

# **IMPORTANCE OF FITNESS IN CRICKET**

**Cricket is essentially a game of skill  
BUT  
Fitness gives the edge.**

## **ROLE OF FITNESS:**

1. Improves performance-  
“As fatigue develops, skill deteriorates”.  
Eg. Australian & South African teams.
2. Fitness helps prevent injuries.
3. A fitter player has a longer career.  
Eg. Courtney Walsh, Kapil Dev.



“There are 2 things that matter in cricket – ability & fitness. If you haven’t got the first, then I guess the second does not matter all that much. But if you have got two sides of equal ability, then obviously the fitter one is going to have the edge”.

- Chappell, 1978.

## **PRECAUTIONS: -**

1. Do not neglect skills.
2. Make the training specific to the requirements of the sport. After all, no game makes as many varied demands of its players as cricket does.
3. Develop the mental side also.  
“MENS SANA IN CORPORE SANO”.



## **HUMAN BODY & ENERGY**

Energy is the capacity to do work.  
It is derived from the food we eat.

### **SOURCES OF ENERGY**

#### **1. ATP – CP system-**

Rapid source of energy but limited to about 10 seconds only.

Eg. Running 2 or 3 runs.

Delivering a ball.

#### **2. Anaerobic metabolism of glucose: -**

Occurs even in the absence of oxygen.

Quite rapid bursts of energy.

Limited to 1 or 2 minutes.

Leads to fatigue as lactic acid accumulates.

Eg. 400 metre run.

#### **3. Aerobic metabolism: -**

Uses carbohydrate, fats & occasionally protein also.

Occurs only in the presence of oxygen,

slow release of energy, but for longer duration.

Eg. Long distance run.



## **PARAMETERS OF FITNESS**

### **A. Aerobic capacity – (cardio respiratory endurance or stamina)**

- The capacity of body's heart, lungs and blood vessels to deliver oxygen to working muscles and their ability to utilize it.
- It enables the individual to work at sub-maximal loads over a prolonged period of time.
- Enables quicker recovery from fatigue.
- Allow aerobic work at higher intensities.

### **B. Anaerobic capacity**

- The capacity of the individual to perform short duration, high intensity activity.

### **C. Flexibility**

- The range of motion around a joint.
- Helps prevent injuries.

### **D. Muscular endurance**

- It is the capacity of a muscle to exert force repeatedly over a period of time.

### **E. Muscular strength and power**

- Strength is the capacity of a muscle to exert a force against a resistance in a single maximum effort.
- Power involves fast, explosive movements where force is applied at high speeds.

### **F. Speed and agility**

- Speed is the ability to perform fast movements.
- Agility is the ability to change body position and direction rapidly.



## **FITNESS REQUIREMENTS for: -**

### **A. Batsmen**

1. Speed for running between the wickets.
2. Agility for good footwork and turning.
3. Muscular strength, power and endurance for arms, forearms, shoulder, trunk and legs.
4. Aerobic capacity for long innings.
5. Flexibility in lower limb muscles, shoulder, joint, lower back, trunk rotators and the neck muscles.
6. Speed endurance.

### **B. Fast Bowlers**

1. Strength and power in shoulders, chest, legs, arms, abdominal and back muscles.
2. Acceleration speed for run up.
3. Flexibility during run-up and delivery.
4. Muscular endurance for repeated efforts.
5. Aerobic capacity to bowl long spells.

### **C. Spinners**

1. Flexibility in shoulders, wrist, and fingers for spinning the ball.
2. Strength in shoulders, forearm, and fingers for greater spin.
3. Muscular endurance and aerobic capacity for long spells.

### **D. Wicket Keepers**

1. Leg power for leaping and quick sprints to the stumps.
2. Agility for quick body movements.
3. Strength and endurance in leg muscles for repeated squatting.
4. Aerobic capacity for long sessions on the field.
5. Flexibility to cope with various awkward positions.

### **E. Fielders**

1. Agility in all directions. Speed to reach the ball quickly.
2. Strength and endurance in muscles of the upper back, abdominal, quadriceps, etc. for long hours of standing.
3. Arm and shoulder power for throwing and Aerobic capacity.
4. Flexibility in hamstrings and lower back for quick pick-ups.



# PRINCIPLES OF TRAINING

## **A. Progressive Overload**

Individuals must train at loads, slightly higher than what they are accustomed to, for gains in fitness to occur. As the body adapts, a gradual increase in load is given.

E.g. increase time or distance in running or increase resistance in weight training.

As per General Adaptive Syndrome(Selye).

## **B. Reversibility**

If training <sup>causes,</sup> ~~causes,~~ the body returns to the original lower levels of fitness.

## **C. Recovery**

Training and rest must occur side by side and in sequence. Otherwise performance deteriorates and injuries increase.

Aids to recovery – Nutrition, warm down, massage, hydrotherapy, <sup>or</sup> ~~taping,~~ <sub>^</sub> hard/easy days, relaxation exercises.

## **D. Specificity**

Training program must be specific to the fitness components used in the sport as far as energy systems and muscles used are concerned.

## **E. Individuality**

Each individual has his own needs, goals, strengths and weaknesses. Fitness programmes should be individualized.

But in team sports, group fitness training also helps.

## **F. Variety**

To maintain interest, fitness training should be varied. Change the exercise or the venue periodically.



## **FITNESS ASSESSMENT TESTS**

### **Role**

- Assesses the players strengths/weaknesses. This enables the trainer to prepare an individualized program.
- Re-testing helps judge the efficacy of a training program.
- Motivates players to improve their fitness levels.
- Perform a Medical and Orthopedic Examination before testing.

### **Types of tests**



#### **Laboratory Tests**

- Sophisticated equipment
- 23-26 °C; < 60% humidity
- very accurate but expensive
- trained professionals required

#### **Field Tests**

- simple equipment
- field conditions
- intra-individualistic
- coach can perform them.



## **FITNESS TESTING**

### **A.AEROBIC CAPACITY**

#### **1. Cooper's 12 minute run.**

##### **Meters**

>3200  
2950 – 3200  
2700 – 2950  
2450 – 2700  
< 2450

##### **Classification**

Excellent  
Very Good  
Good  
Fair  
Poor

#### **2. Balke's 15 minute run.**

##### **Meters**

>3900  
3650 – 3900  
3400 – 3650  
3150 – 3400  
< 3150

##### **Classification**

Excellent  
Very Good  
Good  
Fair  
Poor

#### **3. 4000 meter run.**

##### **Time(min:sec)**

< 15:10  
15:10 – 16:10  
16:10 – 17:10  
17:10 – 18:10  
> 18:10

##### **Classification**

Excellent  
Very Good  
Good  
Fair  
Poor

#### **4. Step Test**

##### **Heart Rate**

< 110  
110 – 124  
125 – 140  
141 – 155  
> 155

##### **Classification**

Excellent  
Very Good  
Good  
Fair  
Poor



## 5. 20 minute shuttle run(Beep test)

<u>Level(total laps)</u>	<u>Classification</u>
> 14 (138+)	Excellent
12 – 14 (113 - 137)	Very Good
10 – 12 (90 - 112)	Good
8 – 10 (69 – 89)	Fair
< 8 (< 69)	Poor

## B. ANAEROBIC CAPACITY

### 1. 40 meter sprint

<u>Time(sec)</u>	<u>Classification</u>
< 5.30	Excellent
5.30 – 5.60	Very Good
5.61 – 5.90	Good
5.91 – 6.20	Fair
> 6.20	Poor

