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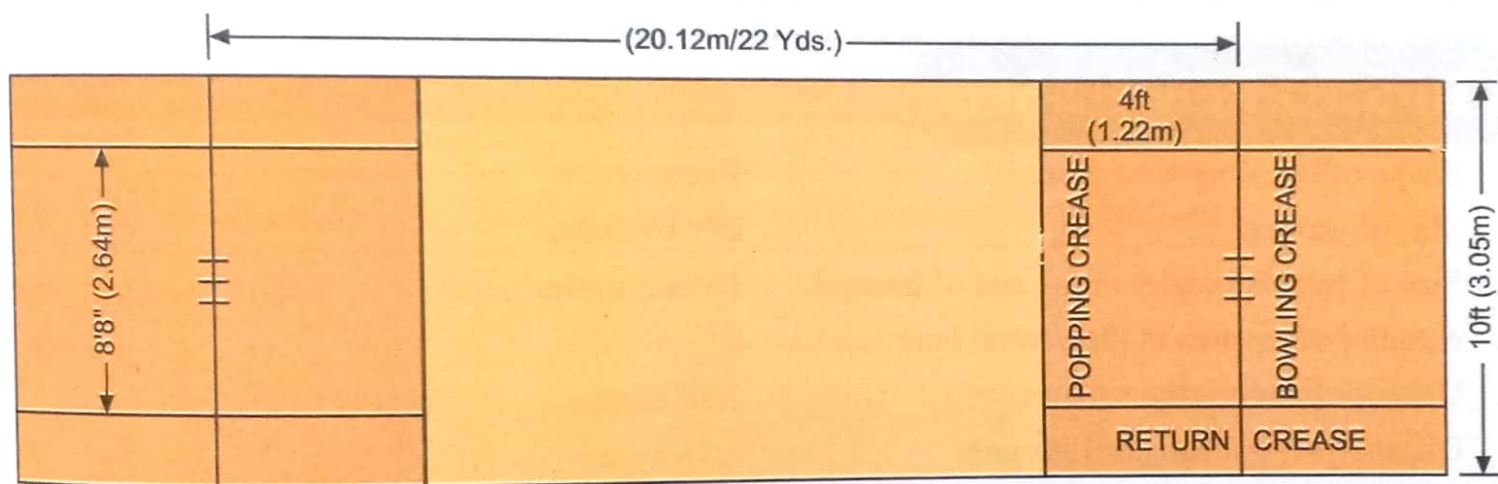
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History

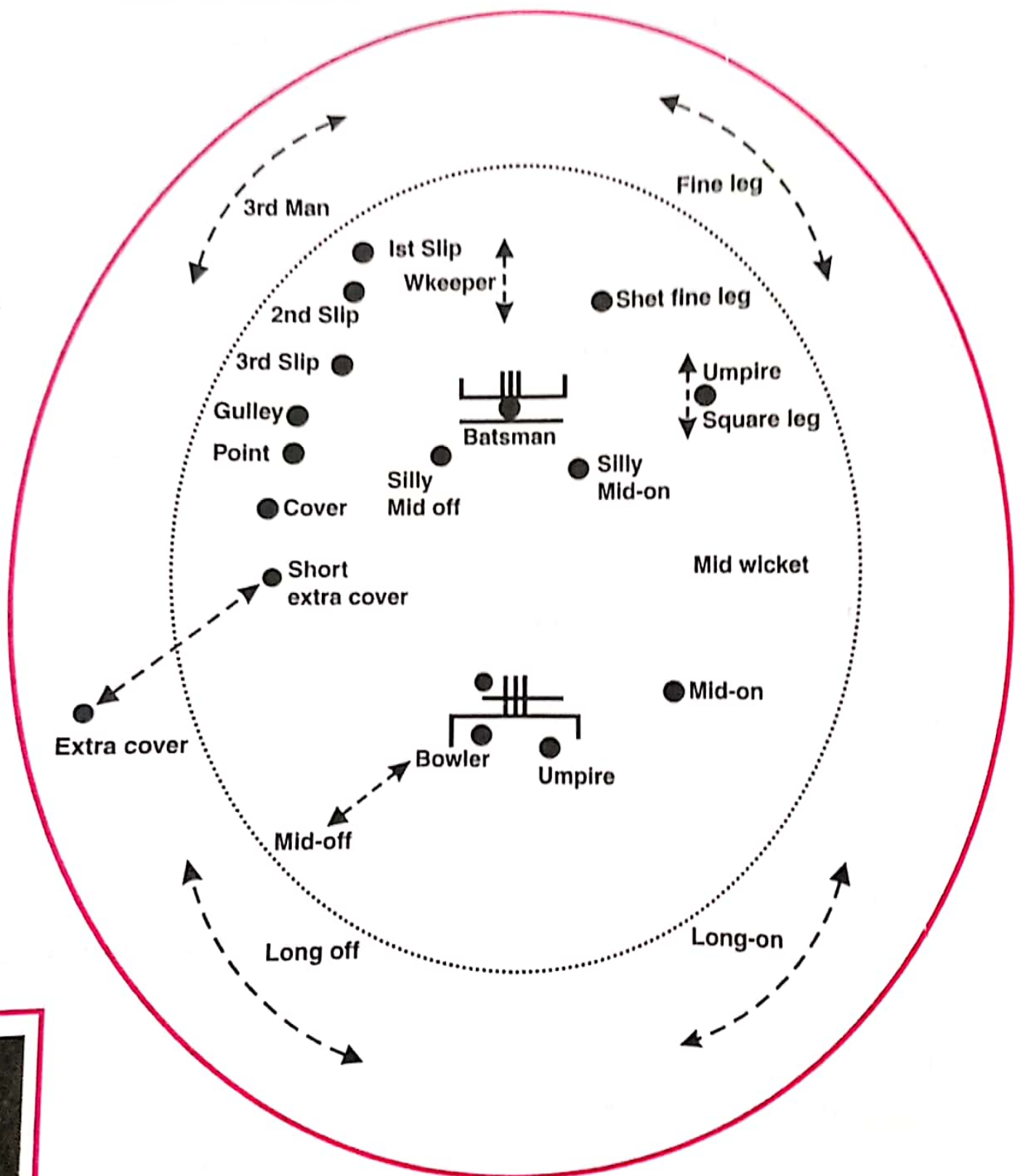
HISTORY

Nothing can be said with certainty about the beginning of Cricket. According to Widdowson, First of all about the Cricket was mentioned in 1300. First Time, the word 'Cricket' was used in an edition of 'English-Italian' Dictionary of Florio. In 1776, William Gold had mentioned about the Cricket match in his poem. In 1709 between the teams of London and Kent, In 1710, in Cambridge University and in 1729, In Oxford Cricket match had been played. In 1760 Century the first Cricket club was established in England. This club was named 'Hambledon Club' The second golden chapter of the history of Cricket begins with the establishment of Marylebone Cricket Club (MCC). This club was established in 1787 in England. In 1877, the Cricket was played between Australia and England. Australia won this match. The Imperial Cricket Conference was established in England in 1909. Alongwith this the Cricket had recognised internationality. Besides of England, Australia & South Africa became the members of this conference. In 1926, India, West Indies and Newzealand also became the members of it. Pakistan has also become the member of it in 1952. First one day International Match of the Cricket History was played in 5th Jan. 1971. This match was played in between of England and Australia. Cricket was introduced in India by the British royalty. The earliest record of Cricket in India is of 1721. In 1792, the Cricket club was established in Kolkata. The Indian Cricket control board was formed in 1928. India had played the first test match against England at Lord's ground in 1932. Rann Ji Trophy was introduced in 1934.

Field



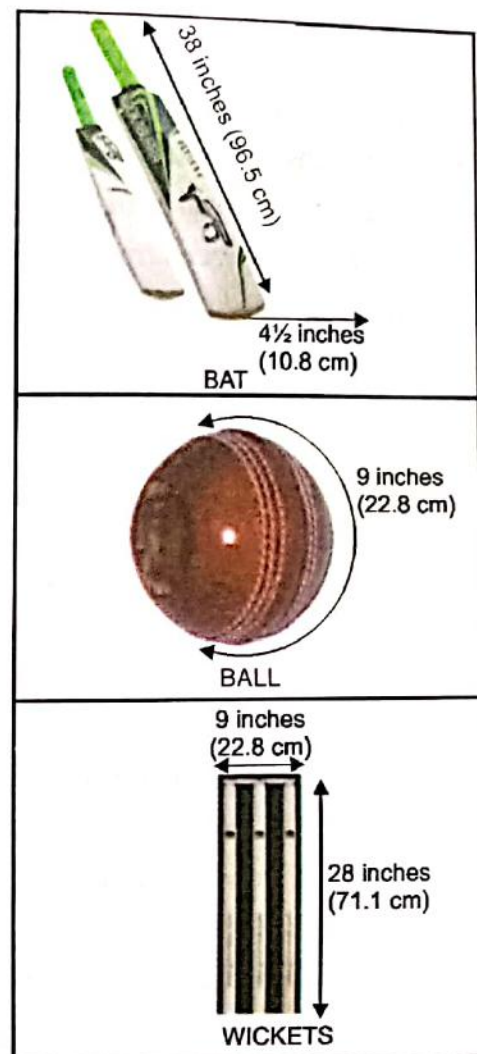
Cricket Pitch



Position of Players in the Field

TIPS TO REMEMBER

(i) Players in a Team	=	11 + 5 (Extra) = 16
(ii) No. of Umpires	=	2 + 1 (Third Umpire)
(iii) Weight of Cricket Ball	=	5½ Ounce (156 g)
(iv) Circumference of the Ball	=	9 Inches (22.5 cm)
(v) Colour of Ball	=	Red/White (Leather made)
(vi) Length of Bat	=	38 Inch (96.5 cm)
(vii) Widest part of Bat	=	4¼ Inch (10.8 cm)
(viii) Breadth of Pitch	=	10 Feet (3.05 m)
(ix) Shape of Ground	=	Elliptical (175 m long 135 m wide)
(x) Distance between Stumps	=	66 Feet (22 Yd.) or 20.12 m
(xi) Height of Stumps	=	28 Inches (71.1 cm)
(xii) Breadth of Stumps	=	9 Inches (22.8 cm)
(xiii) Size of Bails	=	4½ Inches (11 cm)
(xiv) Inner Circle from Wickets	=	30 Yards (27.4 m)
(xv) Sight Screen	=	6 m × 3 m (behind stump over the boundary)
(xvi) Outer Circle from Wickets	=	75 Yards (68.5 m)
(xvii) Types of Matches	=	One-day (Day/Night), Testmatch (5 days), 20-Twenty



*Latest
general
rules*

Latest Rules of Sport :

Latest Changes in ODI rules : Some new rules have been introduced by ICC in the one day format. These rules are as follows:

(i) Two new balls : Instead of changing the old ball with another old ball, which is in a slightly better condition at the end of 34th over, the game will be played with two brand new balls, one for each end.

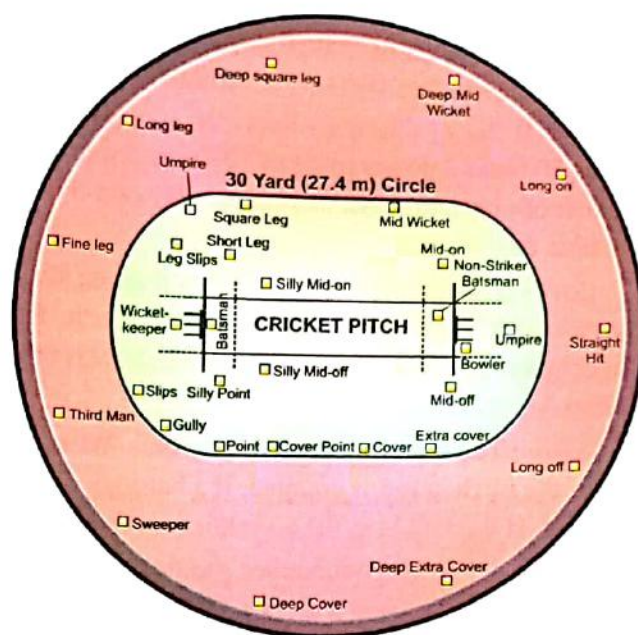
(ii) Two bouncers an over : Bowlers will be allowed to bowl two bouncers per over in a one-day international.

(iii) Four Fielders outside the 30-yard circle : Under this rule only four fielders will be allowed outside the 30-yard circle in a non-power play over.

General Rules :

Team : The match is played between two teams consisting of 11 players each. Each team has a captain who nominates the players of his team before the starting of the match. Once the names of players are declared they can't be changed during the match.

