

Components of Fitness

There are 2 different groups of components of fitness: physical fitness and skill-related fitness

Physical Fitness – Fit Men Must Sprint And Bench

- **Flexibility** - the ability to move all joints fluidly through their complete range of movement. (swimming, gymnastics, goalkeeper)
- **Muscular endurance** - the ability of the muscular system to work efficiently, in which a muscle can repeatedly contract over a period of time against a light to moderate fixed-resistance load. (Cycling, rowing, long distance running)
- **Muscular Strength** - the maximum force that a muscle or muscle group can produce (kg or N) (football, boxing, basketball, rugby)
- **Speed** - distance divided by time taken (m/s). Three types: accelerative (0-35m), pure (up to 60m), speed endurance (sprinting, team sports)
- **Aerobic endurance** - the ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity. (marathon, 1500m, team sports)
- **Body composition** - the relative ratio of fat mass to fat-free mass in the body.

Skill Fitness – All Barcelona Captains Play Respectfully

- **Agility** - the ability to move quickly and precisely or change direction without losing time or balance. (football, basketball, rugby)
- **Balance** - the ability to maintain your centre of mass over a base of support (static and dynamic) (gymnastics, team sports)
- **Co-ordination** - the ability of parts of the body to work together to move smoothly and accurately (table tennis, cricket, tennis)
- **Power** – The combination of Strength x speed. (boxing, sprinting, shot put)
- **Reaction time** - the time taken for a sports performer to respond to a stimulus and the initiation of their response (100m sprint, swimming, goalkeeping)

Memory Technique (acronyms and imagery)

Physical Fitness

1. **B**ody Composition
2. **A**erobic Endurance
3. **S**trength (Muscular)
4. **S**peed
5. **F**lexibility
6. **M**uscular Endurance

FMMSAB



Aerobic endurance +
Body composition



Strength



Speed



Flexibility



Muscular
endurance

Skill - related Fitness

1. **B**alance
2. **C**o-ordination
3. **R**eaction time
4. **A**gility
5. **P**ower

ABCPR



Power +
Reaction time



Dynamic balance



Co-ordination



Agility

Basic Principles of Training = FITT

The FITT principle makes up the basic principles of training.

<p><u>Frequency</u> Frequency is the number of training sessions you complete over a period of time. You should aim to complete 3-5 sessions per week.</p>	<p><u>Intensity</u> Intensity is how hard you train. Intensity can be prescribed using heart rate (HR) or rated perceived exertion (RPE)</p>	<p><u>Time</u> Time is how long you train for. Aim for 15-60 minutes depending on the intensity. If you have low levels of fitness, reduce intensity and increase time</p>	<p><u>Type</u> Type refers to how you train. The appropriate method of training should be selected e.g. for speed you could use acceleration or hollow sprints or interval training.</p>
<p><u>Scenario</u> Kelly has designed a training session which she is going to deliver to her classmates. The aim of her circuit is to improve muscular endurance. She has 8 stations in the circuit and participants will work for 30 seconds at each station.</p> <p><i>Frequency</i> - this would gradually increase from 3 sessions per week to 5 sessions per week.</p> <p><i>Intensity</i> - Kelly could increase the intensity of the circuit by increasing the work period or increasing the number of stations/circuits</p> <p><i>Time</i> - Kelly could increase the length of the session by increasing the time spent at each station. She could also reduce the rest period.</p>	<p><u>Scenario</u> Rudi has joined his local gym with the aim of improving his strength. Rudi has chosen to use free weights as his method of training.</p> <p><i>Frequency</i> - Rudi would gradually increase the number of times he goes to the gym from 3-5 times per week</p> <p><i>Intensity</i> - as Rudi is aiming to improve his strength he should be working at a high intensity and with low repetitions. He would begin at around 75% of 1RM and gradually build to 90% 1RM. Initially he may increase the reps and keep the weight the same. When the weight increases he may reduce the reps.</p> <p><i>Time</i> - Initially he may increase the reps and keep the weight the same. When the weight increases he may reduce the reps. Over time the number of sets will increase</p>	<p><u>Scenario</u> Sam is training to run in his first half marathon later on in the year. He has chosen to use interval training as one of his training methods to improve his aerobic endurance. He initially begins training 3 times a week, running for 2 minutes (60% HRmax) and walking/jogging for 1 minute. He repeats this until he has completed 30 minutes.</p> <p><i>Frequency</i> - Sam would gradually increase the number of training sessions from 3 to 5</p> <p><i>Intensity</i> - Sam would gradually increase his working intensity from 60% HRmax to 85% HRmax. He could also increase the intensity by reducing the rest period</p> <p><i>Time</i> - Sam would gradually increase the time of the work periods, decrease the time of the rest periods and increase the number of intervals per session</p>	

Additional Principles of Training - PARISRV

<p>Specificity Specificity means that training should be specific to your preferred sport, activity or developing physical/skill-related fitness goals</p> <p>For example, a distance runner who is training for a cross country event is more likely to undertake fartlek training than continuous training.</p>	<p>Individual differences/needs Individual differences/needs means that the programme should be designed to meet your training goals, needs, ability, level of fitness, skill level and exercise likes/dislikes.</p> <p>For example, a person with a low level of fitness will start with lower intensity and gradually build up.</p>	<p>Reversibility Reversibility means that if you stop training, or the intensity of training is not sufficient to cause adaptation, training effects are reversed. Reversibility is also known as de-training.</p> <p>For example, if someone was to get injured and miss a prolonged period of time their fitness levels would decrease.</p>	<p>Rest and recovery Rest and recovery are essential to allow the body to repair and adapt, and for the renewal of body tissues. If your body doesn't get a chance to recover then the rate of progression can be reduced.</p> <p>For example, if you train 7 days a week there is a chance injury could be caused from over-training.</p>
<p>Adaptation Adaptation occurs during the recovery period after the training session is complete. Adaptation is how your body increases its ability to cope with training loads.</p> <p>For example, if you are taking part in strength training the adaptation over a period of time will be hypertrophy of the muscles.</p>	<p>Progressive overload In order to progress, training needs to be demanding enough to cause your body to adapt, improving performance. Increase your training workload gradually. This can be done by increasing frequency, intensity or time, or by reducing recovery times. Do not use all of these methods at once, as the increase in workload may lead to over training resulting in injury or illness</p>	<p>Variation It is important to maintain interest; this helps an individual keep to their training schedule. Vary your training programme to avoid boredom and maintain enjoyment.</p> <p>For example, if you are training 3 times a week to improve aerobic endurance, you could use the 3 different methods of training (fartlek, continuous, interval)</p>	<p>Memory acronym</p>  <p>PARIS RV</p>

Exam tip: If you are asked a question about the additional principles of training, you should explain what the principle of training is, why it should be applied to a training programme and the effect this will have on the performer.