## C. FLEXIBILITY

### 1. Sit and Reach Test-

Tests hamstring and lower Back flexibility

<u>Scores(cms)</u>	<u>Classification</u>
> 14 cms	Excellent
10 – 14	Very Good
5 – 9	Good
0 – 4	Fair
< 0	Poor



## **D. SPEED AND AGILITY**

### **1. Run a three – 17.7 meters X 3**

<u>Time(sec)</u>	<u>Classification</u>
< 9.20	Excellent
9.20 – 9.69	Very Good
9.70 – 10.19	Good
10.20 – 10.69	Fair
> 10.69	Poor

## **E. MUSCULAR ENDURANCE**

### **1. Sit ups(Abdominal Crunches) per minute**

<u>Number</u>	<u>Classification</u>
> 54	Excellent
45 – 54	Very Good
35 – 44	Good
25 – 34	Fair
< 25	Poor

### **2. Press ups per minute**

<u>Number</u>	<u>Classification</u>
> 50	Excellent
41 – 50	Very Good
31 – 40	Good
21 – 30	Fair
< 21	Poor



## **F. MUSCULAR STRENGTH**

### **1. Hand – Grip Dynamometer.**

<b><u>Score(kgs)</u></b>	<b><u>Classification</u></b>
> 130	Excellent
116 – 130	Very Good
101 – 115	Good
86 – 100	Fair
< 86	Poor

### **2. Abdominal Strength Test**

<b><u>Level</u></b>	<b><u>Classification</u></b>	<b><u>Parameter</u></b>
Level 0	Very Poor	Cannot Perform Level 1
Level 1	Poor	Wrist to Thigh
Level 2	Fair	Elbows to Thighs
Level 3	Average	Hands together Across Abdominal, Chest to Thighs
Level 4	Good	Hands Across Chest, Forearms to Thighs
Level 5	Very Good	Hands Behind Head, Chest to Thighs
Level 6	Excellent	5 lbs Weight held Behind Head, Chest to Thighs
Level 7	Elite	10 lbs Weight held Behind Head Chest to Thighs



## **G. MUSCULAR POWER**

### **1. Vertical Jump – Sarjent's jump for Legs**

<b><u>Score(cms)</u></b>	<b><u>Classification</u></b>
> 130	Excellent
116 – 130	Very Good
101 – 115	Good
86 – 100	Fair
< 86	Poor

Or use Lewis nomogram to calculate Leg power.

### **2. Medicine ball throw(1.25kg ball)**

<b><u>Distance(in meters)</u></b>	<b><u>Classification</u></b>
> 12.0	Excellent
10.5 – 12.0	Very Good
9.0 – 10.5	Good
7.5 – 9.0	Fair
< 7.5	Poor

## **H.BODY COMPOSITION**

### **Methods**

1. Hydrostatic Weighing.
2. Skin fold calipers
3. Bioelectric impedance plethysmography
4. others



## **DEVELOPING FLEXIBILITY**

Flexibility (or suppleness) is the range of motion around a joint.

### **Flexibility helps :-**

1. Improve agility.
2. Prevent injuries.

Flexibility is improved by doing stretching exercise.

### **Methods of stretching exercise :-**

#### **I) Slow, static stretching :-**

- Stretch the muscles to a position of slight tension and hold for 10 – 30 seconds.
- Safest method of stretching.

#### **II) Ballistic stretching :-**

- It involves bobbing movements of the body in the end position.
- Can injure the muscles or cause soreness if it is not executed properly.

#### **III) Proprioceptive Neuromuscular facilitations (PNF stretches)**

- The muscle is stretched after an isometric contraction against an immovable resistance.
- Can help improve strength in a new range of motion along with improved flexibility.

#### **IV) Guidelines :-**

- Flexibility is best trained before puberty especially of shoulders and hips.
- Perform stretching exercises while warming up and cooling down.
- Breathe normally during exercises.
- Stretch both sides of the body.
- Dynamic stretches follows static stretches.



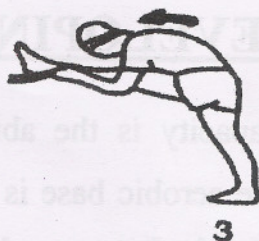
# Stretching Exercises



1



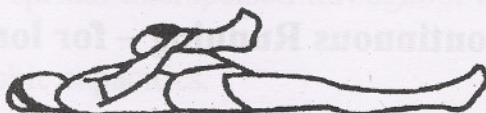
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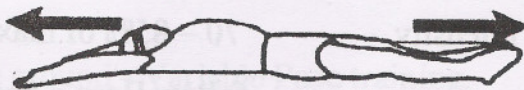
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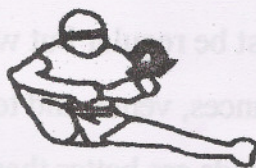
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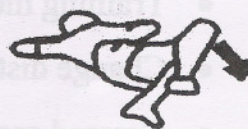
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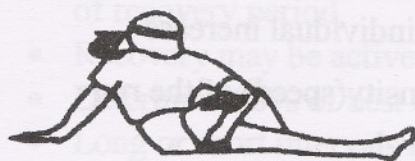
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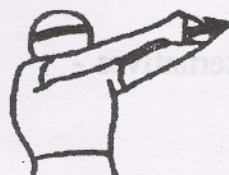
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14



15



16



17



18



19



# **DEVELOPING AEROBIC CAPACITY**

Aerobic capacity is the ability to keep going and recover quickly from fatigue. The aerobic base is best established during the off season and pre-season periods activities.

## **1. Continuous Running – for long distances at constant pace.**

Duration - 15 – 40 minutes.  
Frequency - 3 – 5 days/week  
Intensity - 70 – 85% of max HR. (max HR =  $220 - \text{age}$ ) or follow Borg's Scale or Rate of Perceived Exertion.

- Training must be regular but with variety.
- Change distances, venue and terrain.
- Grassed grounds are better than cement.
- Monitor progress using a distance run test.
- Begin at a level suitable to the individual increase duration(time/distance) or intensity(speed) of the run subsequently.

Alternatives - a) Orienteering course.  
b) Cross training with swimming and cycling.



## **2. Fartlek training - (Swedish – speed play)**

- Short(5 – 30 sec) bursts of sprints interspersed throughout a long continuous run.
- Develops aerobic and anaerobic capacities.
- Vary the distance and effort.

### **Activities –**

- Indian file.
- Mark out a course on the ground - Variable Pace training.

## **3. Interval running**

- Involves alternate periods of running with periods of recovery.
- Vary the duration, distance, speed, number of repetitions, amount of recovery period.
- Recovery may be active or passive.
- Determine 80% of best effort and work – rest ratios.
- Long or short intervals may be used.

## **4. Long relays, parluufs, drills, etc.**



## **DEVELOPING SPEED**

Speed is high movement velocity. Speed training involves fast running for brief periods with sufficiently long recoveries.

### **Aim of speed training :-**

1. To improve stride frequency.
2. To improve stride length.
3. Improve running technique.

Fast running generally have more of fast twitch muscle fibres than slow twitch muscle fibres.

### **General hints about speed training :-**

1. Best trained before puberty.
2. Specific for different sports.
3. Not more than 2 – 4 sessions per week.
4. Must be practiced when fresh.
5. All sprints should not be at maximum.