- Test Match :**
1. Test match is played between two teams.
 2. Batting and fielding is decided through a toss. The captain who wins the toss decides about batting or fielding.
 3. In a test match each team gets two innings turn by turn.
 4. There is no limit to number of overs in the innings of a test match. There is only limit of 5 days. A maximum of 90 overs are bowled in a day.
 5. **Follow on :** If the team batting first gets lead of 200 runs, then it can tell the rival team to follow on. In this situation the team, which is batting, has to bat again.
 6. **Declaration of Inning :** During the match, the captain of the batting team can declare the end of innings at any time. Mostly he does so when he feels that his team is in a winning position.
 7. If a team does not gets out twice and does not scores more than the rival team, the match ends in a draw.
 8. Red coloured ball is used in a test match and the players must wear white uniforms.



Cricket Ground

- One Day Match :**
1. One Day Match is played between two teams.
 2. Batting and fielding is decided through a toss. The captain who wins the toss decides to bat or field first.
 3. In One Day Match both the teams get a chance to bat for 50 overs each.
 4. The number of runs scored by first team in 50 overs are chased by the second team which tries to score more runs than the first team.
 5. If that team is able to score more runs, it is declared as winner.
 6. On the contrary, if the first team is able to get all the players of the second team out before reaching its score, in that case the first team is declared as a winner.
 7. The colour of the ball in One Day Match is white and the players must wear coloured dresses.
 8. One Day Matches can also be played during day or night.
 9. A bowler can bowl a maximum of 10 overs in a One Day Match.
- 20-20 Match :** This type of game has same rules like One Day Match. It is known 20-20 match because it consists of twenty overs for each team.

Some new rules have been included in it in order to make it more exciting which are as follows:

1. **Free Hit :** It is an important rule of 20-20 match. When a bowler crosses the bowling crease and throws a ball, it is declared as No Ball. In this condition batsman is given a free-hit. During free-hit, a batsman cannot be declared out in any way except being run out.
2. **75 Minutes Duration :** The bowling team has to complete 20 overs in 75 minutes. If it fails to start 20th over before 75th minute, the batting team is awarded six runs as bonus.
3. **Restrictions Regarding Bowling :** A bowler can bowl maximum of four overs in 20-20 match.
4. **Fielding Restrictions :** According to the rules of 20-20 match there will be five men fielding on leg side. There is another rule according to which only two players can field outside the ring in first six overs and then 5 players can go outside the ring in remaining 14 overs.

5. **Ball Out :** This rule comes into force when the match is a draw. Ball out decides victory or defeat. Under this rule five players from each team are given chance to ball without any batsman on the crease. The team which gets maximum wickets with the ball is declared as winner.

New Rules of Cricket : Recently, some changes have been introduced in cricket rules. Under the new rules, during 50 overs 3 power plays of 10 overs, 5 overs and 5 overs can be taken. First powerplay of 10 overs is taken at the start of play and remaining power play of 5-5 overs can be taken by the captains of batting and fielding teams at any time they want.

Interval : A duration of 10 minutes is given after each inning. Two minutes are given to change the batsman. A duration of 45 minutes is given to take the lunch. The tea interval should not be longer than 20 minutes but if nine players have been out before the tea break then the game will be continued for 30 minutes or till the end of the innings.

Score : The runs are counted for scores. When the batsman after hitting the ball runs from one side to the other side of the pitch, a run is counted. If a batsman does not complete the run, the score is not counted. It is called as a short run. If the ball is in the air while running and is caught, the score is not counted.

Boundaries : The boundaries should be indicated with white colour.

Boundary : When the umpires thinks that the ball has crossed the boundary line, he will declare a boundary. A boundary has four scores. If the ball falls beyond the boundary, six runs are scored. If boundary results because of an overthrow or the fielder has intentionally thrown the ball out, then the runs taken and the boundary are added to the score.

Over : The ball will be bowled six times in each over. An over normally consists of six balls. 'No ball' and 'wide ball' are not counted in an over. No player can take consecutive two overs.

Extra Runs : 1. No Ball :

- (i) Before bowling, the player will tell the umpire whether he will bowl from left or right side of wickets. If he does not do so, the ball will be a no ball.
- (ii) The right technique of bowling is that it should not be thrown or chucked. If umpire considers that the technique of bowling is not correct, he can call it a no-ball.
- (iii) If any part of the foot of bowler is not touching the bowling crease, the ball is declared as a no-ball.

No-ball can be hit by a batsman. The runs thus made are added to scores. This ball will not be counted in the over. If no run is scored even then one run is added to the total score.

2. **Wide Ball :** If the bowler bowls the ball in such a way, that it is beyond the reach of the batsman, the umpire will declare it as a wide ball. In this case the runs scored are added to the score and if no run is scored even then one run is added to the score.

3. Bye and Leg Bye :

- (i) If the ball passes by the batsman and it is not a wide or no ball and it does not touch the bat or clothes of the batsman, but a run is scored, then the umpire will declare a 'bye.'
- (ii) If the ball touches the body or clothes of the batsman, except the left hand of the batsman, and a run is scored, the umpire declares a 'leg bye'.

Such scores are counted as 'Bye' and 'Leg Bye'.

The 'Leg Bye' runs are counted only when the umpire thinks that

- (i) The batsman has tried to hit the ball with his bat.
- (ii) He has tried to defend himself from the ball.

Fundamental Skills

FUNDAMENTAL SKILLS OF CRICKET

1. Batting
 - (i) Grip
 - (ii) Stance
 - (iii) Stroke
 - (iv) Bat Lift
 - (v) Defensive Batting
2. Types of Strokes
 - (i) On Drive
 - (ii) Straight Drive
 - (iii) Cover Drive
 - (iv) Off Drive

3. Cut
 - (i) Square Cut
 - (ii) Gully Cut
 - (iii) Late Cut
4. Leg Glance
5. Hook
6. Pull
7. Sweep
8. Fielding
 - (i) Catch
 - (ii) Stopping the ball
 - (iii) Throwing the Ball Back
9. Bowling
 - (i) Grip
 - (ii) Off Break
 - (iii) Leg Break
 - (iv) Out Swinger
 - (v) In Swinger
10. Types of Bowling
 - (i) Full Toss
 - (ii) Short Pitch
 - (iii) Good Length
11. Speed of Throwing the Ball
 - (i) Fast Bowling
 - (ii) Medium Pace Bowling
 - (iii) Bumper
 - (vi) Spin Bowling
 - (a) Leg Spin
 - (b) Off Spin
 - () Googly

Cricket Pitch

Fundamental Skills of Sport :

The fundamental skills of cricket are as follows :

- (i) **Batting** : The batsman plays the ball bowled by the bowler. Batting contains shots such as forward defence, backward defence, straight drive, cover drive, off drive, on drive, square cut, hook shot, pull shot, sweep shot, late cut etc.
- (ii) **Bowling** : The technique of throwing ball towards the batsman is called as bowling.
Bowling can be divided into two categories : Fast bowling or medium pace bowling and spin bowling.
 - (a) **Spin Bowling** : Its types are : off spin, leg spin, googly etc.
 - (b) **Fast Bowling or Medium Pace Bowling** : Its types are : Short Pitch, Good Length, Bouncer, Inswing, Out Swing etc.
- (iii) **Fielding** : A good fielding by a team plays an important role in cricket. If there is good fielding runs can be checked and catches can be taken easily. It is necessary for the fielders that they should have good anticipation, agility and good throwing capability of the ball on to the wicket. These skills can be developed by practice and hard work.
- (iv) **Wicket-keeping** : It is really a very specific skill of fielding. The wicket-keeper's job is to collect every ball that is missed by the batsman. He has to be active and agile all the time. He should have proper concentration and anticipation. He should try to catch the ball with two hands instead of one hand.

Terminologies

4. TERMINOLOGIES

Over : In this, player has to deliver or bowl for 6 times (legal) successively from one end.

Dead-Ball : When ball is in the hands of the bowler after throw.

No-Ball : When the bowler commits some non-legal action to bowl.

Wide-Ball : When the bowler bowls the ball out of the batsman's reach, towards the sideward of wickets.

Bye : When the batsman takes run due to misfielding (without the ball touching his bat).

Leg-Bye : When the batsman takes the run by the snick of pads.

Appeal : It is request or shout by fielding players in anticipation of batsman to be given out by the Umpire.

Bouncer : When the bowler bowls the ball above the shoulder level.

Yorker : When ball is just bounced under the bat.

Maiden-Over : The over in which not even a single run is scored.

Duck : The batsman gets 'out' without a single score.

Century : A batsman scoring ton or one hundred runs.

How's That : An appeal by the fielding-players to Umpire to consider the delivery of ball carefully. This appeal pressurises the Umpire to consider them.

Declaration : A process in which the captain of the batting side may call the batsman off the field irrespective of the scores and discontinue their innings.

Bodyline-Bowling : A type of negative bowling in which the ball is aimed at hitting the body of the batsman.

Overthrow : If a fielder throws the ball whereas no other fielder is able to stop the throwing ball, thus batsman is able to score runs or a boundary is scored; such runs are termed as overthrow.

Stance : It is a position or posture of a batsman at the crease before facing a delivery.

Toss : It is the procedure before the match to decide which team will perform the batting or fielding.

Chinaman : When a left arm spinner delivers a off-break bowling, it is termed as Chinaman.

Runner : A supplement player to the batsman who runs for the batsman, in case of injury, illness while playing.

Hat-Trick : A bowler gets three wickets in three successive balls, i.e., the bowler dismisses three batsmen on three consecutive balls.

Follow-On : It is given in a test match when batting team cannot score sufficient runs and the lead is more than 200 runs, it may be given follow-on or to bat again.

Sweep : In this the batsman hits the ball to deep angle while kneeling down.

Reverse-Sweep : A ball is played like sweep but towards the opposite side of his normal hands.

Ball-Tempering : It is the intentional damage to the ball by the fielding players to get undue advantage in the swing of the ball during bowling.

Googly : A ball bowled in such a way that it turns opposite than what it seems to be.

On-Side : It is the right side area of the right handed batsman (facing bowler).

Dot-Ball : A good length ball (bowled by bowler) on which batsman cannot score runs.

Lofted : A hit by the batsman, on which ball is lifted up in air.

Full-Toss : A ball delivered by bowler above the ankles of the batsman without the bounce.

Boundary for Six : A ball hit by batsman in the air which lands outside the boundary line, it is given with six runs.

Substitute : A player from batting fielding side is replaced with a new player. In super substitute this replaced player can bat or field or bowl (with certain conditions). This is on trial basis. This is also referred to as twelfth man.

Power-Play : It is mounting pressure over batsman by placing close fielding positions (9 players inside the 30 yard circle). It can be in three stages of 5 overs each, on request by captain.

Pitch : The area of ground between the wickets where bowler bowls the ball.

Drive : It is hitting the ball in front field.

Danger-Area : An area close to batsman where ball can cause accident if player is not active or without guard. This area is generally known as *silly-point*.

Hook-Shot : It is hitting the high raised ball with force towards the leg side.

Pull-Shot : It is hitting the ball forcefully with good back lift and follow-through action of bat goes towards the on side of field.

Square-Cut : It is hitting the straight coming ball towards the sides making ball to go perpendicular. It is performed with good batting technique by tilting the bat at last stage. It is towards both sides known as '*On Square-Cut, Leg Square-Cut*'.

Bad-Light : Due to some condition there is low intensity of light which creates problems to batsman, as they are not able to see the coming ball properly. In this condition, Umpire can declare bad light. Then match is supposed to stop.

Sight-Screen : It is a specified white or coloured screen kept behind the stumps (especially behind bowling stump) over the boundary line, to provide visibility of approaching bowler towards batsman. It is with the dimension of 6 metres in length and 3 metres high.

Ball-Dead : Ball finally settles in the hands of wicket-keeper or bowler ; batsman is out; ball reaches over the boundary ; ball lodges in clothing of players; Umpire calls for 'over' or 'time'.

30-Yard-Circle : An inner circle marked at 30 yards around the stumps. This circle is used during power play to restrain 9 fielders inside the 30 yard circle.

Lewis Douglas-Formula : It is a statistical calculation in which a revised target is given to the opponent team. It is calculated by deducting slow rate overs or low scoring over from first batting team, which has to be achieved within certain overs.

Bump-Ball : It is a hard hit to the ball over the ground by which the ball raises above the ground. When this ball is fielded it seems like a catch. Ball is played just under the lower edge of bat which gives appearance as the ball is hit in air.

Short-Leg : An extremely close leg-side fielding position between the square leg and the mid wicket.

Out-Fields : The grass area around the boundaries.

Run-Up : An approach run taken by bowler during bowling.

Toss : Deciding factor to choose batting or bowling by luck before the start of match.

Bails-Off : Fall of wicket by bowler's delivery of ball.

Cover-Drive : A batting stroke in which over pitched ball is played with full swing of bat towards the off-side area (between mid off and point fielding positions).

Straight-Drive : An over pitched ball is hit straight with full control of bat.

