



Unit III: Physical Fitness, Wellness & Lifestyle

Content

- Meaning & importance of Physical Fitness, Wellness & Lifestyle
- Components of Physical Fitness and Wellness
- Components of Health-related Fitness

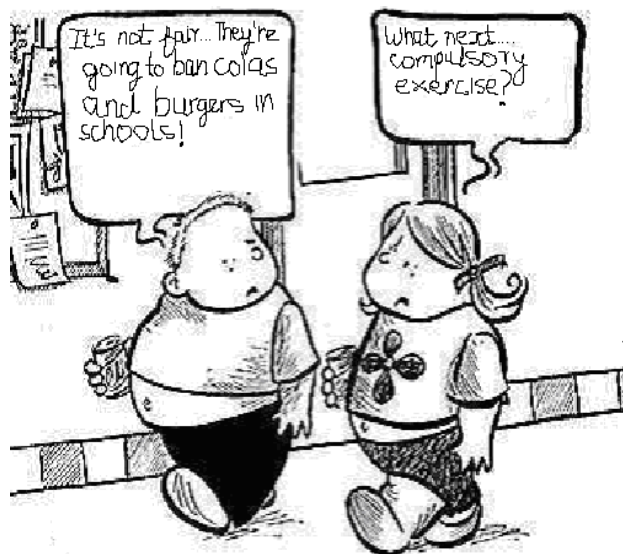
Learning Objectives

After completing the study of this Unit, you will be able to:

- describe concept of a healthy life style
- explain wellness and its importance and define the components of wellness.
- classify Physical Fitness and recognise its importance in life.
- distinguish between skill-related and health-related components of physical fitness.

Discussion

Look at the cartoon given below. As a result of a sedentary lifestyle and unhealthy eating habits, obesity among children is on the rise. Using information from the cartoon given below and your ideas, deliver a speech in your class on the importance of healthy eating and regular exercise.



Cases of diabetes in India have seen an increase in the last one decade. In fact, incidence of diabetes is the second highest in India, only next to China. The reasons mentioned by the doctors and the experts are change in lifestyle and eating habits. The magnitude of the problem is so huge and growing so rapidly that the government is revisiting health promotion strategies for increasing awareness. Physical activities, healthy diet and a change in lifestyle have been highly recommended to overcome the new health issue.

Let's understand the importance of a healthy life style so that contemporary issues leading to lifestyle related diseases can be addressed.



3.1.1 DEFINITIONS OF LIFE STYLE

A way of living of individuals, families (households), and societies, which they manifest in coping with their physical, psychological, social, and economic environments on a day-to-day basis.

– Business Dictionary

The particular way that a person or group lives and the values and ideas supported by that person or group.

– CambridgeDictionary

Lifestyle is the interests, opinions, behaviours, and behavioural orientations of an individual, group, or culture.

– Adorno (1991)

Lifestyle is a way used by people, groups and nations and is formed in specific geographical, economic, political, cultural and religious text. Lifestyle is referred to the characteristics of inhabitants of a region in special time and place. It includes day to day behaviours and functions of individuals in job, activities, fun and diet.

– Dariush d. Farhud (2015)

Based on the definitions above, we can conclude that lifestyle is the way of life of an individual or a group (family, peer group, office group, religious group etc.) that includes the way they live, their day to day life, the pattern of their social relationships, food habits, entertainment and dress. Lifestyle is expressed in the individual's activities, attitudes, interests, opinions and values. Life style can, therefore, be described as the actions or reactions of an individual or group.

Do you know?

Lifestyle – A way of life or style of living that reflects the values and attitudes, the living conditions, behaviour, and habits of a person and group that are typical of them or are chosen by them.

Wellness – The state of being healthy and free from disease.

Physical Fitness – The degree to which one is healthy and strong. **Physical activity** – Body movement that is carried out by the skeletal muscles and requires energy.

Exercise – Planned, structured, repetitive movement intended to improve or maintain physical fitness.

Workout – The component of a total physical activity programme designed to produce health, wellness, fitness, and other benefits using appropriate amounts of different types of physical activity.



While technology has transformed life and benefited society in myriad ways, changing the way we work, live and relax, at the same time these new developments have had certain very serious implications. A worrying consequence of the increase of technology has been its impact on lifestyle and physical health. Since technology has made execution of many of our daily chores possible by the simple pull and push of handles or buttons, most people have no need to exert physically for even the most basic or regular chores because one need not go to the market to purchase the groceries. You just need to send the list online, or on the telephone, and your groceries will be delivered to your home. All kinds of bill payments, banking transactions, sale or purchase of any goods can be done from the comfort of one's home. Use of effort-saving devices like telephones and escalators has minimised human effort and movement. Physical inactivity and poor lifestyle habits have led to serious health related problems.