### **Activities :-**

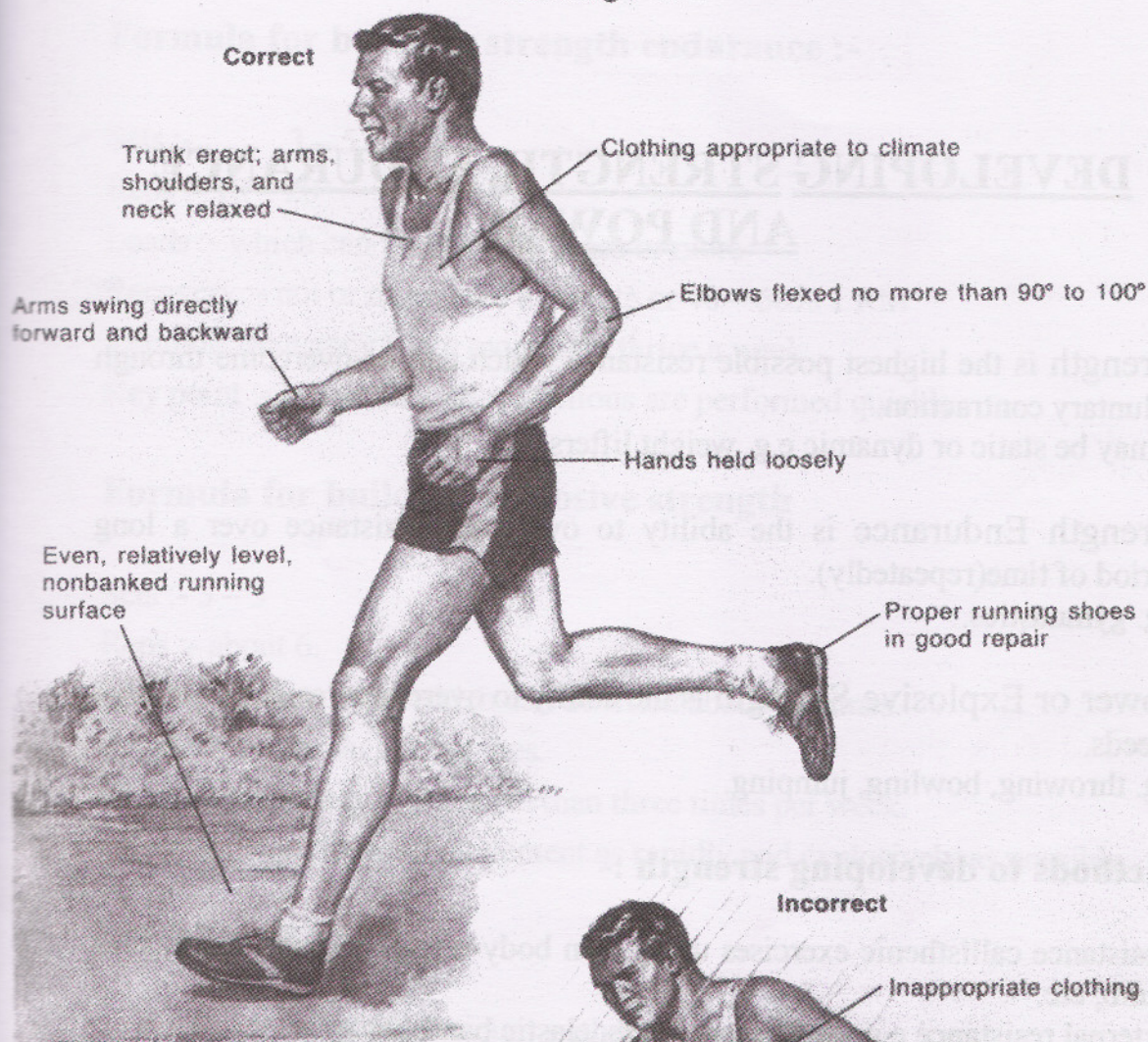
1. Acceleration drills.
2. High knee running – moving slowly.
3. Relays and drills.
4. Running between the wicket practice.
5. Short interval sprints.
  - 6 – 15 less duration.
  - 95 – 100% work intensity.
  - 1 – 2 minute recovery.
  - 5 – 30 repetitions.
6. Ultra-short interval sprints.
  - 3 – 6 secs. Duration.
  - 100% work intensity.
  - 30 – 45 secs. Recovery.
  - repetitions until performance declines.
7. To improve stride length – uphill running, resisted training (parachute), weighted running.
8. To improve stride frequency – downhill running, treadmill, speed ladder.



# Technique of Running

## Running Form

**Correct**



Trunk erect; arms, shoulders, and neck relaxed

Clothing appropriate to climate

Arms swing directly forward and backward

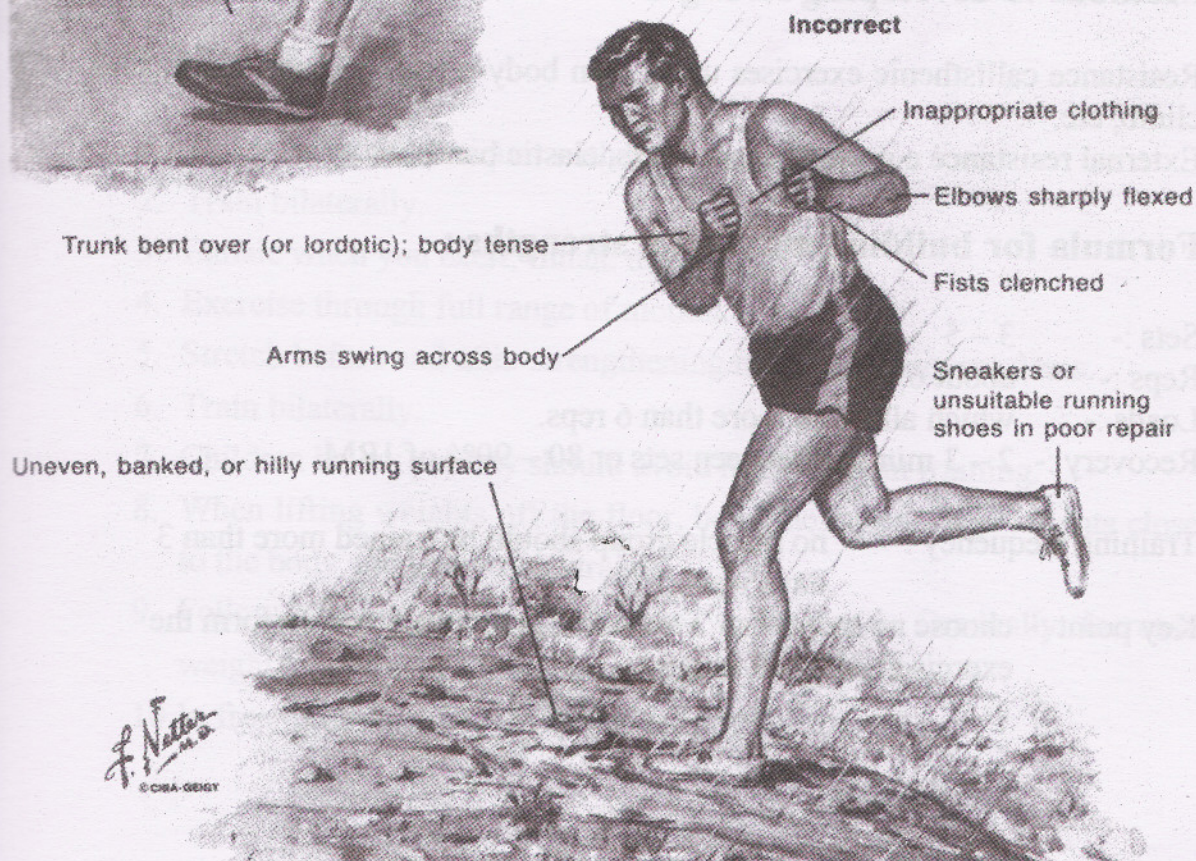
Elbows flexed no more than 90° to 100°

Hands held loosely

Even, relatively level, nonbanked running surface

Proper running shoes in good repair

**Incorrect**



Inappropriate clothing

Elbows sharply flexed

Fists clenched

Sneakers or unsuitable running shoes in poor repair

Trunk bent over (or lordotic); body tense

Arms swing across body

Uneven, banked, or hilly running surface

*F. Natter*  
© CIBA-GEIGY



## **DEVELOPING STRENGTH, ENDURANCE AND POWER**

Strength is the highest possible resistance which can be overcome through voluntary contraction.