Cut : Batting skill where ball is played between slip and covers fielding positions.

Glance : Batting skill in which ball is angled between square-leg and fine-leg.

In-Swing : Fast paced ball which turns (after the bounce or after the release from hand) inside towards leg stump.

Out-Swing : Fast paced ball which turns away towards off-side stump.

Off-Spin : It is also known as *off-break*. In this, the spinner makes the ball to turn towards leg stump (on-side).

Leg-Spin : In this, ball is turned towards off-side of stumps by the spinner. It is also known as leg-break.

Duties of Umpires : They are the officials in ground responsible for administrating and imposing the rules and regulations of the game. There are two Umpires inside the ground; one stands behind the front wickets (facing batsman), the other Umpire observes from leg side of batting wicket (Leg Umpire). Umpire signals and declares the batsmen out ; short-run ; end of over ; boundary; beginning or end of power play ; no ball ; wide ball ; leg bye, bye ; time-out, time-over; obstruction ; break. Umpire has the authority to change the ball, announces bad light for play. Playground not fit for conduct of match, bad weather, performs the toss in the beginning, etc. The Leg Umpire checks the fielder's position especially during power play; to declare no-ball (above the waist, full toss and above the shoulder with bounce); short run towards batting stumps; hit wicket, stumped out, etc. Leg Umpire assists the bowling Umpire.

Duties of Third Umpire : The official who witnesses the match with high-tech. apparatus and responsible for crucial or complicate decisions when in need.

Duties of Captain : To perform the toss and choose accordingly. He is responsible for players conduct in the ground, take decision on the behalf of whole like declaration of team, etc. Captain guides the team actions like which bowler to bowl, fielders' position, the sequence of batting order, etc. Captain requests the beginning or end of power play, substitute, runner, etc.

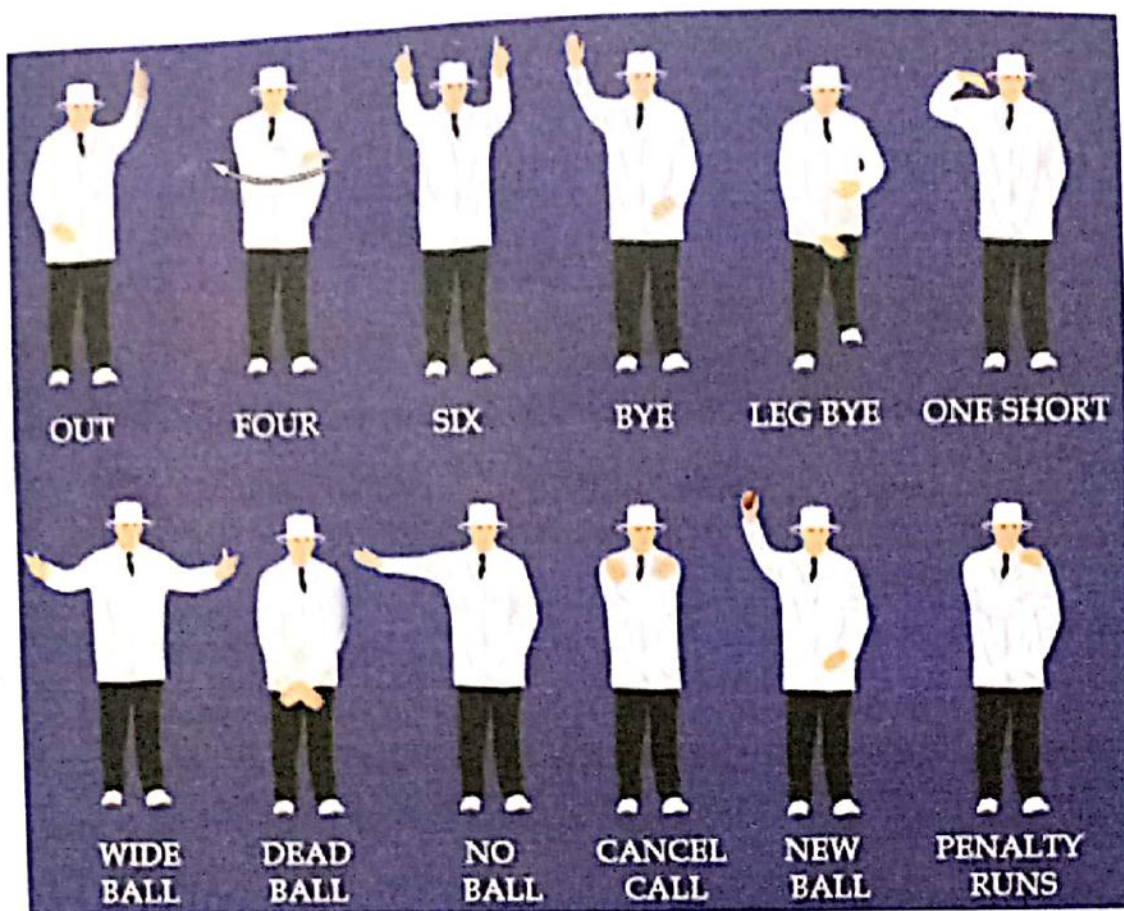
Important Tournaments

McGrath, R. Ponting.

IMPORTANT TOURNAMENTS AND VENUES

(a) Important Trophies/Tournaments/Championships : World Cup or ICC World Cup, Sharjah Cup, Asia Cup, Triangular Series, Ranji Trophy, Vizzi Trophy, Duleep Trophy, Deodhar Trophy, World Cup Junior, Challenger Trophy, Benson and Hedges Cup, Irani Trophy, National Games, Cooch Bihar; Rani Jhansi Trophy (W).

(b) Important Venues : Lords, Oval (England), Eden Garden (Kolkata), PCA Stadium (Mohali), Feroze Shah Kotla (Delhi), Chinna Swami Stadium (Bengalure), Burlton Park (Jalandhar), Wankhede Stadium (Mumbai), Chidambaram Stadium (Chennai), Roop Singh Stadium (Gwalior), Tau Devi Lal Stadium (Punchkula), K.D. Singh Babu Stadium (Lucknow), Sawai Man Singh Stadium (Jaipur), Green Park Stadium (Kanpur), Lal Bahadur Shastri Stadium (Hyderabad), Sardar Patel Stadium (Ahmedabad), Vidarbha C.A. Ground (Nagpur).



TYPES OF BATSMAN OUT

- (i) If the ball partially or completely destroys the wicket even if it touches the bat (*Clean Bowled*).
- (ii) When a batted ball is caught by a fielder before it touches the ground (*Catch-Out*).
- (iii) When the batsman's leg or any part of his body prevents the ball from touching the wicket (*Leg-Before-Wicket "LBW"*).
- (iv) If the batsman breaks the wicket by hitting it (*Hit-Wicket*).
- (v) If the batsman touches the ball with his hand (*Handling the Ball*).
- (vi) If the batsman gets in the way of an opponent trying to catch the ball (*Intentional Disturbance*).
- (vii) If the batsman runs towards wicket but does not get therein time to place his bat between the edge of the popping crease and an opponent breaks the wicket (*Run-Out*).
- (viii) If he is near his wicket but outside the pitch area, and the wicketkeeper breaks the wicket (*Stumped-Out*).
- (ix) If the batsman hits the ball intentionally for the second time (can stop but not to hit) then batsman can be declared out on an appeal (*Double-Hit*).
- (x) If the batsman does not report to face the bowler or unduly delays the match (*Timed-Out*).

Equipments

Specifications of Playfield and Basic Requirements/Equipments :

1. In the five day matches, players wear a white kit and in one day match, they wear a coloured kit. Shoes, socks, pad, gloves, guard, helmet and bat etc. are also part of kit.
2. 3 Wickets each are installed from one stump to another at a distance of 22 yards (20.12 mt) away from each other at the both ends of the pitch.
3. Bails
4. Bat and Ball
5. Pitch : The place or ground where bowling is done is called as pitch. It is 22 yards (20.12 metres) long and 10 feet (3.05 metre) wide.

Aaphe Physical Fitness Test

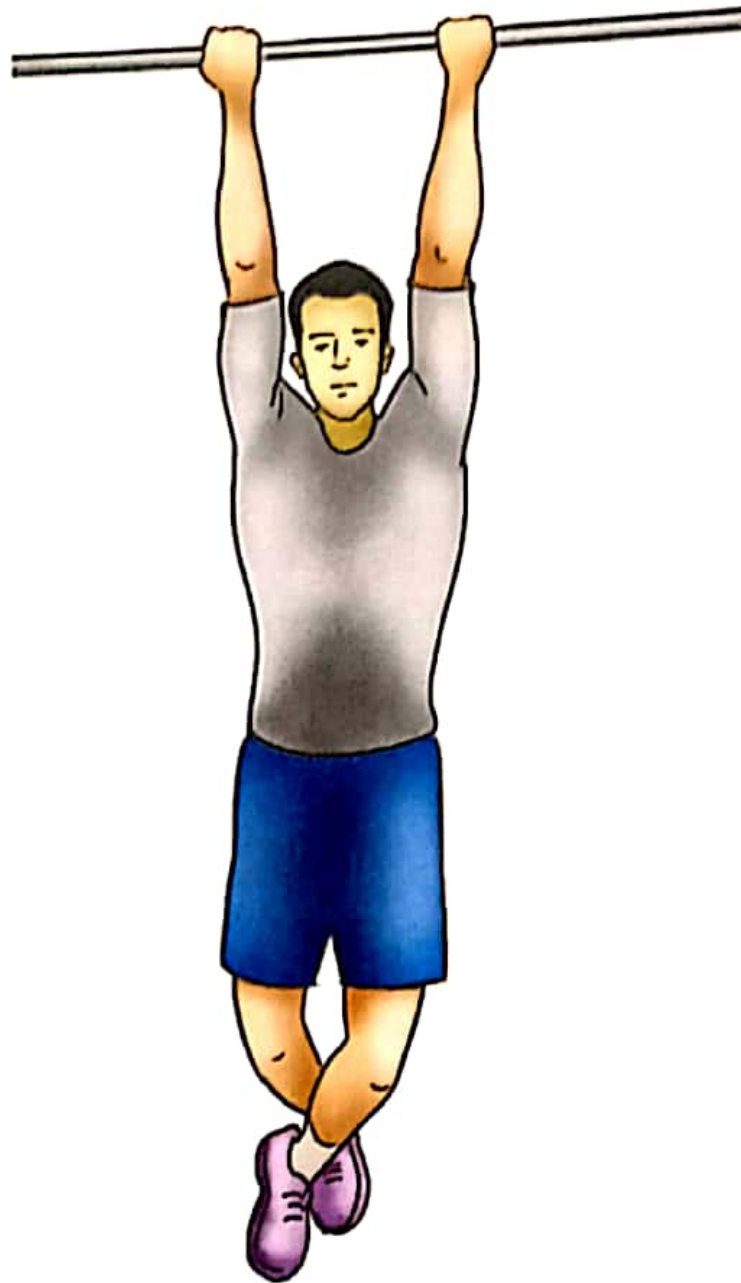
Aahper Test...

It is a motor fitness test. Earlier the name of this alliance was AAPHER i.e. American Alliance for health, physical edu. and recreation. but now it is known as AAPHERD i.e.

"American alliance for health, physical education recreation and dance" and is one of oldest organisations of USA. The 1st test was published in 1958 then was revised in 1965 and in 1976 final Test manual was prepared with following items.

- (a) Pull ups (for boys) & flexed arm hang (for girls)
- (b) Flexed leg situps
- (c) Shuttle run
- (d) Standing long jump.
- (e) 50 yard dash.
- (f) 600-yard run walk.

PULL-UPS FOR BOYS



Purpose: To measure arms and shoulder strength.

Equipment: A metal or wooden bar approximately 1½ inches in diameter and a stopwatch.

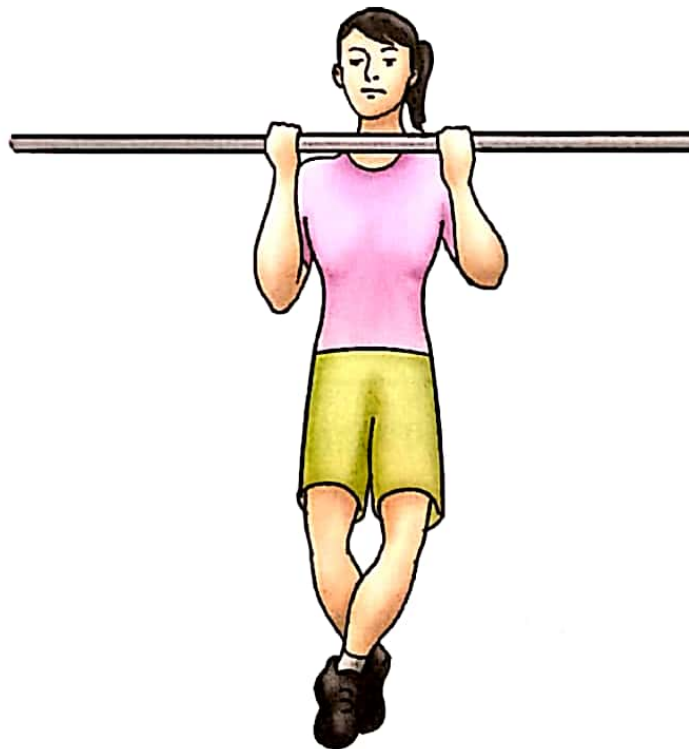
Procedure: The height of the bar is adjusted according to the height of the student. The student holds the bar

with his palms facing away from him and raises his body so that the chin reaches above the level of the bar. This test measures the total number of repetitions without taking rest by noting the number of pull-ups done. One score is awarded for every pull-up.