Physical inactivity leads to hypokinetic diseases. The term **Hypokinetic** is derived from *hypo* meaning **low** or **little** and *kinetic* meaning **movement** or **motion**. Hypokinetic diseases, therefore, are diseases brought on, at least in part, by insufficient movement and exercise. Hypokinesia has been identified as a risk factor for the origin and progression of several widespread chronic diseases, including back pain, obesity, heart-related diseases, high blood pressure etc. There are a few factors, other than physical inactivity, which have negative effect on our health including stress, faulty nutrition and environment. There are several identified health related problems in India which occur due to poor lifestyle. Obesity, problems related to mental health, heart diseases, respiratory diseases, cancer, food allergies, hormonal disorders are diseases which are caused by drinking alcohol, smoking and chewing tobacco, eating junk food or food with high salt and sugar content, excessive stress of any kind related to occupation or personal relations, and air, water and noise pollution etc.

A press release of the Ministry of Health and Family Welfare, Government of India reveals that in 2016, 62% deaths were caused by non-communicable diseases. National Family health survey tells us that about 60% of these persons had a history of hypertension, and that one woman out of ten and one man out of seven of the ages of 15 to 49 years are hypertensive. A 2017 survey conducted by Centre for Science and Environment revealed that one in every twelve Indians is a diabetic, every third child in Delhi has damaged lungs, and that 30% deaths in India are caused by air pollution. The Study also predicted more than 1.73 million new cancer cases are likely to be recorded each year by 2020 in India due to faulty lifestyle habits.



**Extension Activity**

Question at least 15 students from your school or a nearby school. Get them to complete the questionnaire.

1. Do you have any of the following health conditions?

Heart Disease	High Blood Pressure	Type 2 Diabetes	Depression
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2. Do any of your immediate family members have any of the following, and if so, who?

Heart Disease	High Blood Pressure	Type 2 Diabetes	Depression
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3. On average, how many days per week do you get at least 60 minutes of moderate to vigorous physical activity or play?

4. On most days of the week do you

- walk or cycle to school? Yes / No
- participate in physical education class at school? Yes / No
- participate in organized physical activity (sports, dance, martial arts, etc.) or spend 30 minutes or more playing outside? Yes / No

5. Do you think you are underweight about right over weight

7. On average, how many hours per day of recreational screen time (video games, TV, Internet, phone, etc.) do you get?

8. On an average, how many servings of fruits and vegetables do you eat each day?

9. On average, how many 200 ml of carbonated drinks do you have each day?

10. On average, how many times per week do you eat fast food?

11. How many hours of sleep do you typically get (including naps) every day?

12. Do you often feel tired, fatigued, or sleepy during the day time? Yes / No

Share your findings in your group.

Based on the information, design a poster advocating a Healthy Lifestyle.

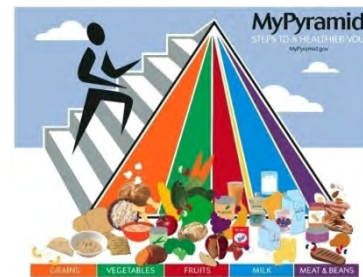


3.1.2 HEALTHY LIFESTYLE HABITS



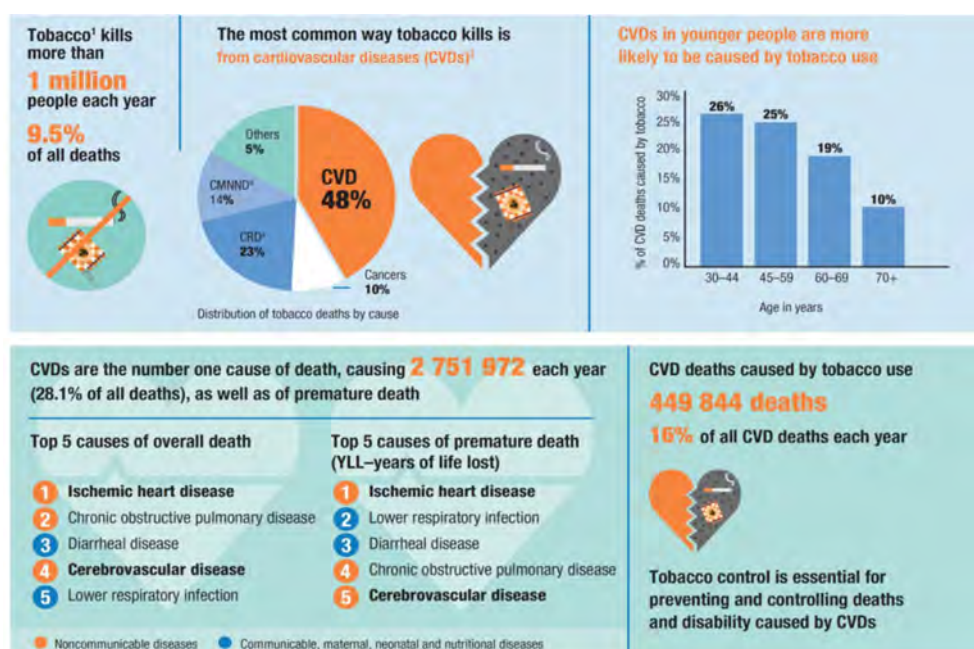
It is essential to adopt healthy lifestyle habits to stay fit and healthy.