It may be static or dynamic e.g. weight lifters.

Strength Endurance is the ability to overcome resistance over a long period of time(repeatedly).

e.g. gymnastics.

Power or Explosive Strength is the ability to overcome resistance at high speeds.

e.g. throwing, bowling, jumping.

### **Methods to developing strength :-**

Resistance callisthenic exercises using own body weight e.g. press ups, rope climb, etc.

External resistance e.g. weights, partners, elastic bands, etc.

### **Formula for building maximum strengths :-**

Sets :- 3 – 5

Reps :- about 6 – 8

Loads :- which allow no more than 6 reps.

Recovery :- 2 – 3 minutes between sets or 80 – 90% of 1RM.

Training frequency :- no muscle group should be trained more than 3 days/week.

Key point :- choose no more than 2 exercises per muscle and perform the exercises with full intensity.



## **Formula for building strength endurance :-**

Sets :- 3 – 5

Reps :- 18 – 20

Loads :- which can be lifted 20 times or more

Recovery :- not or more than a minute or 40 – 60% 1 RM

Training frequency :- not more than thrice a week.

Key point :- ensure that all repetitions are performed quickly.

## **Formula for building explosive strength**

Sets :- 3 – 5

Reps :- about 6.

Loads :- choose loads which can be lifted about 15 times.

Recovery :- less than 3 minutes.

Training frequency :- not more than three times per week.

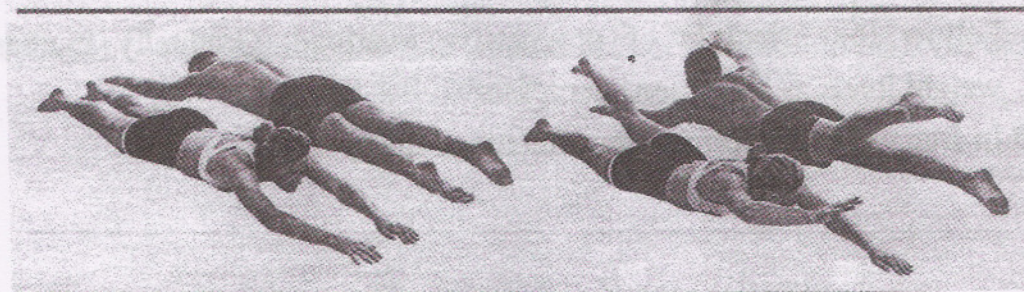
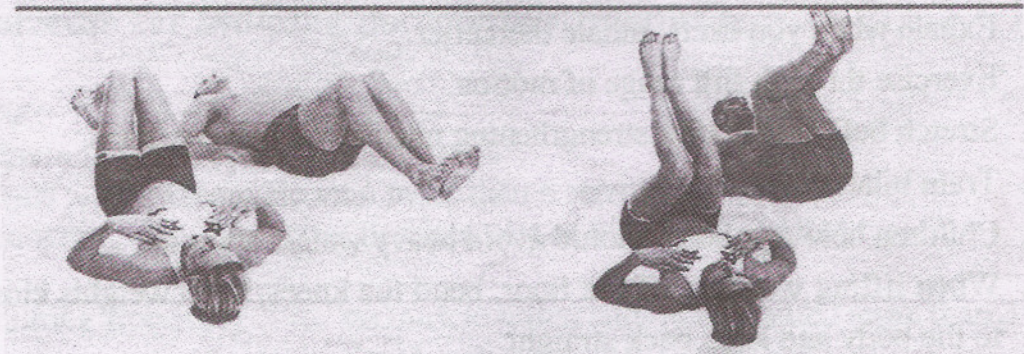
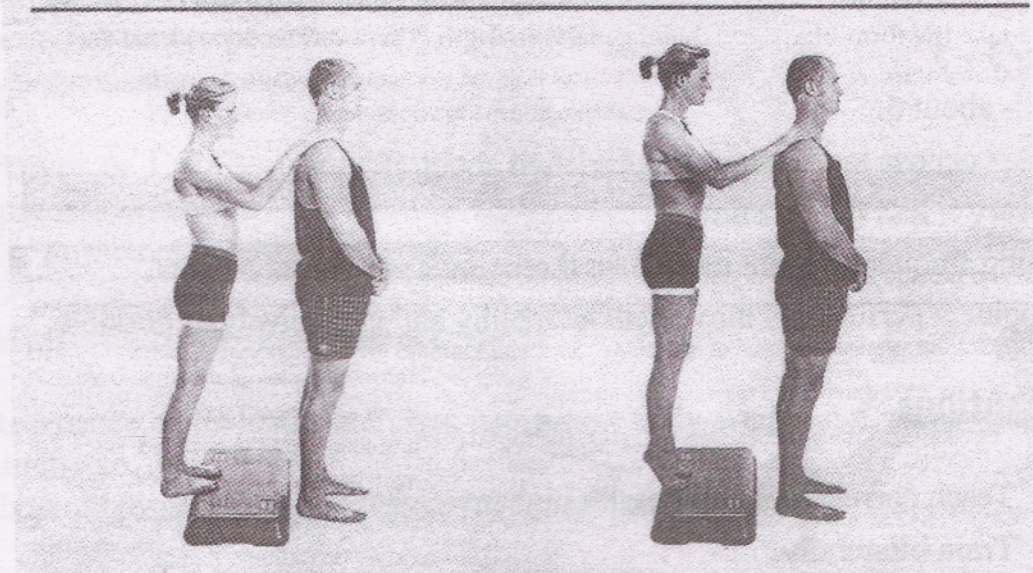
Key point :- perform all movement as rapidly and explosively as possible.

## **Precautions :-**

1. Teach correct techniques with higher weights.
2. Train bilaterally.
3. Exhale when you exert. Inhale thereafter.
4. Exercise through full range of motion.
5. Stretch before and after strengthening muscles to prevent doms.
6. Train bilaterally.
7. Children below puberty should avoid heavy weight training.
8. When lifting weights off the floor, bend the knees, keep weights close to the body and keep back straight.
9. Follow the principle of progressive overload. Gradually increase weight loads as repetitions decrease.
10. In free weights, replicate movements of the sports.