Rules: The student should not swing his body. The pull should not be a snap movement. In case this happens, the guide should extend his arms across the front of the student's thighs.

Scoring: The number of completed pull-ups is recorded to the nearest whole number.

FLEXED ARM HANG FOR GIRLS



Flexed arm hang for girls

Purpose: To measure arms and shoulder strength.

Equipment: A metal or wooden bar approximately 1½ inches in diameter and a stopwatch.

Procedure: The height of the horizontal bar is adjusted approximately equal to the standing height of the

② Flexed leg Sit ups ...

The student lies on the back with legs in flexed posⁿ i.e in bent knee position. One's hand should be behind the neck. Elbows must touch the knees while doing sit ups. The total number of repetitions are noted in 1 min.

BOYS

NO. OF SIT-UP IN 1 MINUTE

GIRLS



Scoring: The score is counted as the maximum number of sit-ups done in 1 minute.

SHUTTLE RUN



→ Shuttle run

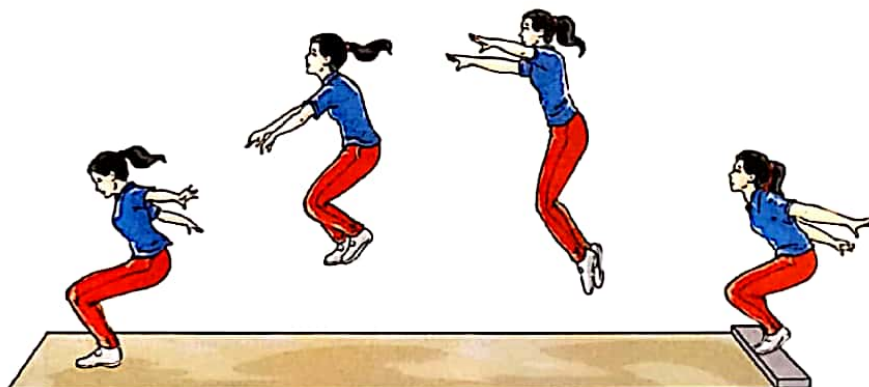
Purpose: To measure speed and agility.

Equipment: Two blocks of wood (2 × 2 × 4 inches) and a stopwatch.

Procedure: Two parallel lines are marked on the ground 30 feet apart, and two blocks of wood 2 × 2 × 4 inches are placed behind one of the lines. The student stands behind the other line. On start, the student runs towards the wooden blocks, picks one of them and runs back to the starting line, places it behind the starting line. They then run back and pick up the second block and carry it to the starting line. Two trials are allowed.

Scoring: The time taken in both trials are noted down and the best one is taken as final score.

STANDING LONG JUMP



→ Standing long jump

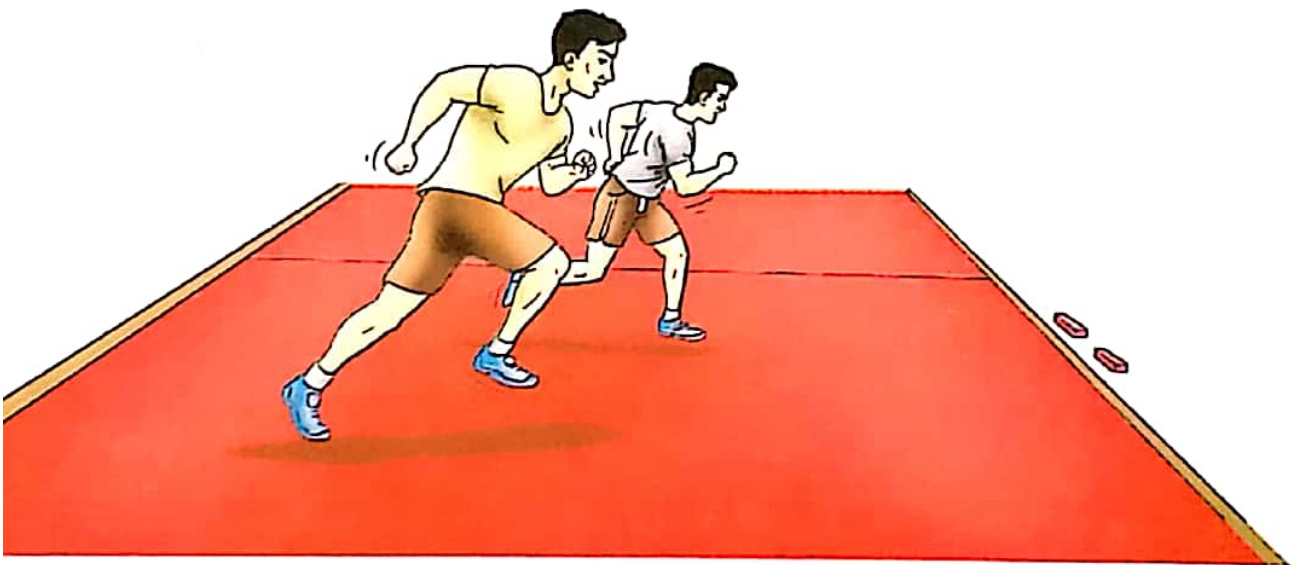
Purpose: To measure power.

Equipment: A mat or clean floor and a measuring tape.

Procedure: A take-off line is marked on the ground and the student stands behind this line with both feet apart. The student then swings the arms and bends the knees, and then jumps into the long jump pit. The distance from the take-off line to the heel or other part of body that touches the ground nearest to the take-off line is measured and noted in feet and inches. Three trials are given.

Scoring: The best score of the three is recorded as the final score.

50-YARD DASH



- 50-yard dash

Purpose: To measure speed.

Equipment: Stopwatch

Procedure: The students are asked to run 50 yards.

Scoring: The time taken is recorded as the score in seconds to the nearest tenth of a second. The time

taken is the amount of time between the starter's signal and the instant the student crosses the finish line.

600-YARD RUN



- 600-yard run/walk

Purpose: To measure endurance.

Equipment: Stopwatch.

Procedure: The students are asked to run or walk for a distance of 600 yards from a starting line.

Scoring: The time taken is recorded in minutes and seconds.

*Senior
Citizen
Fitness Test*

Even in old age, people want to be fit and be able to continue to do their work without pain as long as possible. It requires proper fitness regime during old age. In the beginning, there were not enough tests to assess functional fitness. This test is also known as **Fullerton Functional Test** of senior citizens. **Rikli and Jones** developed the Senior Citizen Fitness Test in 2001. This test has proved to be beneficial for senior citizens. It helps the early identification of at-risk participants. Along with this, it is significant to plan safe and effective physical exercise programmes for senior citizens because individual's health and fitness level can be known better with the help of this test. The Senior Citizen Fitness Test includes the following test items.

A. Chair Stand Test

Purpose. The main purpose of this test is to measure the lower body strength, particularly the strength of legs which is usually required for various tasks such as climbing stairs, getting in and out of vehicles, bath tub or chair.

Equipment Required. A chair with a straight back and a seat of at least 44 cm and a stopwatch.

Instructions for Participants

1. The participant should sit in the middle of the chair.
2. He should keep his hands on the opposite shoulder crossed at the wrists.
3. The feet should be flat on the floor.



Chair stand test

4. His back should be erect.

5. Repeat standing up and sitting down for 30 seconds.

Administration of Test: Keep the chair against the wall. The participant sits in the middle of the seat. His feet should be shoulder width apart and flat on the floor. The arms should be crossed at the wrists and held close to the chest. From the sitting position, the participant should stand up completely and then sit down completely at the start of the signal. This is repeated for 30 seconds. Count the total number of complete chair stands. In case the participant has completed a full stand from the sitting position when the time is finished the final stand is counted in the total.

Scoring. The score is the total number of completed chair stands during the given 30 seconds. The following table shows the recommended ranges for this test for different age groups.

Recommended Ranges for Chair Stand Test

Norms for Men			
Age	Below Average	Average	Above Average
60-64	<14	14 to 19	>19
65-69	<12	12 to 18	>18
70-74	<12	12 to 17	>17
75-79	<11	11 to 17	>17
80-84	<10	10 to 15	>15
85-89	<8	8 to 14	>14
90-94	<7	7 to 12	>12

Norms for Women			
Age	Below Average	Average	Above Average
60-64	<12	12 to 17	>17
65-69	<11	11 to 16	>16
70-74	<10	10 to 15	>15
75-79	<10	10 to 15	>15
80-84	<9	9 to 14	>14
85-89	<8	8 to 13	>13
90-94	<4	4 to 11	>11

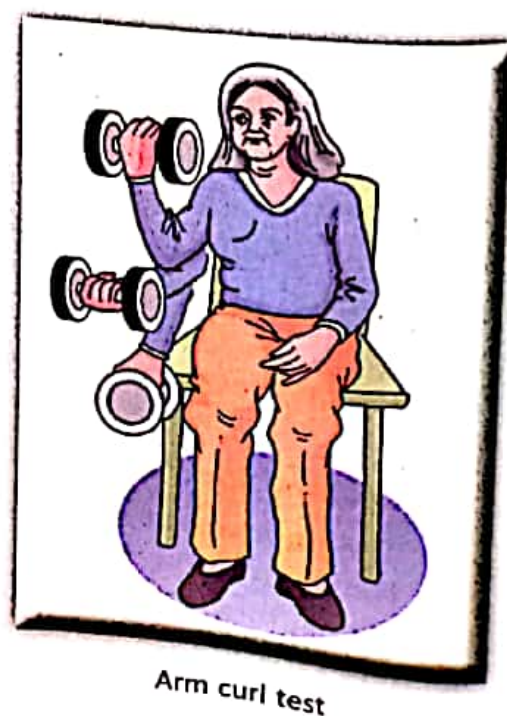
B. Arm Curl Test

The arm curl test is a test to measure the upper body strength. It is a part of the senior citizen fitness test. It is designed to test the functional fitness of aged people.

Purpose: The main purpose of this test is to assess the upper body strength and endurance which is required for performing household and other activities involving lifting and carrying things.

Equipment Required: A 5-pound weight for women and a 8-pound weight for men, a chair without arms and a stopwatch.

Procedure: The aim of the test is to find out the maximum number of arm curls that one can complete in 30 seconds. Arm curl is performed with the dominant arm side. The participant sits on the chair, holds the weight in the hand using a suitcase grip. It means the palms should be facing towards the body. The arm should be in



a vertically downward position. The upper arm should not move but lower arm should move freely. Curl the arm up through a complete range of motion gradually keeping the palm up. When the arm is lowered through the complete range of motion, gradually return to the starting position. The arm should be completely bent and then completely straightened at the elbow. This complete action should be repeated by the participant as many as times as possible within 30 seconds.

Scoring. The score is the total number of arm curls performed within the given 30 seconds duration. The following table shows the recommended ranges for the test for different age groups.

Recommended Ranges for Arm Curl Test

Norms for Men			
Age	Below Average	Average	Above Average
60-64	<16	16 to 22	>22
65-69	<15	15 to 21	>21
70-74	<14	14 to 21	>21
75-79	<13	13 to 19	>19
80-84	<13	13 to 19	>19
85-89	<11	11 to 17	>17
90-94	<10	10 to 14	>14

Norms for Women			
Age	Below Average	Average	Above Average
60-64	<13	13 to 19	>19
65-69	<12	12 to 18	>18
70-74	<12	12 to 17	>17
75-79	<11	11 to 17	>17
80-84	<10	10 to 16	>16
85-89	<10	10 to 15	>15
90-94	<8	8 to 13	>13

C. Chair Sit-and-Reach Test

Purpose: To assess the lower body flexibility, which is important for good posture, normal gait patterns and various mobility tasks such as getting in and out of bath tub or car.

Equipment required: Ruler, a chair with straight back approximately 44 cm high.

Procedure: The participant sits on the edge of the chair (kept against a wall for safety purpose). One foot should remain flat on the floor while the other leg should be extended forward with the knee in straight position.

