



## Comparative Study of Positive and Negative Effects of balanced Diet and Unbalanced diet on an Athlete

Dr. Jitendra Singh Chundawat

\*Vice Principal, Pacific College of Physical Education Pacific University, Udaipur (Rajasthan) Member - Swarnim Gujarat Sports University, Desar (Gujarat)

**Abstract** A balanced diet contains an adequate amount of all the nutrients required by the body to grow, remain healthy and be disease-free. In addition, a healthy, balanced diet provides the necessary energy requirement, protects against vitamin, mineral, and other nutritional deficiencies, and builds up immunity

Unbalanced diet means an excess or deficiency of dietary part, such as proteins, fat, carbohydrates, fibers, vitamins, minerals. Eating wrong type of food is potential cause of a dietary imbalance. What does a well-balanced diet contain? There are seven main classes of nutrients that the body needs.

**Keywords** diet, contains, healthy, vitamin, immunity, proteins, carbohydrates, nutritious.

**What is Balanced Diet:** A balanced diet contains all of the essential elements that the human body needs. Carbohydrates, lipids, vitamins, minerals, proteins, fiber, and water are all essential components in a well-balanced diet. A nutritious, well-balanced diet lowers the risk of disease and enhances general health.

**What is Unbalanced Diet:** An unbalanced diet is one that throws off the harmony between the many components of the body. It contains all food types in the right amounts. This diet has either an excess of one food component or not enough of another.

### Difference between Balanced and Unbalanced Diet:

Balanced Diet	Unbalanced Diet
A balanced diet is one that includes all the essential elements that the human body needs.	An unbalanced diet is one that throws off the harmony between the many components of the body.
It contains all food types in the right amounts	This diet has either an excess of one food component or not enough of another.
The right proportions of carbohydrates, protein, fat, and water must be included in a balanced diet.	An unbalanced diet has excess or deficiency of dietary components such as proteins, lipids, carbs, fiber, vitamins, and minerals.
A balanced diet and good physical and mental health go hand in hand.	Health issues might result from an unbalanced diet.
A balanced diet should contain vitamins, minerals, fats, and proteins.	Carbohydrates, salts from minerals, and vitamins are not present in sufficient quantities in unbalanced diets.

**Positive Effect on Athlete of Balanced Diet:** Every person's needs are different. The amount of food you need depends on your age, height, weight, and sport or activity level. In general, you need to replace the number of calories you burn each day with athletic activity. Calories measure the energy you get from food. Most people



need between 1,500 and 2,000 calories a day. For athletes, this number can increase by 500 to 1,000 more calories.

**Carbohydrates** (carbs) are your body's biggest source of calories. Simple carbs (fruits, milk, and vegetables) are easier for your body to break down. They provide quick bursts of energy. Complex carbs take longer for your body to break down. They are a better source of energy over time. Complex carbs in whole grain products are the most nutritious. Examples include whole-grain bread, potatoes, brown rice, oatmeal, and kidney beans. Doctors recommend that 55% to 60% of your daily calories come from carbohydrates.

**Fat** is another important source of calories. In small amounts, fat is a key fuel source. It serves other functions, such as supporting good skin and hair. Do not replace carbs in your diet with fats. This can slow you down, because your body has to work harder to burn fat for energy. Fats should make up no more than 30% of your daily calories. When you can, choose unsaturated fats, like olive oil and nuts. These are better for your health than saturated and trans fats. Too much fat or the wrong kinds can cause health problems. It can raise your bad (LDL) cholesterol level and increase your risk of heart disease and type 2 diabetes.

**Protein** should make up the remaining 10% to 15% of your daily calories. Protein is found in foods like meat, eggs, milk, beans, and nuts. Some athletes think they should consume large amounts of protein. While protein does help build muscle, high doses won't help you bulk up. Over time, too much protein can be harmful to your health. The digestion process can put strain on your liver and kidneys.

**Negative Effect on Athlete of Unbalanced Diet:** Athletic performance pushes your body to the edge. Progress is accomplished by progressively stressing your body and allowing it to recover. If you do not receive adequate nutrition from your diet, this recovery is not possible. As you continue to train, stress, fatigue and metabolic waste will accumulate in your body. If you are unsure if you are getting proper nutrition for your training, consult with your doctor or a registered dietitian.

### **Poor Performance**

Training and competition require large amounts of energy, which comes from carbohydrates, fats and protein in your body. If you do not consume enough of these macronutrients from your diet, your body will not be able to perform at a peak level of performance. Strength training relies primarily on carbohydrates for energy. Your muscles break down their own protein to fuel themselves during intense training. Endurance training consumes both fats and carbohydrates.