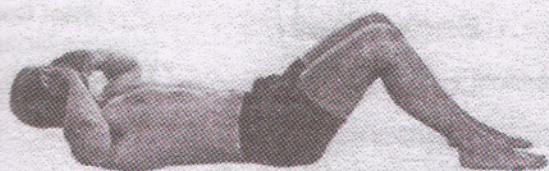
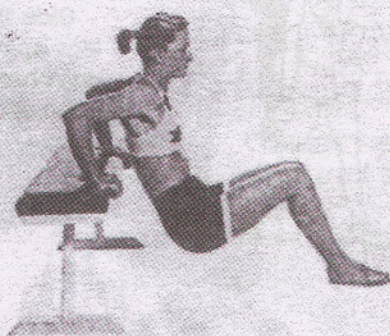
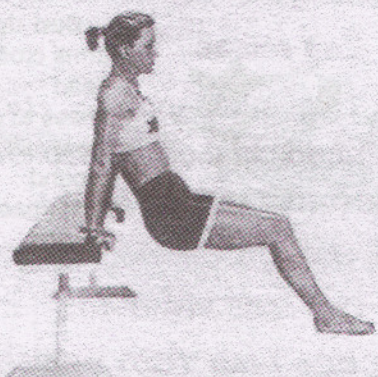


# Free Hand Strengthening Exercises - II





# Free Hand Strengthening Exercises - I





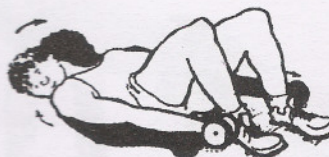
# Strengthening Exercises - I

## ABDOMINALS



### Crunches

- weights at side
- slowly raise up



### Alternate Side Crunch

- legs apart reach to one side
- touch weight to shoulder
- reach as far as possible then to other side
- shoulders off the ground



### Side Bends

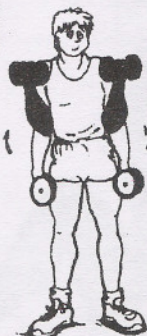
- legs apart
- don't bend forward
- head up



### Curl Ups

- arms crossed behind head
- knees to chest
- slowly lift bottom off ground
- lower back remains on ground

## ARMS



### Double Bicep Curls

- straighten arms
- don't lock elbows on extension



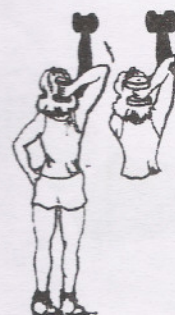
### Wrist Curls

- palms facing down
- move wrists up & down



### Tricep Skiing

- head up
- elbows remain at side
- fully straighten arms
- one arm on bench



### Tricep Extensions

- elbow stationary and close to ear
- fully straighten arm



# Strengthening Exercises - II

## BACK



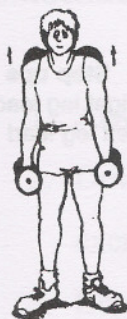
### Bench Row

- elbows to 90°
- don't lift your back
- touch weight to ground



### Back Flys

- elbows high
- squeeze shoulder blade together



### Shoulders Shrugs

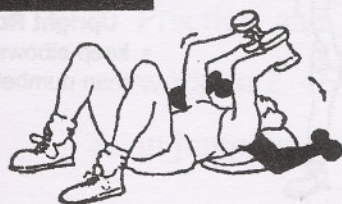
- up close to ears



### Twist & Press

- twist at trunk then press behind
- repeat other side

## CHEST



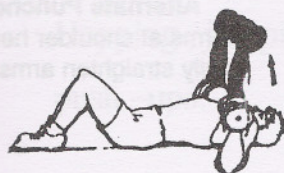
### Flys

- weights together palms facing
- arms slightly bent
- control apart to ground
- arms can be alternated



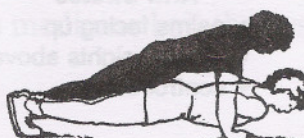
### Over the head Pulls

- using both arms reach right back
- lower back remains on the ground



### Bench Press

- fully straighten arm
- weights apart or together
- down so elbows touch the ground
- can alternate arms



### Push Ups

- may be performed holding dumbbells



# Strengthening Exercises - III

## LEGS



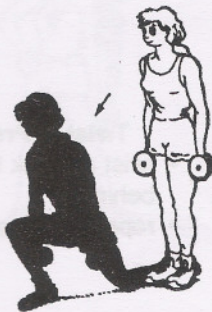
### 90° Squats

- head up
- feet apart
- back straight
- squat to 90°



### Calf Raises

- use both legs
- raise onto toes & hold



### Lunges

- alternate leg
- bend knee to 90°
- keep off ground



### Step ups

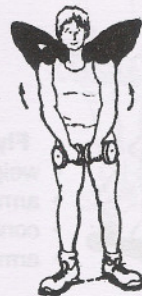
- right leg lead
- left leg lead

## SHOULDERS



### Military Press

- press up
- lower down



### Upright Rowing

- keep elbows higher than dumbbells



### Arm Circles

- palms facing up
- touch weights above head
- control down



### Alternate Punches

- arms at shoulder height
- fully straighten arms



## **Plyometrics :-**

Popular exercise to improve muscular power.

It involves a rapid stretching of a muscle followed by an equally rapid, forceful concentric contraction of the same muscle.

### **Guidelines :-**

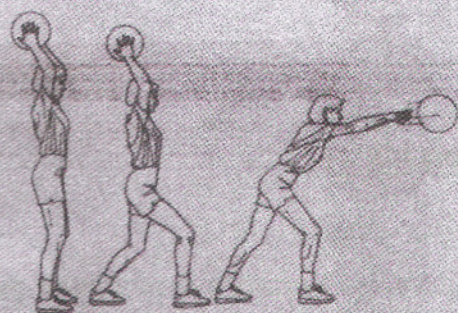
1. Always done under supervision.
2. Develop good endurance and strength before attempting these exercise.
3. Begin at low intensity and progress gradually.
4. To be done on resistance surfaces e.g. grass or mat.
5. Good warm up essential.
6. Avoid jumping if these is knee, ankle or back problems.
7. Practice and develop correct technique first 3 – 4 exercises per workout 2 – 6 sets of each with 5 – 10 reps in each set.
8. in jumping contact with ground should be as short as possible.

### **Activities :-**

Hopping , jumping, bounding, depth jumps medicine ball throws, clap push –ups.