Heel should be on the floor and ankle should be bent at 90°. Place one hand on the top of the other with tips of the middle fingers at the same level. Instruct the participant to inhale and then as he exhales, reach forward towards the toes by bending at the hip. His back should be straight and head up. Avoid any jerk or bounce and never stretch too much. Keep the knee straight and hold the reach for 2 seconds. The distance is measured between the



Chair sit-and-reach test

tip of the finger tips and the toes. If the finger tips touch the toes then the score is zero. If they do not touch, measure the distance between the fingers and the toes (negative score). If they overlap, measure the distance (positive score).

Scoring. The score is noted down to the nearest 1/2 inch or 1 cm as the distance reached either a negative or positive score. The following table shows the recommended norms in inches for this test for the different age groups.

Recommended Ranges for Sit-and-Reach

Norms for Men (in inches)				Norms for Women (in inches)			
Age	Below Average	Average	Above Average	Age	Below Average	Average	Above Average
60-64	<-2.5	- 2.5 to 4.0	>4.0	60-64	<- 0.5	- 0.5 to 5.0	>5.0
65-69	<-3.0	- 3.0 to 3.0	>3.0	65-69	<- 0.5	- 0.5 to 4.5	>4.5
70-74	<-3.5	- 3.5 to 2.5	>2.5	70-74	<- 1.0	- 1.0 to 4.0	>4.0
75-79	<-4.0	- 4.0 to 2.0	>2.0	75-79	<- 1.5	- 1.5 to 3.5	>3.5
80-84	<-5.5	- 5.5 to 1.5	>1.5	80-84	<- 2.0	- 2.0 to 3.0	>3.0
85-89	<-5.5	- 5.5 to 0.5	>0.5	85-89	<- 2.5	- 2.5 to 2.5	>2.5
90-94	<-6.5	- 6.5 to 0.5	>- 0.5	90-94	<- 4.5	- 4.5 to 1.0	>1.0

D. Back Scratch Test

Purpose: This test helps to assess the upper body (shoulder) flexibility, which is essential for a person to perform various jobs such as combing hair, putting on overhead garments, reaching for a seat belt, etc.

Equipment Required: A ruler.

Procedure: This test is performed in a standing position. Keep one hand behind the head and lower it down gradually over the shoulder and reach as far as possible at the middle of your back. Your palm should touch your body and the fingers should be downwards. Then carry your other arm behind your back with palm facing outward and fingers facing upward and try to reach up as far as possible in order to touch or overlap the middle finger of the other hand. Fingers should be aligned. Measure the distance between the tips of the fingers.

If the finger tips touch then the score is zero. If they do not touch measure the distance between the fingertips (negative score). If they overlap measure the distance (positive score). Let the participant practise twice and then two trials be conducted.



Back scratch test

Scoring. Record the best score out of the two trials to the nearest centimetre or 1/2 inch. The following table shows the recommended norms (in inches) for this test for different age groups.

Recommended Ranges for Back Scratch Test

Norms for Men (in inches)				Norms for Women (in inches)			
Age	Below Average	Average	Above Average	Age	Below Average	Average	Above Average
60-64	>6.5	6.5 to 0	<0	60-64	>3.0	3.0 to 1.5	<1.5
65-69	>7.5	7.5 to -1.0	<-1.0	65-69	>3.5	3.5 to 1.5	<1.5
70-74	>8.0	8.0 to -1.0	<-1.0	70-74	>4.0	4.0 to 1.0	<1.0
75-79	>9.0	9.0 to -2.0	<-2.0	75-79	>5.0	5.0 to 0.5	<0.5
80-84	>9.5	9.5 to -2.0	<-2.0	80-84	>5.5	5.5 to 0	<0
85-89	>10.0	10.0 to -3.0	<-3.0	85-89	>7.0	7.0 to -1.0	<-1.0
90-94	>10.5	10.5 to -4.0	<-4.0	90-94	>8.0	8.0 to -1.0	<-1.0

E. Eight Foot Up and Go Test

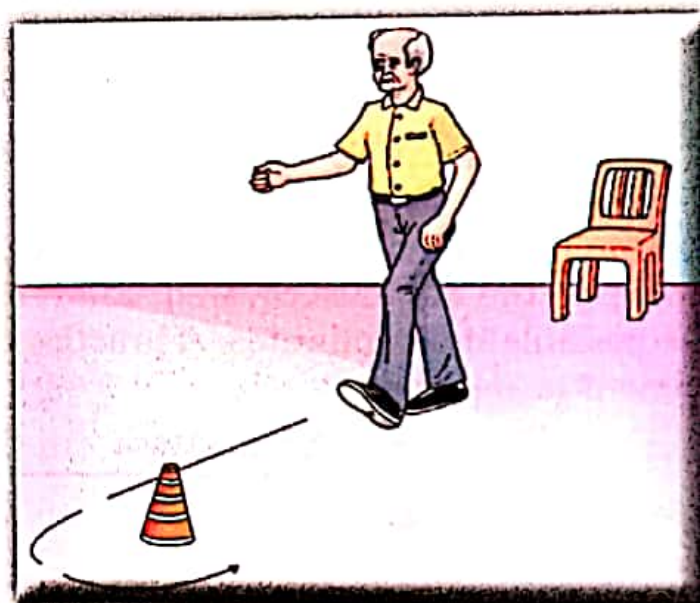
This test is conducted to assess coordination and agility in aged people.

Purpose: This test helps to evaluate speed, agility and balance of a person while moving. These are important factors in performing jobs which require quick manoeuvring, such as getting off a bus in time, to answer the phone, etc.

Equipment Required. A chair with straight back (about 44 cm high), a stopwatch, cone marker, measuring tape and an area without any hindrances.

Procedure: Keep a chair next to the wall and place the cone marker 8 feet away in front of the chair. The participant is initially completely seated, hands resting on the knees and feet flat on the ground. On the command 'Go', stopwatch is switched and the participant stands and walks (no running at all) as quickly as possible towards the cone, turns around and returns to the chair to sit down. Time is noted as he sits down on the chair. Two trials are given per participant.

Scoring. The best trial is recorded to the nearest 1/10th second. The table shows the recommended norms or ranges in seconds for this test for different age groups.



Eight foot up and go test

Recommended Ranges for Eight Foot Up and Go Test

Norms for Male (in Seconds)			
Age	Below Average	Average	Above Average
60-64	>5.6	5.6 to 3.8	<3.8
65-69	>5.7	5.7 to 4.3	<4.3
70-74	>6.0	6.0 to 4.2	<4.2
75-79	>7.2	7.2 to 4.6	<4.6
80-84	>7.6	7.6 to 5.2	<5.2
85-89	>8.9	8.9 to 5.3	<5.3
90-94	>10.0	10.0 to 6.2	<6.2

Norms for Female (in Seconds)			
Age	Below Average	Average	Above Average
60-64	>6.0	6.0 to 4.4	<4.4
65-69	>6.4	6.4 to 4.8	<4.8
70-74	>7.1	7.1 to 4.9	<4.9
75-79	>7.4	7.4 to 5.2	<5.2
80-84	>8.7	8.7 to 5.7	<5.7
85-89	>9.6	9.6 to 6.2	<6.2
90-94	>11.5	11.5 to 7.3	<7.3

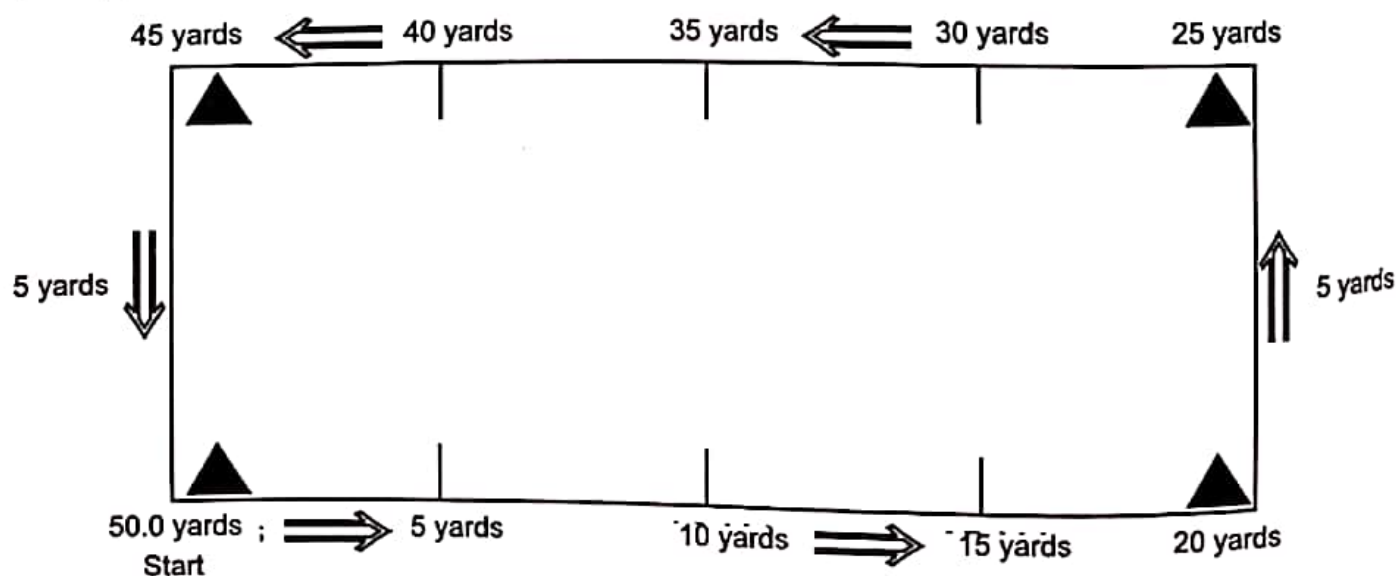
F. Six-minute Walk Test

The six-minute walk test is designed to test the functional fitness of senior citizens.

Purpose. This test helps to assess the aerobic fitness or aerobic endurance of a person which is an essential component for walking distances, stair climbing, shopping, sightseeing, etc.

Equipment Required. A measuring tape, a stopwatch.

Procedure: The walking distance or course is marked i.e., 45.72 m or 50 yards in a rectangular area (20 × 5 yards) of 5 yards with cones placed at regular intervals to indicate the distance covered. Efforts are made to walk maximum distance as quickly as possible in six minutes. A practice trial is given to the participant. He may stop any time if he desires so.



Six-minute Walk Test

Scoring. The total distance covered in six minutes is recorded to the nearest metre.

Recommended Ranges for Six-Minute Walk Test

Norms for Male (in yards)				Norms for Female (in yards)			
Age	Below Average	Average	Above Average	Age	Below Average	Average	Above Average
60-64	<610	610 to 735	>735	60-64	<545	545 to 660	>660
65-69	<560	560 to 700	>700	65-69	<500	500 to 635	>635
70-74	<545	545 to 680	>680	70-74	<480	480 to 615	>615
75-79	<470	470 to 640	>640	75-79	<430	430 to 585	>585
80-84	<445	445 to 605	>605	80-84	<385	385 to 540	>540
85-89	<380	380 to 570	>570	85-89	<340	340 to 510	>510
90-94	<305	305 to 500	>500	90-94	<275	275 to 440	>440

YOGA

HISTORY

The word '*yoga*' comes from the Sanskrit word '*yuj*' which commonly means 'to add', 'to join', 'to unite', or 'to attach'. Yoga can be called a spiritual discipline which focuses on bringing harmony between mind and body.

Yoga is believed to have historically existed in the pre-Vedic period (2700 BCE) of ancient India. Various sages and practitioners have contributed to preserving and developing yoga into the form we know today. The period 1700 to 1900 CE is considered as Modern Period in the history of yoga. Ramana Maharshi, Ramakrishna Paramhansa, Paramhansa Yogananda, Vivekananda, among others, contributed to the development of Raja Yoga during this period.

Yoga is now practised widely for physical fitness and mental well-being. It has been popularised in many countries through the teachings of Swami Shivananda, Shri T Krishnamacharya, Swami Kuvalayananda, Shri Yogendra, Swami Rama, Sri Aurobindo, Maharishi Mahesh Yogi, Acharya Rajneesh, K Pattabhi Jois, B K S Iyengar, and Swami Satyananda Sarasvati.