### **Longer Recovery Times**

Training induces controlled levels of damage in your muscles. Your body rebuilding stronger muscles is what leads to growth in muscle mass and increased strength and endurance. The first two hours after training are the most critical for exercise recovery, according to nutritionist Dr. John Berardi. The demand remains high for at least 24 hours after training. If nutritional demands are not met during this period, recovery will be prolonged over days or weeks.

### **Immune Suppression**

Training produces stress hormones in your body. In the short term, these trigger your body to release energy stores such as body fat and increase the triggers for growth. However, if the levels of stress hormones remain high, the functionality of your immune system is impaired. Low blood sugar due to depleted liver glycogen -- carbohydrate energy stores -- is particularly influential on stress hormone levels and immune function. However, according to a study published in the "Nutrition Journal" in 2014, overconsumption of certain carbohydrates (like those in processed foods). Eat a well-balanced diet attuned to the demands of your body mass and the carbohydrate demands of your activity level.

### **Weight Changes**

Though weight changes may be the intention of your training, unintended and potentially dangerous weight changes can occur with poor nutrition. With continued training, you will lose muscle mass without proper



nutrition. You may gain or lose body fat at an unhealthy pace as well, depending on the particulars of your diet, training and genetics.

### **Other Changes**

Female athletes that fail to maintain adequate nutrition may cease menstruating until the nutritional deficits are corrected. Hair, skin and nail health may also be compromised. The levels of growth and sex hormones, such as testosterone, are drastically decreased with prolonged nutritional deficits. Malnutrition also places you at greater risk of many other diseases and health problems.

### **What and How to Eat Before, During and After Exercise and Competition**

#### **Eating before Exercise**

Eating before a big game, competition, or workout will help you perform at your best. Here are some ways to optimize pre-exercise nutrition.

- Eat meals that are carbohydrate-rich, moderate in protein and low in fat and fiber to optimize digestion and energy availability.
- Prevent dehydration by consuming fluids in the hours leading up to a long workout or competition.
- Peanut butter and honey on crackers
- Fruit and yogurt smoothie
- Low-fat cottage cheese
- Yogurt + granola + fruit
- Lean hamburger or chicken on a whole-wheat bun
- A piece of fruit
- Whole grain crackers
- Sports drink if your last meal was over 3-hours prior
- Sports gel, sports bar
- Fruit puree pouch like applesauce

#### **Eating During Exercise**

May athletes hit a wall during long endurance competitions like marathons or long bike rides. Here are some ways to keep you going strong.

- Provide fuel early and often for better performance and recovery. Strive to get 30-60 grams of carbohydrates per hour for endurance exercise beyond 60 minutes.
- Consume fluid during activity to prevent dehydration.
- Experiment to determine the right amount and combination of foods – liquids, sports foods, whole foods – that will sustain you and minimize gastrointestinal problems.
- For extended exercise, begin refueling within the first 15 minutes.
- Consume fluids with carbohydrate-rich foods for faster absorption.
- Products with more than one source of carbohydrates (glucose, sucrose, fructose) will absorb quickest

#### **Eating After Exercise**

Eating for recovery after a long strenuous workout, game or competition is very important. Here are some tips for nutrition recovery.

- Consume a snack or meal within an hour following training or competition.
- Weigh yourself before and after you exercise to know how much fluid to replenish.
- Eat 15-25 grams of high quality protein to assist your muscles in repairing damage and tissues and to stimulate muscle protein synthesis.
- Smoothie with milk (or milk substitute with protein powder), greens and fruit
- Crackers with nut butter
- Pita chips and hummus + fruit
- Yogurt with berries and whole grain cereal



- Trail mix with nuts and dried fruit

### Conclusion

Good nutritional habits and a balanced diet aren't developed in one day, nor are they destroyed in one unbalanced meal. Healthful eating means a lifestyle of making choices and decisions, planning, and knowing how to make quick and wise choices when you haven't planned. What you learn about eating in these first years on your own will help establish good dietary patterns for the rest of your life. Making the break from home cooking and becoming responsible for choosing the foods you eat is part of the challenge of becoming a mature and an independent adult. It is a challenge that should not be taken lightly. The nutritional habits you develop now will be difficult to change in the coming years when your body stops growing and your lifestyle may become more sedentary. Learning to make sensible choices from a confusing array of options is not easy, but the rewards are great. Eating nutritious and healthful food while maintaining your proper body weight will contribute to a better performance in the classroom, in the gym, and on the dance floor. You will feel and look your best. In contrast, a poor diet can lead to insidious health problems that can interfere with success in academic and social performance and may eventually mean confronting a serious long-term illness, such as heart disease or diabetes. Knowing how much and what to eat is important knowledge.

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