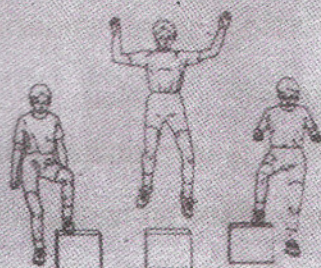
# Plyometrics



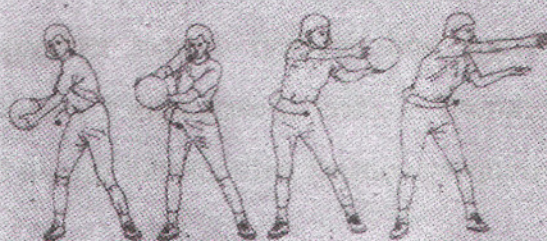
**Overhead Throw (p. 135)**



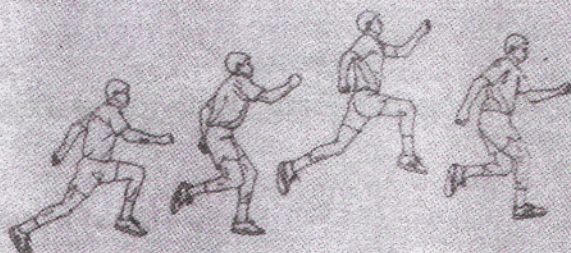
**Skipping (p. 122)**



**Side-to-Side Box Shuffle (p. 106)**



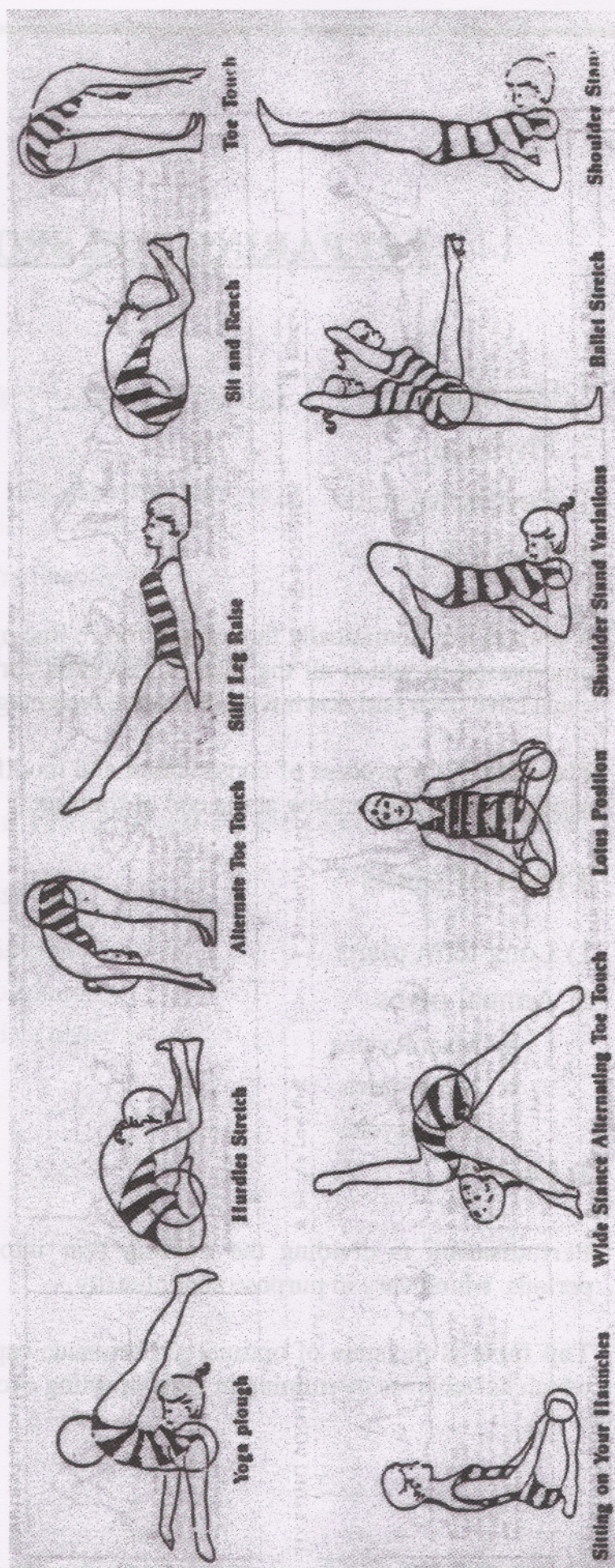
**Side Throw (p. 136)**



**Alternate Bounding With Single Arm Action (p. 126)**



# The Dirty Dozen – Exercises to Avoid





## **PREPARING FOR SPORT**

1. Technical
2. Physical
3. Psychological
4. Tactical

A **plan** is a systematically thoughtout future line of action for a definitive time period in which all the factors important for achieving the planned goals have been laid down with definitive weightage and sequence.

**Planning** is the process of construction and modification of plans. It is a continuous process ending at the end of training.

### **Types of plans**

- 1) Long term plans
- 2) Annual plans
  - a. Macrocycles
  - b. Mesocycles.
  - c. Microcycles
- 3) Daily

**Periodisation** is dividing the training year into a number of training periods, which vary in purpose and intensity.

**Top form** is the state of optimal performance capacity of the sportsman which he achieves by training in every training cycle.



# **Scheduling an Annual Programme**

## **1. Off season or preparatory phase**

- a. General
- b. Specific(Pre Season)

## **2. In Season or Competition Phase**

- a. Early
- b. Main

## **3. Post Season or Transitional Phase [Active Rest period]**

### **Types of periodisation**

- a. Single periodisation
- b. Multiple periodisation
  - Intermediate phase



### **General training period – 3-4 months**

- Lay solid foundation. Helps prevent injuries, volume high; intensity Low to medium.
- Increase Volume gradually
- Develop general physical capacity.
- Skills – correct major faults
- Theoretical sessions
- Alternate endurance and strength workouts.

### **Specific training period – 1 – 1½ months.**

- Volume high upto mid; then low
- Intensity high as volume low
- Sports specific fitness
- Development of new skills
- Program should be individualized.
- Improve combination play in team sports.

### **Early competition phase – 2 –3 months**

- To reach top form by high competition intensity.
- Training volume low; intensity high.
- Sports specific conditioning in maintenance phase.
- Skills – final polish. To evaluate skills in competition situations.
- Low competition density towards the end.



# Periodisation

## Training Sessions

### Main competition phase

- Low intensity , medium volume **Phase I**
- High intensity, low volume **Phase II**
- Avoid psychological fatigue by low competitions density – at least /week gap before main event.
- Rest prior to competition.
- Days planning.

### Transitional Period 4 – 6 weeks.

- Physiological and Psychological recovery.
- Assess previous years performance.
- Plan for next year.
- Control body weight.
- Active rest.
- Play other sports.
- Yearly Medical and Fitness tests.



## Training Sessions

1. Introduction 3 – 5 minutes.
2. Warm up 12 minutes.  
To raise the Temperature of the body.  
To raise the Heart Rate gradually.  
To prepare you for vigorous activity.
  - a) General
  - b) SpecificDo not loose too much energy.
3. Skill practice 45 minutes.
4. Supplementary fitness training 15 minutes.  
Except
  - a) Speed training 10 minutes.
  - b) Fatigue loading.
5. Cool down 5 minutes.  
To re-channelise the Blood to the Vital Organs.  
To promote recovery.
6. Evaluation 3 minutes.



# Periodisation

	THE YEARLY PLAN																		
Phase of Training	Preparatory									Competitive									Transition
Sub-Phases	General Preparatory				Specific Preparatory					Pre Competitive				Competitive					Transition
Macro Cycles																			
Micro Cycles																			

LOAD	1	2	3	4
High				
Medium				
Low				

LOAD	1	2	3	4
High				
Medium				
Low				



# **Recovery and Overtraining Syndrome**

**Hard Work + Good Recovery = Best Performance**

**Over training** or **Staleness** occurs when the training program of the athlete exceeds the bodies physiological and psychological limits.

It results from massive increases in training volume and intensity over a previous substantial base.

**There is decreased hypothalamic functioning symptoms :-**

## **Psychological**

- Fatigue
- Apathy (lack of motivation)
- Sleep disturbances
- Anorexia
- Depression
- Irritability
- Restlessness
- Poor concentration
- No self-confidence.

## **Physiological**

- Increase in resting heart rate
- Weight loss (especially fluid)
- Chronic muscle soreness.
- Heaviness of legs.
- Gastro-intestinal disturbance
- Lymphadenopathy
- Frequent illness and infection
- Frequent overuse injuries.
- Increased evening fluid intake.