ASANAS FOR OBESITY

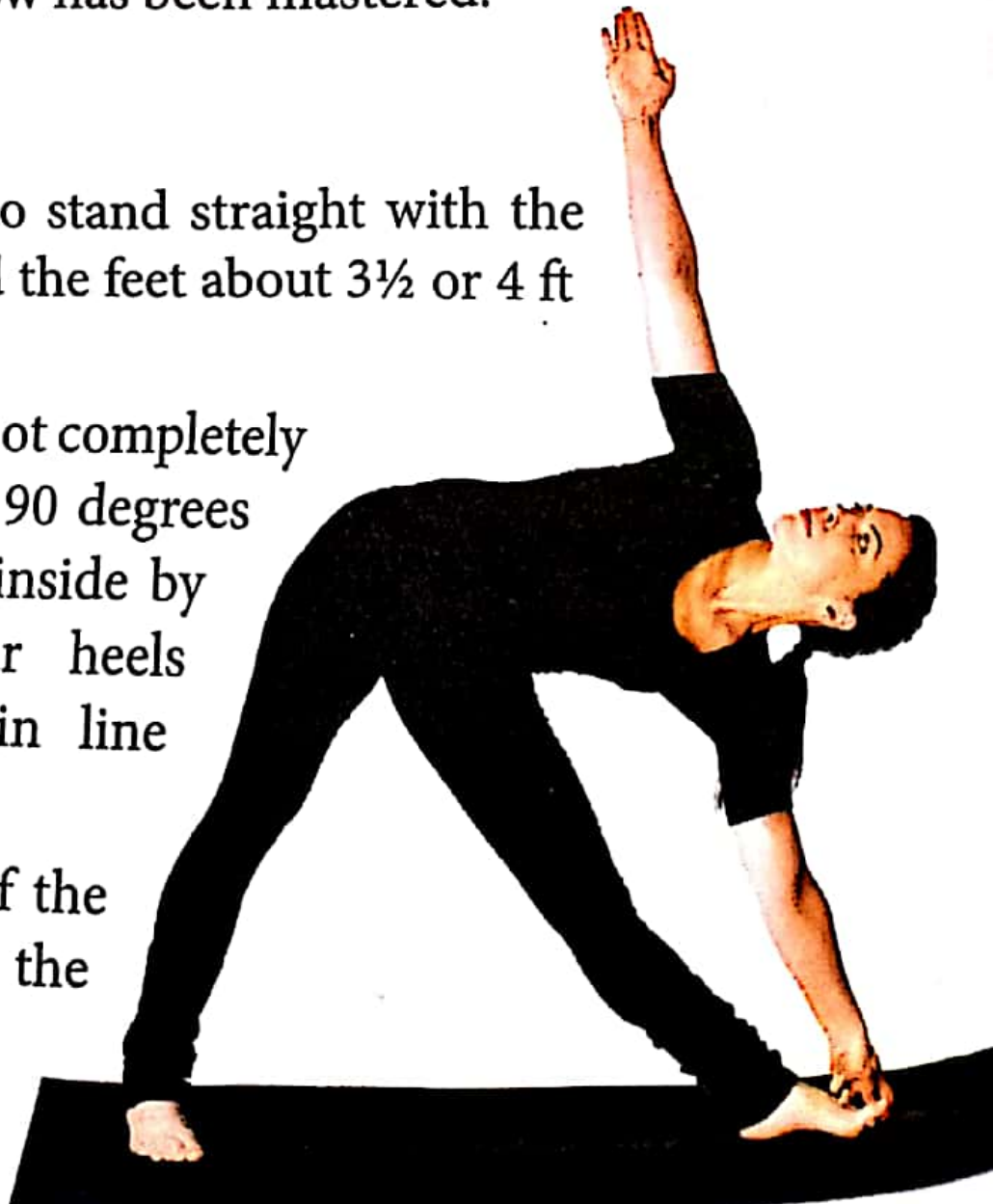
Obesity is a physical condition in which a person has accumulated so much body fat that it might have a negative effect on her/his health. Obese people are prone to several potential diseases, such as arthritis, hypertension, cancer, flat foot, respiratory disease, liver problem, diabetes, etc. Obesity can be caused by genetics, overeating, eating frequently, physical inactivity, and also psychological factors.

Trikonasana

Trikonasana, or the Triangle Pose ('*trikona*' for 'triangle'), is another standing yoga pose which those wanting to control their weight will find useful. It has three advanced forms: *utthita trikonasana* (extended triangle pose), *baddha trikonasana* (bound triangle pose) and *parivrtta trikonasana* (revolved triangle pose), which should be done only after the basic procedure given below has been mastered.

Procedure

1. The first step is to stand straight with the knees unbent and the feet about 3½ or 4 ft apart.
2. Turn your right foot completely to the outside by 90 degrees and the left foot inside by 15 degrees. Your heels should be kept in line with the hips.
3. Align the centre of the right heel with the centre of the arch of the left foot. Your feet should



press the ground firmly and the weight of the body should be equally balanced on both the feet.

4. Spread your arms to the sides. They should be parallel to the ground with the palms facing down. Extend your trunk to the right.
5. Drop the right arm so that the right hand reaches the front of the right foot.
6. Now, extend the left arm vertically. Twist the spine and trunk gently in a counter-clockwise direction. This time, the spine should remain parallel to the ground.
7. Stretch the arms away from one another. You may turn your head and look up to intensify the spinal twist.
8. Hold this position for 5 to 10 breaths. Inhale deeply. Relax your body with each exhalation.
9. Repeat the posture by switching the position of the legs.

Benefits

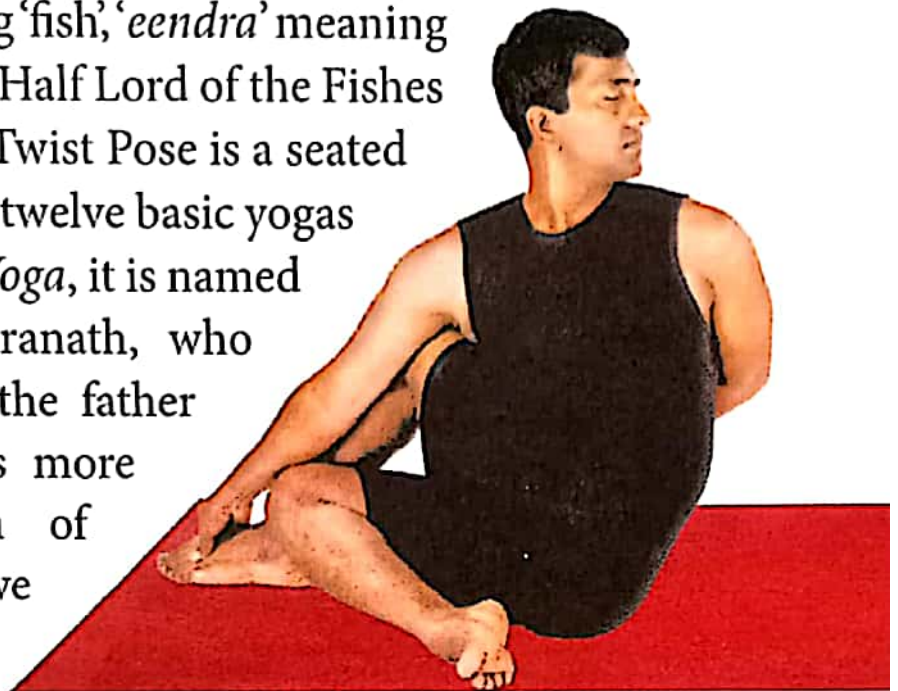
- ❖ It relieves gastritis, indigestion, flatulence, and acidity. Since it helps burn fat, it is highly recommended for those hoping to lose excess weight.
- ❖ It also improves flexibility of the spine and corrects the posture of the shoulders.
- ❖ It massages the pelvic organs and strengthens them.
- ❖ It reduces stiffness in the back, neck, shoulders and knees.
- ❖ It reduces anxiety and stress.
- ❖ It improves blood circulation and strengthens and stretches the hips, back, arms, thighs and legs.

Contraindications

1. This asana should be avoided by those who have migraine, diarrhoea, blood pressure problems or injuries of the neck and back.
2. Those with high blood pressure should not raise their hand overhead if they want to try this pose, as the stance may raise the blood pressure.
3. Beginners should practise this under the guidance of an expert.
4. Those with cervical spondylosis should not look up for too long.
5. Those with a heart condition should practise against a wall and avoid raising the arm. Rather the arm should rest along the hip.

Ardha Matsyendrasana

Ardha Matsyendrasana ('*Ardha*' meaning 'half', '*matsya*' meaning 'fish', '*eendra*' meaning 'king'), also known as Half Lord of the Fishes Pose and Half Spinal Twist Pose is a seated yoga pose. One of the twelve basic yogas performed in *Hatha Yoga*, it is named after Yogi Matsyendranath, who is considered to be the father of Hatha Yoga. It is more complicated version of *Vakrasana*, which we will read about later.



Procedure

Figure 12.4 Ardha Matsyendrasana

1. First, sit up with the legs stretched out straight in front of you. Keep the feet together and the spine erect.
2. Bend your right leg. Place the heel of the right foot beside the left hip, and bring the left leg over the right knee.
3. Place the right hand on the left leg and the left hand behind you.
4. Gently twist your waist, shoulders and neck in this sequence to the left, looking over the left shoulder. Your spine should be erect.
5. Hold the position for a few seconds, keeping your breath steady.
6. Exhale and release the left hand first, followed by the waist, chest, and then finally the neck.
7. Sit up relaxed yet straight. Repeat with the other side.

Benefits

- ❖ The twisting position massages the abdominal organs, increasing the release of digestive juices and improving the functioning of the digestive system.
- ❖ It brings relief from stiffness, stress and tension in the back.
- ❖ By opening up the chest, it greatly increases the supply of oxygen to the lungs.
- ❖ It also loosens up the hip and makes the spine more flexible.
- ❖ It improves the circulation of blood.
- ❖ It improves the flexibility of the back muscles, leg muscles, etc. and tones the muscles.

ASANAS FOR BACK PAIN

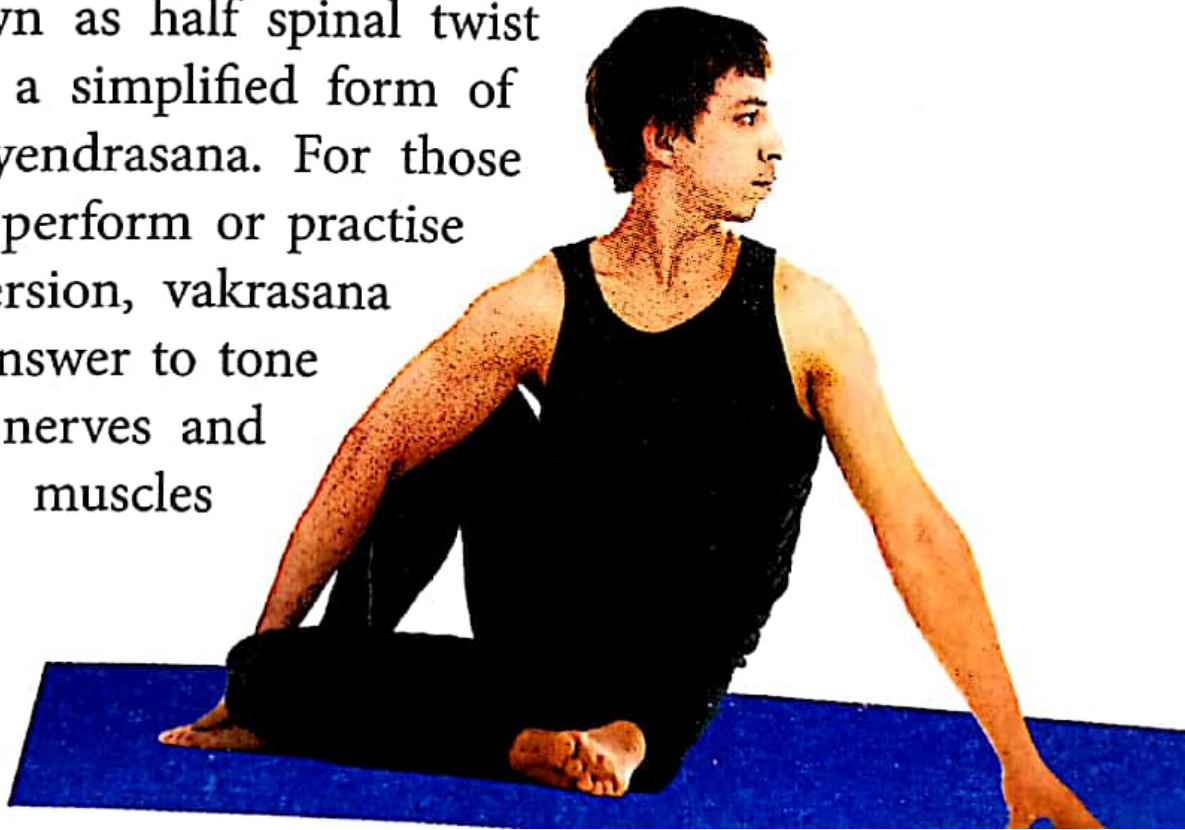
Back pain is pain felt in the back and may be neck pain (cervical), middle back pain (thoracic), lower back pain (lumbar), or coccydynia (tailbone). It may differ in intensity or duration. Sometimes, it may extend to the hands and feet.

