

Food and Nutrition for Sports Person

Optimal food and nutrition for a basketball player focuses on balanced intake of carbohydrates for energy, protein for muscle repair, and sufficient hydration to sustain the sport's high intensity, stop-and-go demands. Timing of meals and fluid intake is crucial for peak performance and recovery.

Key Nutritional Components

- Carbohydrates : - These are the primary fuel source, stored as glycogen in muscles. Basketball players need 5-7 grams of carbohydrate per kilogram of body weight daily.
 - Inadequate carbohydrate intake can lead to fatigue and reduced performance. Focus on complex carbs for sustained energy.
- Protein : - Essential for muscle repair and growth after intense training and games - sources lean meats (chicken, fish), eggs, dairy products every 3 hours.
- Healthy fats : - Necessary for hormone production, long-term energy, and reducing inflammation. Fats should be a moderate part of the diet, sourced from healthy options to support overall health and joint function.
- Hydration : - Crucial for maintaining focus, coordination, and preventing cramps and fatigue.
Dehydration of even 2% of body mass can impair performance. Players should drink consistently throughout the day and more actively.
- Fats : - [long-lasting energy].
Fats provide stored energy for long-duration performance.

Healthy Sources :

- Nuts (almonds, peanuts).
- Seeds.
- Olive oil

- helps in endurance and vitamin absorption.

Vitamins and minerals - For body Protection

- Vitamins and minerals help in immunity, bone strength, and muscle function.

Sources

- Green leafy vegetables

- Prevents weakness and cramps

- Strengthens bones.

- Water and hydrators which is essential for drink water before, during after the game.

Balanced diet for a Basketball Player.

- Carbohydrate - for energy

- Proteins - for strength

- Fats - for reserve energy

- Vitamins and minerals - for protection

- Water - for hydration

Proper food and nutrition are essential for a basketball sportsperson to achieve high performance, physical fitness, quick recovery, and injury prevention. A well balanced diet, along with proper hydration, plays a vital role in making a player strong, active, and successful in basketball.

- Proteins help in building muscles and repairing tissues damaged during training and matches.

Sources :-

- Makhana, paneer

- Palak, dal, beans, soybeans

- build strong muscles.

I. Basketball Court (spurty measurements)

2 Introduction to Basketball

Basketball is one of the most popular and exciting team sports in the world. It is played between two teams of five players each, where the main objective is to score points by throwing the ball into the opponents basket or hoop. The team that scores the maximum points at the end of the game wins.

Basketball was invented in 1891 by Dr. James Naismith in the United States. Today, it is played at school, college, national, and international levels, including prestigious tournaments like the NBA (National Basketball Association) and the Olympic Games.

The game requires speed, strength, agility, coordination, teamwork, and quick decision making. Players must continuously run, jump, pass, dribble, and shoot the ball, making it a fast-paced and physically demanding sport.

Apart from physical fitness, basketball also helps in development of discipline, leadership, cooperation, and sportsmanship. Because of its many health and social benefits, basketball is widely played by both boys and girls across the world.

Basketball is a sport that demands a high level of physical. Apart from physical abilities, basketball also demands sharp mental skills. The basketball court is rectangular in shape, measuring 28 meters in length and 15 meters in width for international matches. At each end of the court, there is a basket fixed to a backboard. The basket consists of a metal ring with a net attached to it. The game is played with a spherical ball made of leather or synthetic material. The court is marked with various lines such as the center line, three-point arc, free-throw line, and key area, which help in the proper execution of rules. This helps players develop leadership qualities, discipline, cooperation, and emotional control.

3. Specific Game - Related Warm Up in Basketball

A specific game related warm-up in basketball refers to those warm up activities that closely resemble the actual movements and skills used in the game. Unlike general warm-up (jogging - stretching), specific warm-up prepares the exact muscles, joints, skills, and coordination required for basketball performance.

This type of warm-up is performed after general warm-up and focuses on dribbling, passing, shooting, footwork, agility, balance and reaction speed.

Objectives of Specific Warm-ups in Basketball

- To prepare the body for basketball - specific movements.
- To improve ball control and co-ordination
- To improve ball to reduce the risk of sports injuries.
- To increase muscle efficiency and reaction time.
- To prepare the player mentally and physically for match situations.

Concept of Specific Warmups where the basketball is a fast, explosive, and short burst game involving sudden stopping, jumping and landing.

• Quick running, sudden stopping, jumping and landing. Therefore, simple jogging is not sufficient. The body must be trained through basketball

- Muscles become ready for explosive effort.
- Joints gain mobility and stability
- The nervous system becomes ready for fast response.

Benefits of Specific Game

- Improves match performance.
- Enhances skill execution.
- Reduces muscle strain and joint injuries.
- Improves speed, balance, and jump ability.
- Builds confidence and match readiness.
- Scoring & rebounding Dribble and jump and touch the board.
- Rebound and outlet pass.