1. **Taking a balanced diet** – Taking three main meals and two additional meals every day is important. Meals should include proper nutrients like proteins, fats, carbohydrates, fibres, vitamins, minerals etc. Intake of calories should be balanced with calorie consumption. Junk foods should be avoided because such foods are high in calories and low in proteins and other vitamins, minerals and other nutrients. It is also important to include fruits, vegetables, fibre and water in the diet.





2. **Participating in regular physical exercise** – Second only to smoking, physical inactivity is the highest cause of preventable deaths in the world. It is important to get regular physical exercise at least three times in a week. Each session of physical activity should be between 30 minutes to 45 minutes in which 20 to 30 minutes should be given to aerobic exercises like cycling, running, jogging, swimming and the remaining time should be given to strength-training along with flexibility exercises.
3. **Taking adequate rest** – An individual requires 7 to 8 hours of sleep daily. Any kind of continuous work or activity, e.g., three to four hours of sitting on a chair, should be avoided. One should avoid maintaining the same posture for long time. Care should also be taken to avoid any kind of vigorous activity which is beyond the physical limits of an individual. It is essential to take proper rest after strenuous activity.
4. **Avoiding use of tobacco and alcohol** – Smoking and chewing of tobacco is one of the most important causes of illness and premature deaths not just in India, but also in the world, and it is a cause of death which is preventable. According to WHO, tobacco is responsible for more than a million deaths in India each year. Consumption of alcohol is not only a health related problem, but is also a social problem. Alcohol can affect the way the brain works, changing mood and behaviour, making it harder to think clearly or move with coordination. Excessive drinking over a long time may also damage the heart, or lead to a stroke and liver cirrhosis.



5. **Fighting obesity** – Obesity is a medical condition in which excess body fat accumulates to an extent that it may have a negative effect on health. It is important to maintain the recommended body weight through exercise and through taking a balanced, nutritive diet. Alternate or cosmetic methods to reduce body weight should be avoided. Obesity leads to health-related problems like cardiovascular diseases, type 2 diabetes, high blood pressure, cancer and arthritis.



6. **Overcoming stress** – Stress is body’s reaction to a challenge or demand. Body reacts to stress by releasing hormones. These hormones make the brain more alert, cause muscles to tense and increase the pulse. It also causes feelings of frustration, anger, or nervousness. In short bursts, stress can be positive, such as when it helps you avoid danger or meet a deadline. But when stress lasts for a long time, it may harm your health. Negative stress leads to health related and social problems, including high blood pressure, heart disease, diabetes, obesity, depression or anxiety. Stress can be reduced through exercise and stress management techniques.
7. **Making healthy friendships** – Making friends not only enhances social interaction but boosts good health. Friends encourage positive behaviour, e.g., friends who are fitness enthusiasts, encourage their friend to lead a lifestyle that is physically active. On the other hand, unhealthy friendships play a destructive role and lower self-esteem. Mortality rates are higher in those who are not well adjusted in society as this leads to social isolation and loneliness.
8. **Maintaining a pollution-free environment** – Increased environmental pollution in present times is responsible for more than one-third of the health-related problems. According to a report published in Down to Earth “Outdoor air pollution has become the fifth largest killer in India after high blood pressure, indoor air pollution, tobacco smoking, and poor nutrition.” Breathing polluted air leads to unusually high rates of lower respiratory infections, heart disease, strokes, and lung cancer. In 2015, water pollution, led to 0.5 million deaths, while unsafe sanitation caused 0.32 million deaths. It is important to use proper equipment for protection against pollution e.g., using a face mask, filtering drinking water, washing vegetables and fruit before eating etc.
9. **Spreading education** – Education is one of the lifestyle indicators which helps to promote longevity. Health economists argue that better educated people are more likely to choose healthier lifestyles. People from a higher educational background are, on average, less likely to smoke, abuse alcohol, and will exercise more, eat healthier foods, and have more frequent health checks than those who are not educated. This can be explained by a variety of different reasons. For instance, students with healthier lifestyles may be more efficient in acquiring knowledge so they tend to perform better at school, they also stay in school for longer, work more at younger ages and invest more in positive health-related behaviours.
10. **Adopting adequate safety measures** – All of us are familiar with the adage “Accidents happen.” This suggests that at times unfortunate happenings are