The common causes of back pain are incorrect body posture resulting from poor build of the body or slouching due to use of electronic gadgets, accidents, excessive weight, muscle strains and/or spasms, sports injuries, lack of exercise, etc.

Vakrasana

Vakrasana ('*vakra*' meaning 'twisted') is also known as half spinal twist pose and is a simplified form of Ardha Matsyendrasana. For those who cannot perform or practise the fuller version, vakrasana can be the answer to tone their spinal nerves and abdominal muscles and organs.

Figure 12.15
Vakrasana



Procedure

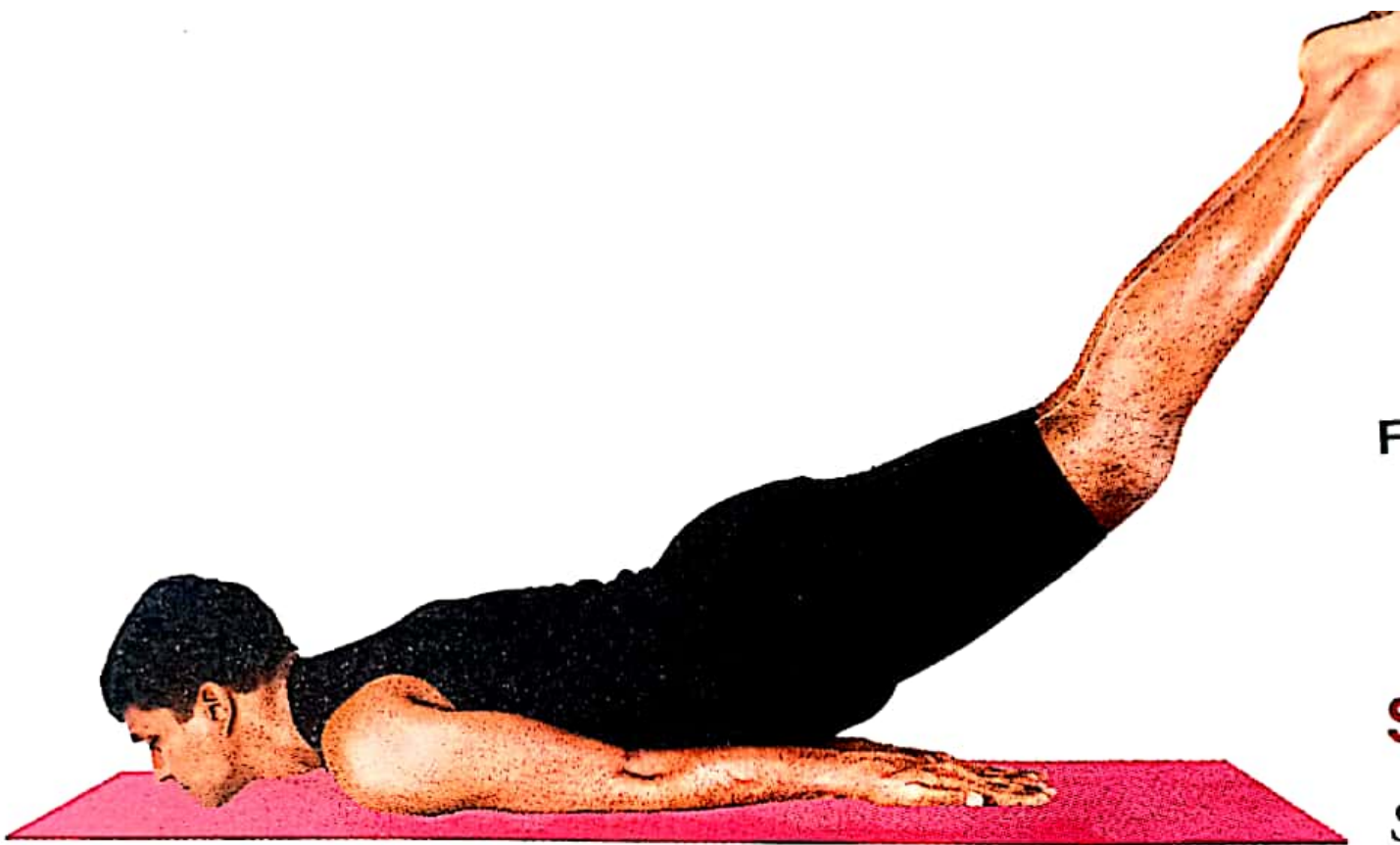
1. Sit down and stretch out your legs. Rest your hands beside your thighs or buttocks.
2. Keep your right leg straight and stretched.
3. Place your left foot beside the right knee as you keep your left knee raised upward.
4. Inhale and straighten your elbows by raising the shoulder. As you exhale, twist your body to the left by placing the right arm by the outer side of the left knee and with your right hand, hold on to the left ankle. Then place the left hand behind the back by resting the palm on the floor.
5. Turn your head backward from the left side. The final position of each stage should be held while breathing naturally. Hold the position as long as it is comfortable.
6. Next, inhale and straighten the elbow of your right arm by raising your shoulder. As you exhale, release your body that is twisted towards the left by placing your right hand by the side of the right buttock and left hand by the side of the left buttock.
7. Relax as you take a deep breath. Repeat the same steps on the other side.

Benefits

- ❖ It helps to reduce abdominal fat, which can cause back pain. It also improves the function of the spine.
- ❖ It massages the abdominal organs and enhances digestion by regulating the secretion of digestive juices.
- ❖ Among other things, it strengthens the kidneys and prevents enlargement of the liver and spleen.

Contraindications

This asana should not be performed by individuals who have ulcer and liver problems.



Shalabhasana

- *Shalabhasana* ('shalabh' meaning 'locust'), also known as locust pose because the body looks like a locust or a grasshopper, is simple to do and suitable for everybody. This asana is especially beneficial for the spine.

Procedure

1. Lie down on your stomach and place both hands underneath the thighs.
2. Inhale and lift up your outstretched right leg. Rest your chin on the ground.
3. Maintain this position for 10 to 20 seconds. Then exhale and bring back your leg to its initial position.
4. Follow the same steps with your left leg and repeat the cycle 5 to 7 times.
5. Inhale and lift up both your legs without bending the knees. Repeat the same process for both your legs 2 to 4 times.

Benefits

- ❖ It is beneficial for the disorders of the lower end of the spine, especially backache and sciatica.
- ❖ It helps in reducing extra fat around the abdomen, waist, hips and thighs.
- ❖ It has the ability to cure cervical spondylitis and spinal cord ailments if practised daily.
- ❖ It strengthens the muscles at the back.

Contraindications

1. Do not practise this asana if you have injured or weak knees.
2. Also, avoid this pose if you have an injured ankle.

ASANAS FOR HYPERTENSION

An increase in blood pressure beyond normal level is called hypertension. The main function of the heart is to supply purified blood to various parts of the body through the arteries. When the heart contracts, it pushes the blood through the blood vessels and consequently the blood pressure increases in the arteries. This pressure is called systolic blood pressure. When the heart muscle is relaxed between beats, it is said to be in diastolic mode. The systolic and diastolic pressure represent the maximum and minimum pressure respectively. Normal blood pressure at rest should be within the range of 100–140 mm/Hg systolic (which is the top reading), and 60–90 mm/Hg diastolic (bottom reading).

Hypertension may lead to strokes, aneurysms, arterial diseases and even chronic kidney diseases. It is a major cause of death throughout the world.

Causes of Hypertension

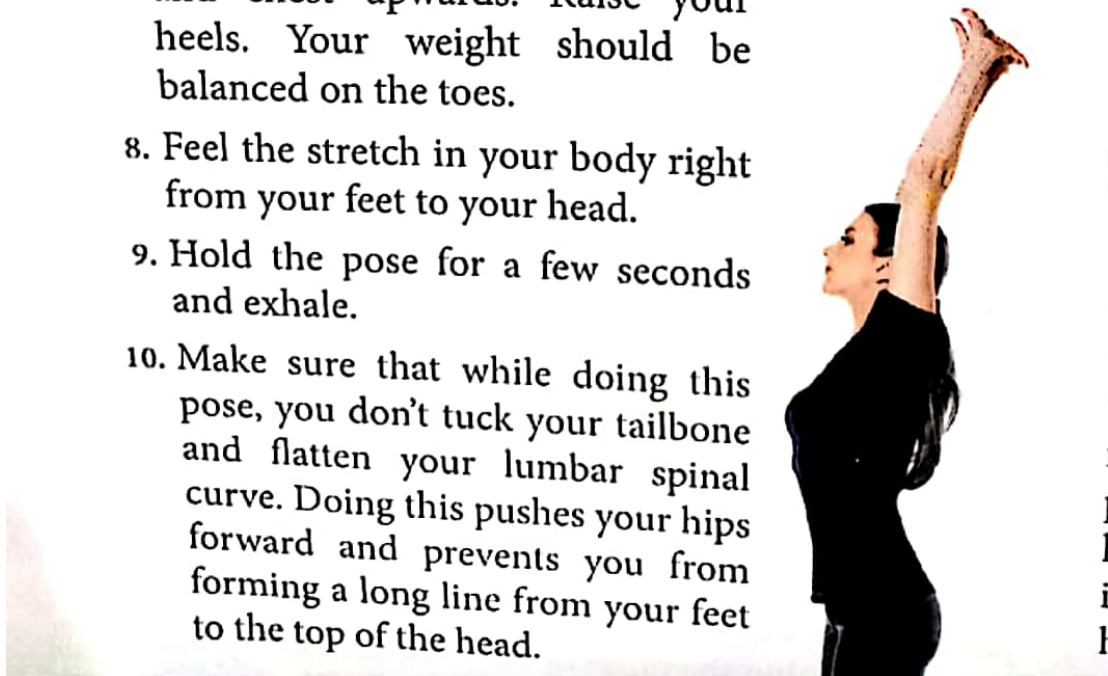
- ❖ Genetic causes
- ❖ Unhealthy lifestyle
- ❖ Obesity
- ❖ Lack of exercise

Tadasana

The prefix 'tada' means 'palm', so this asana is also referred to as palm tree pose. Alternatively, it is also called the mountain pose. It is a simple preparatory asana which can be used to warm-up before taking on complicated poses. Though it can be performed at any time of the day, it is recommended that you do it 4-6 hours after taking your meals.

Procedure

1. Stand erect with your feet together and your arms at the sides. Breathe steadily.
2. Distribute your body weight evenly on the feet. Then lift and spread your toes and the balls of your feet. Lay them gently on the ground.
3. Make your thigh muscles firm and lift your knee caps. This should be done with the relaxation of the abdominal muscles.
4. Lift your inner ankles to strengthen the inner arches.
5. Turn your upper thighs slightly inward.
6. Elongate your tailbone towards the floor and lift your pubis towards your navel.
7. Now breathe in and stretch your shoulders, arms and chest upwards. Raise your heels. Your weight should be balanced on the toes.
8. Feel the stretch in your body right from your feet to your head.
9. Hold the pose for a few seconds and exhale.
10. Make sure that while doing this pose, you don't tuck your tailbone and flatten your lumbar spinal curve. Doing this pushes your hips forward and prevents you from forming a long line from your feet to the top of the head.



Benefits

- ❖ It strengthens the chest and improves respiration, and opens up the heart and spine. The flow of blood in the arteries thus becomes more fluid and smooth.

- ❖ It enhances the nervous system, strengthening your ability to focus.
- ❖ It improves posture, and makes the buttocks and abdomen firmer.
- ❖ It strengthens the thighs, knees, and ankles, in addition to increase their flexibility.

Contraindications

1. Tadasana should be carried out with caution by those suffering from headaches, insomnia or low blood pressure.
2. Hyper extension of the knee can cause knee problems.
3. This asana should be avoided during pregnancy.

Pavanmuktasana

Pavanmuktasana ('pavan' meaning 'wind', and 'mukta' meaning 'free'), also known as wind removing pose or wind liberating pose, is a bending pose in which the practitioner lies supine to release tension in the abdomen and back area.



Figure 12.7 Pavanmuktasana

Procedure

1. Ideally, this asana should be performed in the morning in order to get rid of gas inside your body. It is particularly effective to do it as the first step of your morning routine since it will make other poses easier. If not, then allow at least four to six hours to pass after your meal.
2. Lie on your back on a smooth and flat surface and keep the legs straight and relax.
3. Inhaling slowly, raise your legs and bend the knees. Bring them gradually towards the chest till your thighs touch the stomach.
4. Clasp your hands around your legs to hug your knees. Lock your fingers to secure the position.
5. Next, try to touch the knee with the nose tip.
6. Hold this position for 20 to 30 seconds.
7. Exhale slowly and undo the pose after you roll from side to side about three to five times. Relax.
8. Practise 3 to 5 cycles daily.