## **Performance**

- Decreased speed.
- Poor endurance and strength.
- Increased Heart Rate recovery time
- Poor co-ordination
- Serum creatine kinase elevated
- Thigh muscle circumference decreases.



## **Preventing Overtraining Syndrome**

### **After each training session :-**

1. Drink enough fluids.
2. Replenish glycogen stores by eating well.
3. Stretch.
4. Hot then cold shower.

### **Later :-**

1. Steam/Sauna/Self massage.
2. Relaxation exercise 10 – 15 minutes before bed music.

### **Note :-**

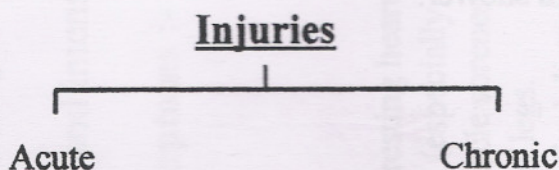
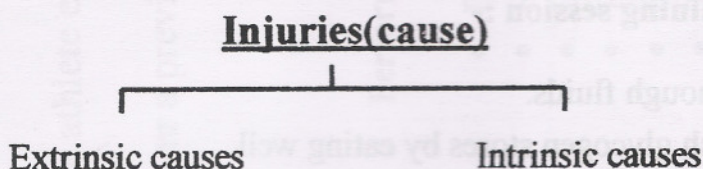
1. Monitor Resting heart rate, Body weight, and moods.
2. Have at least one rest day per week.
3. Taper before competition.
4. Cross training.
5. Regular recreation.



# INJURIES IN SPORT

## **Common causes**

1. Faulty Biomechanics.
2. Overuse.
3. Lack of Preparation and inadequate fitness.



## **Strategies to prevent injuries :- 10 Golden Rules**

1. Warm-up and cool-down.
2. Protective equipment.
3. Correct techniques and supervision.
4. Avoid overuse.
5. Medical and orthopedic check up.
6. Training area and playing surfaces.
7. Improve fitness – flexibility and strength.
8. Balanced competition.
9. Environmental factors.
10. Do not play/ train through injury.



## **I. First – Aid**

### **DO's**

**R**est

**I**ce

**C**ompression

**E**levation

### **DONT's**

**M**assage

**A**ctivity

**S**prays

**H**eat

1. Prevention/Practice 'PRICE'.
2. Diagnosis by a Doctor.
3. Medication as required.
4. Open wounds to be cleaned and dressed and Injection Tetanus Toxoid to be administered.

## **II. Phase Of Recovery**

## **III. Phase Of Rehabilitation.**

## **IV. Provide Emotional Support**

## **V. Conduct Fitness Test Before Return To Sport.**



## Australian Cricket Board

**S**creening.

**P**hysical training.

**O**veruse.

**T**echnique

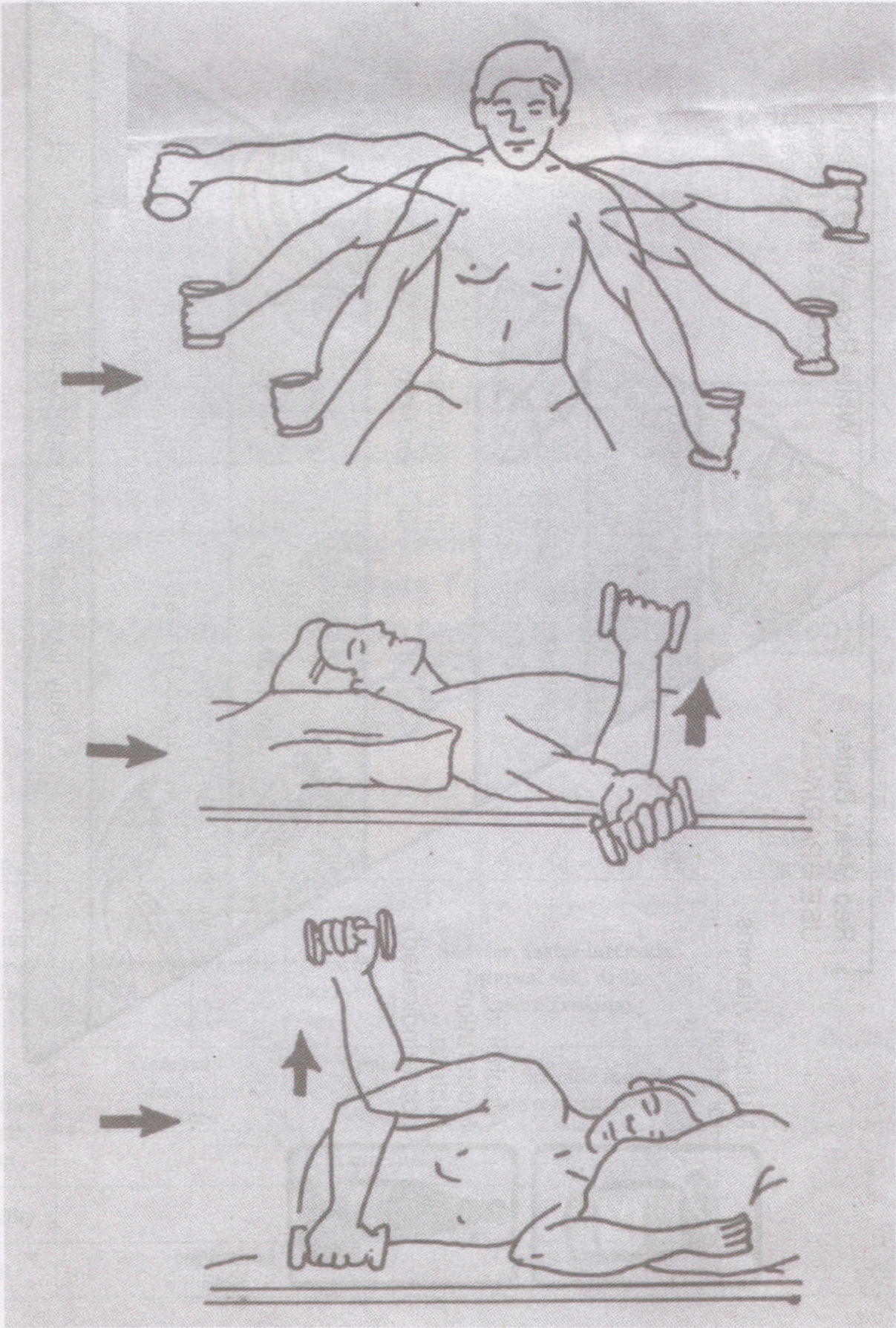


ACB recommendations for fast bowlers.