unpredictable and unavoidable. While it may be true to some degree that tragedy strikes in unexpected ways, we can minimise the effects of these accidents because injuries that occur as a result of these accidents are preventable by taking precautionary measures like wearing seat belts during driving, wearing a helmet while riding a two-wheeler, using occupational safety gear etc. An individual must read and implement all safety rules before using any device and must wear protective gear before carrying out any activity which has high degree of risk of injury. e.g., while participating in sports, athlete should wear prescribed uniform or sports kit and protective equipment before they participate in the game like wearing a face mask in boxing, abdomen guard, batting pads in cricket etc.

3.1.3 MODIFICATION OF LIFESTYLE BEHAVIOUR

Modification of behaviour for lifestyle change is a difficult process. Many a times, an individual pledges that he/she will not eat junk food because it is not good for health, or get regular physical exercise to promote good health, or reduce weight to stay fit. There are lots of people who want to change their lifestyle, but are not able to do so because of various factors. There are personal factors that affect an individual's health behaviour but are beyond their control, like heredity, age etc. Heredity plays an important role in health behaviour, e.g., some individuals may have a natural tendency to gain weight and it may affect their fitness level. Genes contribute to obesity in many ways like affecting appetite, satiety (the sense of fullness), metabolism, food cravings, body-fat distribution, and the tendency to use eating as a way to cope with stress. Age is another factor which affects behaviour. e.g., a younger person may be more likely to eat junk food, drink alcohol, or smoke but an older person would try to avoid such substances. However, the most important reason for non-communicable diseases is an unhealthy lifestyle. Thus, these diseases are preventable if lifestyle is modified.

The Trans-theoretical model, also called the Stages of Change Model, works on the assumption that people do not change behaviour quickly and decisively. Rather, change in behaviour, especially habitual behaviour, occurs continuously through a cyclical process. There are five different stages in which lifestyle behaviour may be modified. This model has been applied for different lifestyle modifications. e.g., quitting of smoking, alcohol, weight control, regular physical activities etc.