Benefits

- ❖ It strengthens the abdominal muscles and massages the intestines and internal organs of the digestive system. Consequently, trapped gases are released and digestion is enhanced.
- ❖ It helps burn fat in the thighs, buttocks, and abdominal area, thereby contributing to loss of weight.
- ❖ It also brings relief from menstrual cramps and pain in the lower back.
- ❖ It boosts blood circulation in the hip areas.

Contraindications

1. Those who have had abdominal surgery recently or are suffering from hernia or piles must avoid this asana.
2. Pregnant women must avoid this asana in order to avoid causing stress to the body or causing complications.
3. It should also be avoided by patients of heart problems, hyper-acidity, high blood pressure, slipped disc, hernia, back and neck problems, or a testicle disorder.
4. An individual with a neck injury should practise this asana with her/his head resting on the floor, and only with the approval of a doctor.

ASANAS FOR DIABETES

Diabetes Mellitus, or diabetes, is a disease that causes sugar to build-up in our blood. Our body uses a hormone called insulin to control the level of sugar in our blood. When the body fails to produce sufficient amount of insulin or when insulin does not work properly, diabetes occurs. This disease, also known as 'blood sugar', is characterised by hyperglycaemia (high blood sugar level), glucosuria (glucose in the urine), polydipsia (excessive thirst) and polyphagia (excessive appetite). Tiredness, blurred vision, poor immunity, slow recovery from wounds, excessive weight gain or loss are other common symptoms.

There are three main types of diabetes:

1. **Type 1 (insulin dependent):** The pancreas gland does not produce insulin.
2. **Type 2 (insulin independent):** An inherited variety that normally appears after the age of 40 years in which cells fail to respond to insulin properly. The primary cause is excessive weight and lack of physical activity.
3. **Type 3 (gestational diabetes):** It occurs when pregnant women without a history in diabetes suddenly develop a high blood sugar level.

Bhujangasana

Bhujangasana ('*bhujang*' meaning 'cobra'), also known as cobra pose is a back bending pose which forms the eighth pose of the twelve poses of *Surya Namaskar*. It should be practised on an empty stomach; you should have taken your meals at least four to six hours before practising this pose. The best timing for performing this asana is early morning.

Procedure

1. First, you must lie flat on your stomach with forehead touching the floor. Place your hands on the side of your thighs.

2. Move your hands to the front, keeping them at the shoulder level, and place your palms on the floor.
3. Balancing your body's weight on the palms, breathe in and slowly raise your head and trunk. Your arms should be bent at your elbows at this stage.
4. Work towards arching your neck backward. This is done to assume the pose of a cobra with a raised hood. It is important that your shoulder blades remain firm and that your shoulders are away from your ears.
5. Press your hips, thighs and feet to the floor.
6. Hold the position for 15–30 seconds while breathing normally.
7. To undo the pose, slowly bring your hands back to the sides. Rest your head on the ground by bringing your forehead in contact with the floor. Place your hands under your head. Then, slowly rest your head on one side and breathe.

Benefits

- ❖ It puts the abdominal muscles and shoulders to work, increasing the circulation of the blood and oxygen in those regions, which in turn raises the body temperature and boosts the body's metabolism to levels that are beneficial at controlling diabetes.
- ❖ It fights acidity, indigestion and constipation, and helps the practitioner lose weight.
- ❖ It enhances the function of the liver, kidney, pancreas and gall bladder.
- ❖ It strengthens the arms and shoulders.

Contraindications

Contraindications

1. Those with severe back problems, neck problems, hernia and carpal tunnel syndrome and pregnant women should avoid this *yoga* pose.
2. Those suffering from stomach disorders like ulcers and intestinal tuberculosis should perform this under the guidance of a trained expert.

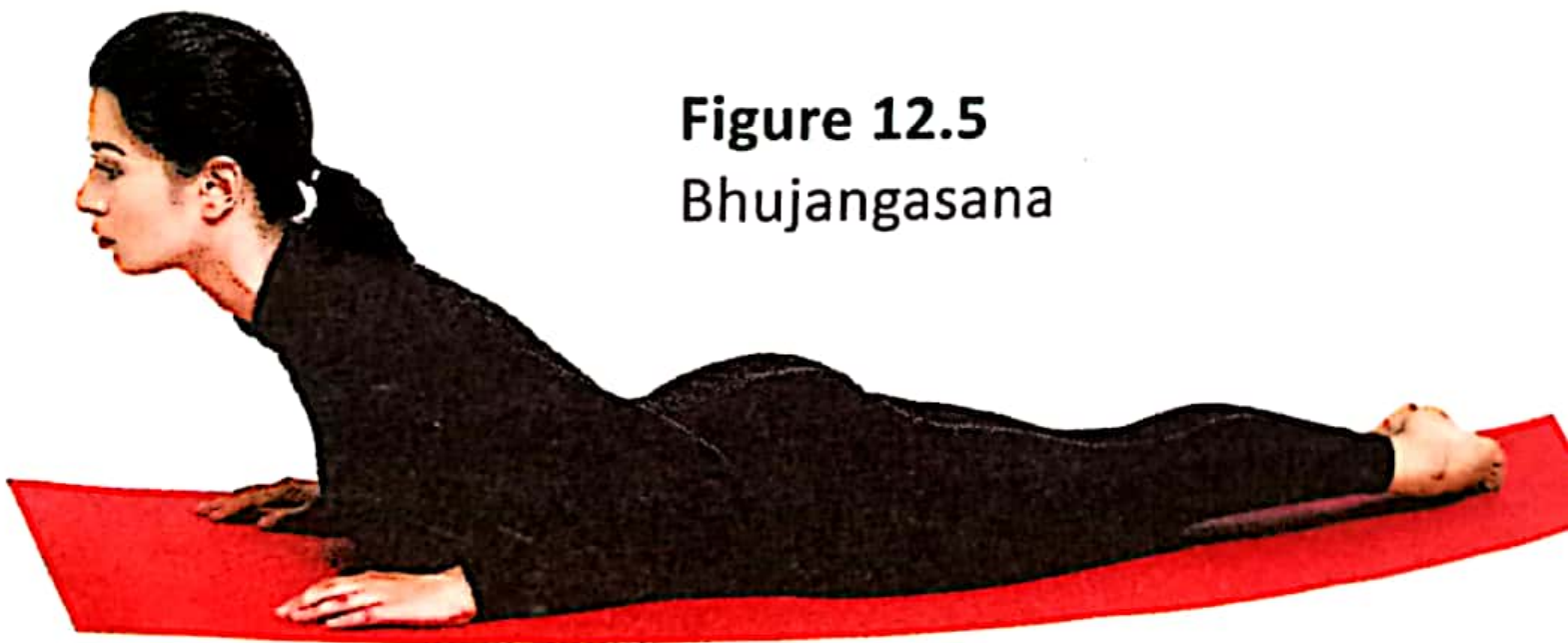


Figure 12.5
Bhujangasana



Figure 12.6 Paschimottasana

Paschimottasana

Paschimottasana ('*paschim*' meaning 'west', or backside of the body, and '*uttana*' meaning 'stretch'), also known as seated forward bend pose is a sitting pose used for stretching the spine. It is particularly beneficial for diabetic people.

Procedure

1. The first step is to lie down on your back on a mat. Your legs should be straight.
2. Stretch your hands upward, keeping your fingers straight. Inhale deeply.
3. With your arms still stretched, slowly raise your body and sit. Your spine should be erect and toes flexed towards you. Breathe normally.
4. Slowly raise both the arms straight above your head and stretch your back. This should be done while inhaling.
5. With slow exhalation, bend forward from the hip joint. Move your chin towards the toes keeping the spine erect.
6. Place your hands on your legs without over-exerting them.
7. If you can hold your toes, pull on them to help you go forward. If not do not put undue pressure trying to achieve this step. The trick is to start with what you are comfortable with.
8. Stay in this position as long as possible. Then breathe in and rise, stretching your arms above your head.
9. Exhale and bring your arms down, placing the palms on the ground.

Benefits

- ❖ While practising paschimottanasana, the intestine and gall bladder are smoothly pressed and stimulated, enhancing their functions.
- ❖ It massages and tones the abdominal and pelvic organs and improves blood circulation.

- ❖ It also reduces belly fat and brings relief from constipation.

Contraindications

1. Pregnant women and those who have had stomach operation should avoid this asana.
2. In case of a damaged and enlarged liver and/or spleen, or if you have a herniated disc or acute appendicitis, it is advisable not to practise this asana.

- ❖ It also reduces belly fat and brings relief from constipation.

Contraindications

1. Pregnant women and those who have had stomach operation should avoid this asana.
2. In case of a damaged and enlarged liver and/or spleen, or if you have a herniated disc or acute appendicitis, it is advisable not to practise this asana.

ASANAS FOR ASTHMA

Asthma is a respiratory disease in which the airways become blocked or narrowed, resulting in breathing difficulty. Symptoms include extra production of mucus, excessive coughing, wheezing and shortness of breath. Asthma tends to occur in the mornings and nights – especially during the colder hours. For some people, asthma can be a serious and debilitating condition. They have to carry a nebuliser (breathing machine) around to help them recover from the attacks. It is an incurable disease, but one that can be

controlled. The causes of asthma are as follows:

1. It can be allergic or non-allergic. In the former case, attacks are often triggered by allergens in the air, including smoke and fumes, perfumes, scented soaps, etc.
2. Genetic factors are also known to cause asthma.
3. Respiratory infections such as cold, flu, sore throat and sinus infections, exercising in cold temperature, and certain medications like aspirin and non-steroid anti-inflammatory drugs are also found to be causes of asthma.

Chakrasana

Chakrasana ('chakra' meaning 'wheel') also known as *Urdhva Dhanurasana* or upward facing bow pose, is a back-bending pose commonly referred to as 'back bridge' in acrobatics and gymnastics. It is one of the final sequences in *Ashtanga Vinyasa* Yoga, the modernised version of classical yoga popularised by K Pattabhi Jois.

Procedure

1. You may begin this asana with a performance of *bhujangasana*.
2. Lie on the back with the feet parted, bend the knees and bring your feet closer to the buttocks.
3. Fold your arms and bring the palms under the shoulders. The two elbows should have a shoulder width distance between them.

Figure 12.9
Chakrasana



4. Inhale and press your palms firmly against floor.
5. Lift your shoulders using your elbows as levers. Both your palms and feet should be firmly pressed against the floor as you do this.
6. Now, raise your hips so that your spine is arched in a semicircular fashion.
7. Stretch your arms and legs as much as possible so that the hips and chest are pushed up. Hold this position for at least 15–30 seconds.
8. To release yourself from this pose, lower your head and shoulders to the floor by bending the elbows. Then bend your knees and lower your spine and hips. Breathe normally.

Benefits

- ❖ Chakrasana opens up our lungs and stretches our chest and shoulders. As this refines the act of breathing, this asana is highly advantageous for asthma patients.
- ❖ Additionally, it makes the shoulder blades, wrists, arms, legs, spine, buttocks, the heart and the muscles of the hips stronger.
- ❖ It also stimulates the thyroid and pituitary glands.

Contraindications

1. This asana is not recommended for those with carpal tunnel syndrome, back injuries, blood pressure problems, headache, diarrhoea, hernia or heart problems.
2. Pregnant women too are advised against taking up this asana.

Gomukhasana

Gomukhasana ('go' means 'cow' and '*mukha*' means 'mouth' or 'face') is also known as cow face pose. It is so named because the overall position of the thighs, calves and feet of the person has the appearance of the face of a cow when viewed from above. This position must be practised on an empty stomach and after bowel movements. It is best to do it in the morning.

Procedure

1. Sit on the floor with your legs stretched out in front of you. Your spine should be erect.
2. Gently bend your left leg and bring it under your right leg so that the calf rests beneath the right hip. Fold your right leg and position the calf above the left thigh.



Figure 12.10 Gomukhasana

3. Stack your right knee on top of the left one.
4. Now fold your left arm and place it behind your back. The elbow should point downwards. Fold your right arm and bring it behind the shoulder with the elbow pointing upwards.
5. Stretch your arms till the two hands are touching each other. Do not worry if you cannot achieve this the first time.
6. Still keeping the spine straight, open up your chest, then lean back slightly.
7. Hold this pose for as long as you can, taking deep and slow breaths.

Benefits

- ❖ This asana strengthens the chest and eases breathing. It also gets rid of stiffness in the shoulders and the back.
- ❖ It also trains an individual to breathe correctly by making her/him focus on her/his own breathing.
- ❖ Additional benefits include relaxation, stretching of muscles, and bringing relief from frequent urination.

Contraindications

1. This asana should be avoided by those who have ailments of the knee, back and neck.
2. Overweight individuals should start slowly and not exert themselves beyond comfortable limits.