4. Fitness Components related to Basketball

Basketball is a fast, high intensity, and physically demanding sport. To perform well in basketball, a player must develop several physical fitness components. These components help improve performance, prevent injuries and maintain consistency throughout the game. The main fitness components related to basketball are strength, speed, endurance, to improve performance, prevent injuries, and maintain consistency throughout the game.

- 1) Strength :- It is the ability of muscles to exert force. In basketball, strength required for:
 - Defending against opponents.
 - Maintaining body control.
- Types of strength :-
 - For passing and shooting (Arm strength)
 - For pumping and sprinting (Leg strength)
 - For Balance and posture (Core strength)
- 2) Speed - It is ability to move quickly from one place to another. Basketball requires:
 - Fast sprinting during attack and defense
 - Quick movement during counter attacks
 - Rapid transition between offense and defense
- 3) Endurance (Stamina)
Endurance is the ability to perform physical activity for a long time without getting tired. A basketball match involves:
 - Continuous running
 - Repeated jumping
 - Constant movement for 40-48 minutes
- 4) Agility - It is the ability to change direction quickly and efficiently - In basketball, players often:
 - Dodge opponents.
 - Change direction while dribbling.
 - Move quickly during defense.

- 5) Flexibility :- It is the ability of joints and muscles to move freely through the full range of motion. It is important for:
- High jumps.
 - Stretching for passes and blocks.
 - Preventing muscle injuries.
- 6) Power :- It is the combination of strength and speed. It is required for:
- Explosive jumping.
 - Fast shooting.
 - Quick rebounds.
 - Punting.
- 7) Balance :- It is the ability to maintain body stability during movement or while standing. In basketball, balance is needed for:
- Shooting under pressure.
 - Quick stops.
 - Jump landings.
 - Defensive stance.
- 8) Co-ordination :- It is the ability to use different body parts together smoothly.
- Hand-eye coordination for shooting.
 - Foot-eye coordination for dribbling.
 - Whole body coordination for movement.
- 9) Reaction Time:
- Reaction time is the speed at which a player responds to a stimulus.
- quick reactions
- Catch sudden passes.
 - Block shots.
 - Respond to opponents' movements.
 - Steal the ball.

5. Fundamental Skills

The fundamental skills for basketball are the ~~several~~ too.

1) Dribbling

Dribbling is the skill of bouncing the ball with one hand while moving. It allows a player to move around the court, protect the ball from defenders, and set up attacks. Good dribbling requires control, balance, hand coordination and awareness of opponents.

2) Passing

Passing is the act of transferring the ball to a teammate. It is essential for team play and creating scoring opportunities. Common types of passes are:

- Chest Pass
- Bounce Pass
- Overhead Pass.

3) Shooting

Shooting is the skill of throwing the ball into the basket to score points. It requires proper hand placement.

- Set shot
- Jump shot
- Lay-up
- Free throw

4) Rebounding

Rebounding means gaining control of the ball after a missed shot. The are two types:

- Offensive rebound (after your team misses)
- Defensive rebound (after the opponent misses)

Rebounding is important to gain extra scoring chances and stop the opponent.

5) Defense

Defense is the skill of stopping the opponent from scoring.

It includes:

- Man to man defense

- Zone defense

Defensive skills involve quick footwork, anticipation, blocking, stealing and maintaining the correct defensive stance.

6) Footwork

Footwork refers to how a player moves on the court using correct steps, stops, and turns. Good footwork helps in balance, shooting, passing and avoiding travelling violations.

7) Catching

Catching is receiving the ball safely and quickly - players must keep their eyes on the ball, both hands and be ready for the next move like passing or shooting.

- Defensive skills help a player stop the opponent from scoring
- Footwork helps players move properly and maintain balance
- Catching is receiving the ball safely using both hands.
- Passing helps a player change direction without travelling.
- Good co-ordination is needed to perform all basketball skills effectively.

6. Rules and Regulations

- 1) A basketball game is played between two teams of five players each.
- 2) The main objective is to score points by throwing the ball into the opponents basket.
- 3) A field goal scored inside the three-point line gives 2 points, outside a free throw gives 1 point.
- 4) Players must dribble the ball while moving; walking or running without dribbling is called travelling which is a violation.
- 5) The ball must not be kicked or punched.
- 6) Each team must try to shoot within 24 seconds of gaining possession of the ball.
- 7) A player is not allowed to dribble again after stopping the dribble (double dribble).
- 8) Physical contact such as pushing, holding or hitting is about.
- 9) After committing five personal fouls, a player is disqualified from the game.
- 10) When the ball goes out of bounds, possession is given to the opposite team.
- 11) The game is divided into four quarters.
- 12) Jump ball is used to start the match.
- 13) Players must stay outside the free-throw lane before the ball is released during a free throw.
- 14) Substitutions are allowed when the ball is dead.
- 15) The team with the highest score at the end of the game, wins.

