

## Fitness training methods for physical components of fitness

Appropriate physical fitness training methods that could be used for specific sports participants for different ages and different sporting abilities.

### Flexibility

Static Active	The performer applies internal force to stretch and lengthen the muscle	
Static Passive	Requires the help of another person or an object, e.g. A wall to apply external force causing the muscle to stretch	
Proprioceptive Neuromuscular Facilitation (PNF) Technique	The technique involves the use of a partner or immovable object, isometric muscle contractions to inhibit the stretch reflex.	

### Muscular Endurance

Free weights	High repetitions and low loads	
Fixed resistance machines	High repetitions and low loads	
Circuit training	Using body resistance exercises or weights with low loads and high repetitions.	

### Muscular Strength Training

Free Weights	High loads and low repetitions	
Fixed Resistance Machines	High loads and low repetitions	

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## Aerobic endurance

Continuous Training	Steady pace and moderate intensity for a minimum period of 30 minutes	
Fartlek Training	The intensity of training is varied by running at different speeds and/or over different terrain	
Interval Training	Work period followed by a rest or recovery period o for aerobic endurance decrease the number/length of rest periods and decrease work intensity (compared to speed training)	
Circuit Training	Use of a number of stations/exercises completed in succession with minimal rest periods in between to develop aerobic endurance.	

## Speed

Acceleration Sprints	Pace is gradually increased from a standing or rolling start to jogging, then to striding, and then to a maximal sprint	
Interval Training	Work period followed by a rest or recovery period. For speed short, high intensity work periods, increasing the number of rest periods and increasing work intensity (compared to aerobic endurance training)	
Resistance Drills	Hill runs, parachutes, sleds, bungee ropes, resistance bands	

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## Fitness training methods for skill-related components of fitness

Appropriate skill-related fitness training methods that could be used for specific sports participants that are different ages and different sporting abilities

### **Agility**

Speed Agility and Quickness training (SAQ)

drills used to develop physical ability and motor skills.

### **Power**

Plyometrics

lunging, bounding, incline press-ups, barrier hopping and jumping.

### **Reaction Time**

Use of specific training exercises to practise quick responses to an external stimulus.

### **Coordination**

Use of specific training exercises using two or more body parts together.

### **Balance**

Use of specific training exercises that require balancing on a reduced size base of support.

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## Key Terminology

**Cardiovascular System:**

**Respiratory System:**

**Skeletal System:**

**Cardiac Hypertrophy:**

**Resting Heart Rate:**

**Respiratory Muscles:**

**Capillarisation:**

**Alveoli:**

**Joint:**

**Ligament:**

**Tendons:**

**Muscle Hypertrophy:**

**Bone Density:**

**Lactic Acid:**

## Provision for taking part in fitness training methods

Type of Provision	Explanation	Advantages and Disadvantages of all three sectors
<b>Public Sectors</b>	include local authorities and school provision	<ul style="list-style-type: none"><li>- Types and range of sport and PA provided.</li><li>- Types and range of equipment available.</li><li>- Cost of participation</li><li>- Access to different types of sport and PA.</li><li>- Additional products: crèche facility, refreshment facilities, hire, sport therapist.</li></ul>
<b>Private Sector</b>	provided by organisations who aim to make a profit	
<b>Voluntary Sector</b>	activities provided by volunteers who have a common interest in the	

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## The effects of long-term fitness training on the body systems

How training methods affect the different body systems, which can lead to adaptations to improve specific components of fitness.

### **Aerobic Endurance Training:**

- Adaptations to the cardiovascular and respiratory systems
  - Cardiac hypertrophy
  - Decreased resting heart rate
- Increased strength of respiratory muscles
  - Capillarisation around alveoli.

### **Flexibility Training:**

- Adaptations to the muscular and skeletal systems
- Increased range of movement permitted at a joint
- Increased flexibility of ligament and tendons
  - Increased muscle length.

### **Muscular Endurance Training:**

- Adaptations to the muscular system
- Capillarisation around muscle tissues increased muscle tone.

### **Muscular Strength And Power Training:**

- Adaptations to the muscular and skeletal systems
  - Muscle hypertrophy
- Increased tendon and ligament strength
  - Increased bone density.

### **Speed Training:**

- Adaptations to the muscular system
- Increased tolerance to lactic acid.

## Requirements for Each of the Following Fitness Training Methods

To ensure a fitness training plan is carried out safely and effectively it must include the following.

- **Warm-Up:** prior to taking part in the fitness training method – pulse raiser, mobility and stretch; reduce the risk of injury, prepare the body for exercise.
- **Cool Down:** after taking part in the fitness training method – gradually lower pulse and breathing rate to resting levels; remove lactic acid; stretch to help return muscles to pre-exercise length.
- **Fitness Training Method:** linked to the associated component of fitness.
- **Application of the basic (FITT) and additional principles of training:** to each fitness training method.
- **Application of appropriate training intensities:** to fitness training methods.
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## Additional requirements for each of the fitness training methods

### **Advantages and disadvantages**

- To include number of people that can take part
- Cost of equipment
- Ease of set up, access to venue/location of training
- Risk of injury to the performer if performed incorrectly, effectiveness of training for given sports performer
- Specificity to component of fitness
- Replicating demands of the sport