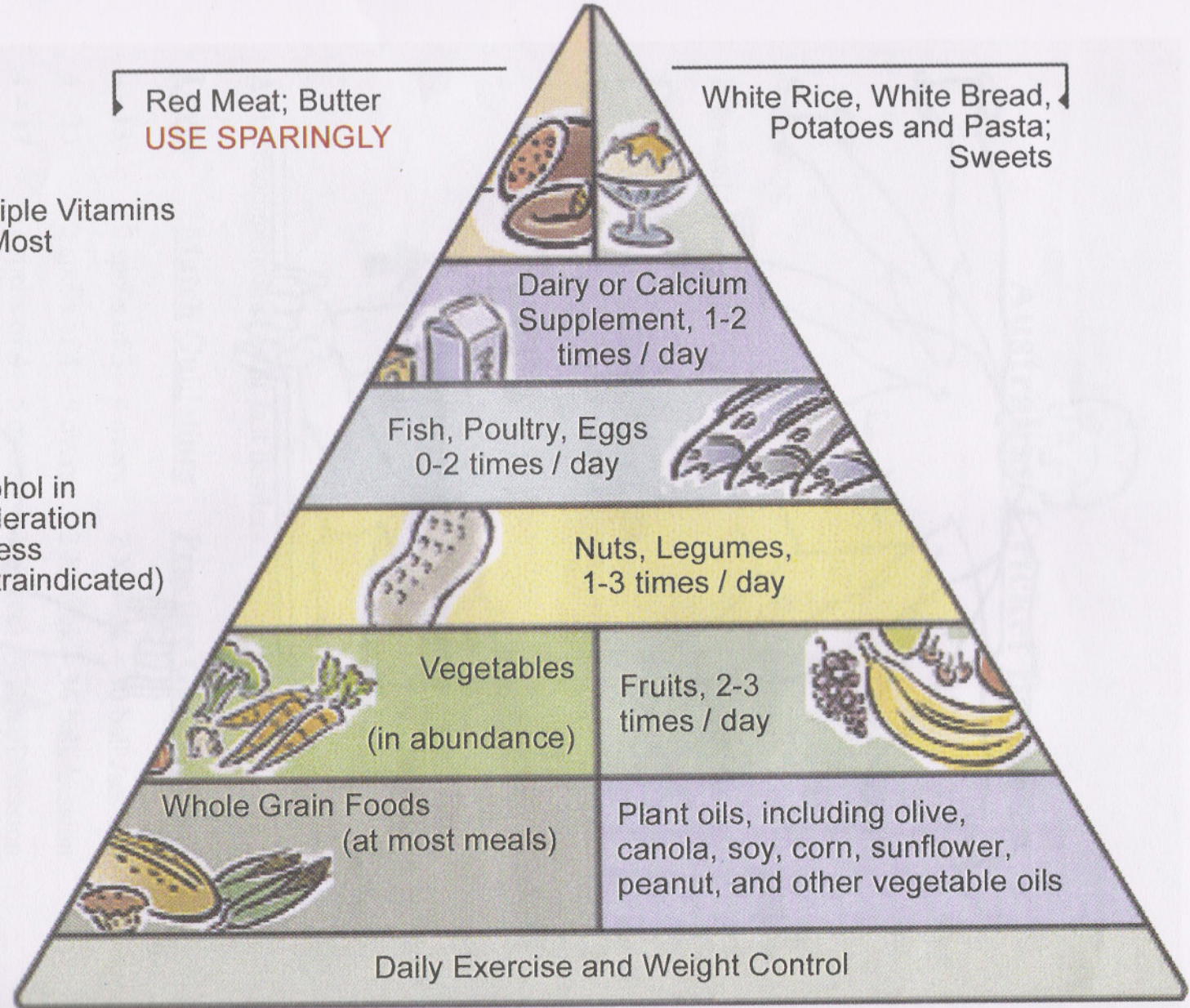
<u>Level</u>	<u>Match Guidelines</u>	<u>Practice Guidelines</u>
4 - 13	2 spells of 3 – 4 overs	2 X week – 30 balls/session.
4 – 15	2 spells of 4 – 5 overs	2 X week – 36 balls/session.
4 – 17	3 spells of 4 – 5 overs	3 X week – 36 balls/session.
4 – 19	3 spells of 5 – 6 overs	3 X week – 42 balls/session.
Senior	3 spells of 6 – 8 overs	3 X week – 48 balls/session.



# Exercises to Strengthen the Rotator Cuff







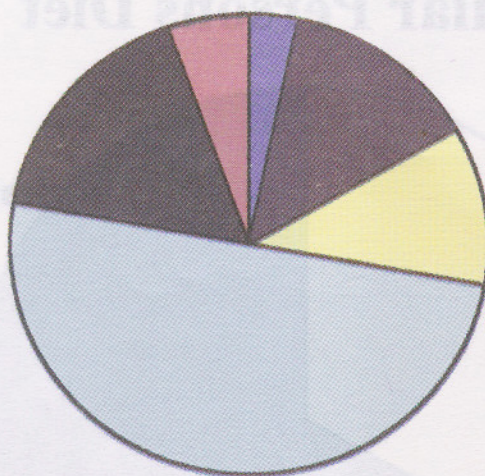
Multiple Vitamins  
for Most



Alcohol in  
Moderation  
(unless  
contraindicated)

**Healthy Eating Pyramid**



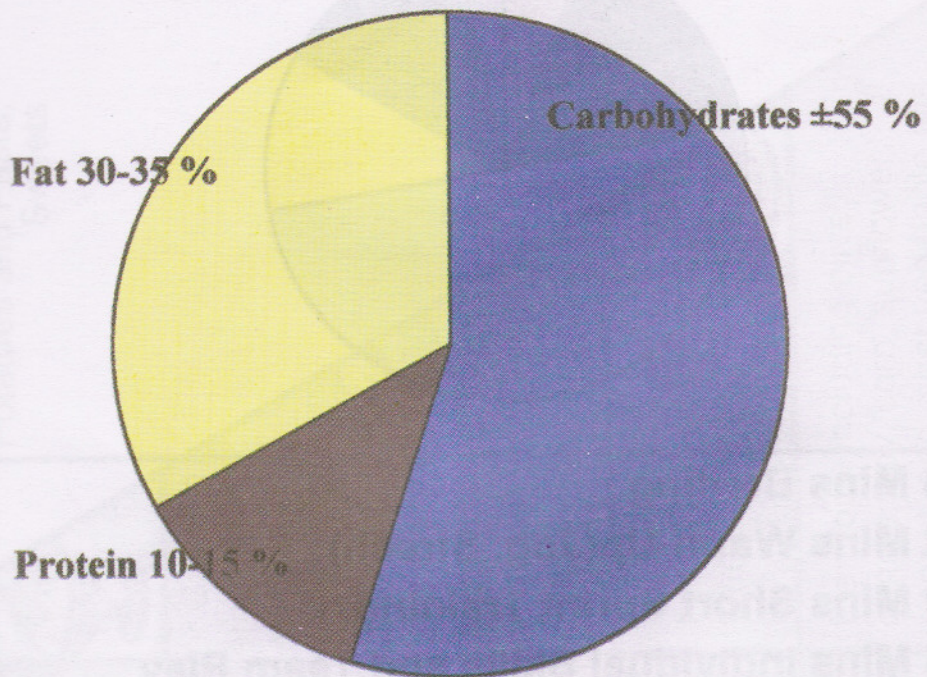


- 1. 03 Mins Breifing
- 2. 12 Mins Warm-Up(Jog, Strech)
- 3. 10 Mins Short Sprint Training
- 4. 45 Mins Individual Skills and Team Play
- 5. 15 Mins Sup. Fitness Training(Strength)
- 6. 05 Mins Cool Down and Conclusion(Jog,Strech)

TRAINING	1	2	3	4	5	6	7	8	9	10	11	12	Lower Grades Higher Grades
Edurance and Sprint Running	Continuous		Fartlek		Longer, Slower intervals		Shorter, faster intervals Interval skill drills Sprint Training						
Muscle Endurance, Strength, Power	General Muscle Edurance			General Muscle Strength			Specific muscle Strength, power						
	Circuit Training												
Flexibility	Flexibility Work												
Skill	Individual Skils				Group Skills And Team Play								



## Regular Persons Diet



## Sportspersons Diet