- 1) Team and Players.
- Each team has 5 players on the court.
 - Substitutions are unlimited and can be made during dead ball situations.
 - A player is disqualified after committing 5 personal fouls.

- 2) Duration of the Game.
- The game consists of 4 quarters of 10 minutes each (FIBA rule)
 - There's a 2-minute break after the 1st and 3rd quarters
 - There's a 15-minute halftime break.

- 3) Scoring System
- A basket from inside the 3 point line = 2 points
 - A successful free throw = 1 point.
 - A basket from outside the 3 point line = 3 points.
- 4) Time-related Rules.
- 2-second rule - A team must attempt a shot within 24 seconds
 - A basket from outside the 3 point shot \leq 24 seconds while being guarded.
 - An attacking player cannot stay in the key area for more than 3 seconds

- 5) Violations :- The rule breakers without physical contact

- Traveling
- Double dribble
- Carrying the ball

7. Duties of the Officials.

Basketball officials are responsible for conducting the game safely, and according to the rules. They ensure discipline, fairness and smooth flow of the match. The main officials in basketball include the referee, umpire(s), scorer, and timekeeper.

1) Duties of the Referee.

- The referee is the chief official of the match.
- He/She starts and ends the game.
- Interprets and enforces all rules of basketball.
- Makes final decisions on all disputes.
- Awards fouls, violations, and free throws.

2) Duties of the Umpire.

- The umpire assists the referee.
- Observes players closely for fouls and violations.
- Reports fouls to the score's table.
- Helps control the game and maintain discipline.
- Ensures players follow the rules during play.

3) Duties of the Scorer.

The scorer maintains the official record of the game.

- Records points scored by each team.
- Keeps track of personal fouls and team fouls.
- Records time outs and substitutions.

4) Duties of the Timekeeper.

The timekeeper controls the game time.

- Starts and stops the clock according to the referee's signal.
- Keeps track of playing time, intervals, and timeouts.
- Sounds the buzzer at the end of each quarter and the match.

8. Officiating rules and violations [point hand signals]

Officiating rules are the guidelines that referees follow to control the game fairly. These rules help in -

- Maintaining discipline.

- Ensuring fair play.

- Protecting player safety.

Key officiating Rules:

1) Start of the Game - The game starts with jump ball at the centre

2) Scoring rule -

- Field goal inside 3 point line = 2 points.

- Field goal beyond 3 point line = 3 points.

3) Time rules - 24 seconds shot clock

- 8 seconds to move the ball to front court

4) Violation rules - Traveling, Double dribble, Backcourt violation.

5) Foul rules - Personal foul, Technical foul, Unsportmanlike foul

6) Substitution and timeout rules - Only allowed when the ball is dead and with referee permission.

Violations of Basketball

A violation in basketball is an illegal action committed by a player that breaks the rules of the game without physical contact with an opponent. When a violation occurs, the ball is awarded to the opposing team for a throw-in.

i) Traveling

- Taking more than two steps without dribbling the ball.

- Results in loss of possession.

- 2) Double Dribble.
 - Dribbling the ball, stopping, and then dribbling again.
 - Also when using both hands together to dribble.
- 3) Carrying (Palming)
 - Holding the ball too long in the hand while dribbling
- 4) Kicking the ball
 - Intentionally hitting the ball with the foot or leg.

Time-related violations

- An offensive player stays in the key area for more than 3 seconds.
- A player fails to pass, or dribble the ball within 5 seconds while being closely guarded or during a throw-in.
- The team does not attempt a shot within 24 seconds.
- After entering the front court, the ball is sent back to the backcourt illegally.
- When the ball or player holding the ball touches the boundary line or goes outside the court.

Violations in basketball are rule-breaking actions without physical contact that result in change of possession. Understanding violations helps players improve their performance and keeps the game fair and disciplined.

Importance of violations

- maintains discipline in the game.
- ensure fair play.
- prevent illegal advantage.

9. Achievements

Basketball is one of the most popular and successful sports in the world. Since its invention in 1891, by James Naismith, basketball has achieved remarkable growth and global recognition.

- 1) International Achievements of Basketball.
- Basketball became an Olympic sport in 1936 (Berlin Olympics).
 - The USA is the most successful nation in Olympic basketball.
 - Legendary players like Michael Jordan, LeBron James, Kobe Bryant, and Stephen Curry have made basketball globally famous.

2) Achievement of Indian Basketball.

- Basketball in India is governed by the Basketball Federation of India (BFI).
- India has participated in:
 - Asian Games.
 - Asian Basketball Championships
 - South Asian Games.
- Indian teams have won medals in South Asian Games.
- Several Indian players have participated in international basketball leagues and championships.
- Basketball is now widely played in schools, colleges, universities, and national-level competitions.

3) Education & Youth Achievements.

- Basketball is included in:
 - School Games Federation of India (SGFI).
 - Kho Kho India youth Games.
 - University-level Competitions.