessary time to time Greater than 31*C suspend all activities. Move indoor cooler environment.

(Adapted from Pivarnik and Palmer 1994)

This table showing in which condition a player can perform training but many more factor which should be consider during exercise. If heat is 30* C and humidity is 40% then heat will less count (29*C). It is good environment for exercise. If heat has 30*C and humidity is 95% then temperature feel like 42*C so these condition are not good for the exercise. We analyze that the requirement of water is still a topic of debate in the field of games and sports but we can say if food lose nothing lose metabolism lose something, and if water lose then a person can die.

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