Art Integration – AEROBIC EXERCISE

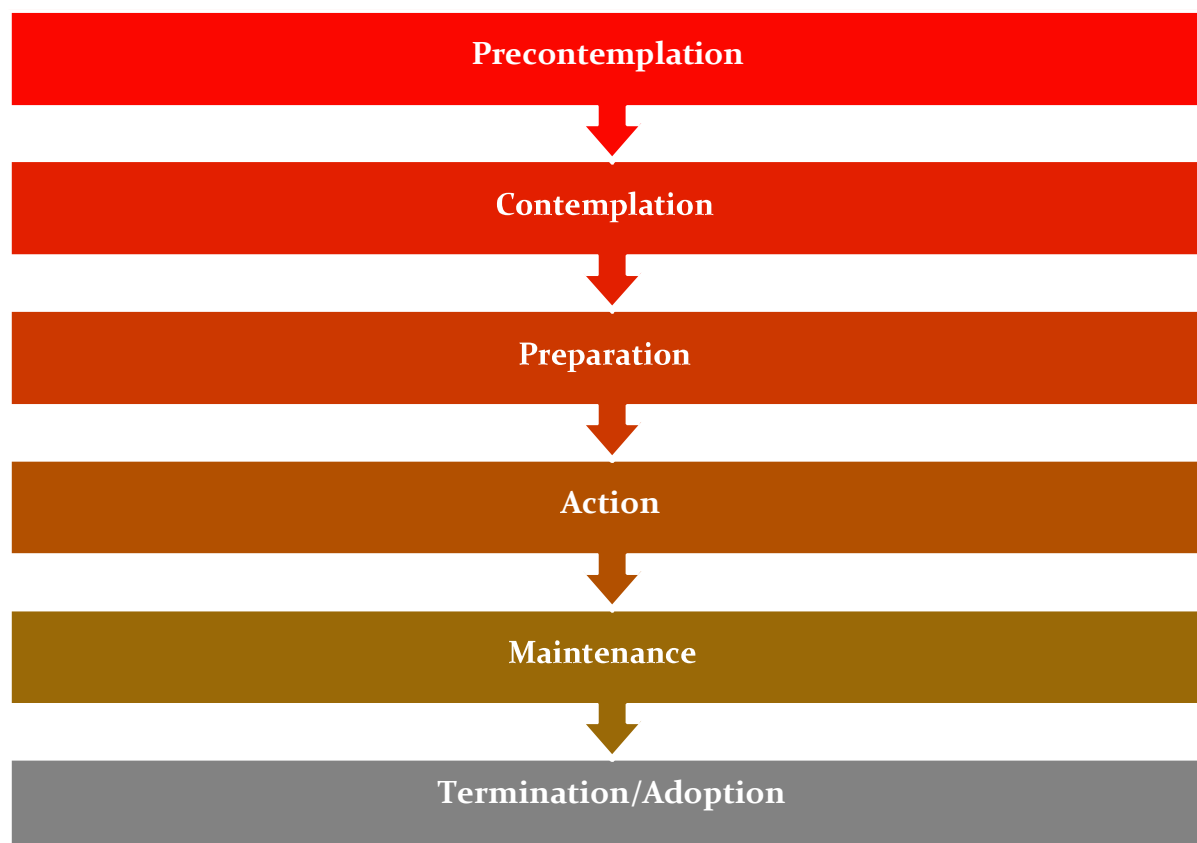
Dancing is an aerobic activity that improves your balance and co-ordination. It's suitable for people of all ages, shapes and sizes.

Whether you like to jump or jive, tap or tango, do the hip hop or salsa, dancing is one of the most enjoyable ways for losing weight, maintaining strong bones, improving posture and muscle strength, increasing balance and co-ordination, and beating stress.

Working in Groups,

- choose the dance style you wish to incorporate into your exercise routine.
- learn/improvise steps.
- choose/create your own music.
- set the dance steps to music.

Perform your Aerobic Dance Activity in the school PE period.



1. **Precontemplation** -- In this stage an individual does not want to change in the near future because she/he is unaware that her/his behaviour is problematic or produces negative consequences. Other people in her/his life –friends or family – clearly identify the problem but the affected person avoids information or indications or warnings. Even somebody offering a free consultation for quitting the unhealthy lifestyle does not affect her/him. At this stage, the individual is the most complex person to deal with, as no one can help someone until the affected person does not want to change herself/himself. Education is the only way to deal with such kind of people. Challenging them in a way that they are held responsible for adverse effects in future or describing the situation that may affect their family members, may help them out from this stage.

Do you know?

Lapse – A lapse is a slip up with a quick return to action or maintenance.

Relapse – a relapse is a full-blown return to the original problem behaviour.

2. **Contemplation** – An individual in this stage recognizes the problem and seriously wants to change her/his behaviour, but they are not ready to change themselves right now. They gather information about the problem and work on it, finding out the positives and negatives in that. They may make an action plan to change their lifestyle behaviour over the next six months, but they may still feel ambivalent towards changing their behaviour. It is also possible that they remain at the same stage for years. The important support groups to help them move out from this stage include friends, family, peer groups.





3. **Preparation** – In this stage the individual seriously wants to change the behaviour within the time limit of one month. An individual tries new behaviour for short periods of time and takes a few steps towards change in his/her behaviour like doing regular exercise for few days, stopping intake of junk food for few times etc. In this phase the individual prepares general objectives and illustrates specific objectives to achieve his/her goals. Environmental and peer group support can help them out from this situation.
4. **Action** – An individual manages time and energy in this stage. Now the individual works on the objectives and modifies her/his behaviour as per need. e.g., she/he does regular exercise five days a week or balances her/his diet as per set objectives. Downfall is common during this stage as, generally, the individual takes a break or leaves the objective within six months of beginning the new behaviour. Individuals should remain focused on the objective and identify the hurdles or barriers which restrict the action. If people maintain the activity for six months continuously then they enter into the next stage.
5. **Maintenance** – People at this stage are those who changed their behaviour more than 6 months ago. It is important for people during this stage to be aware of situations that may tempt them to slip back into doing the unhealthy behaviour—particularly stressful situations. Here, the important point is to follow the specific guidelines which govern behaviour like exercising, taking aerobic training along with anaerobic, or taking proper balanced diet with prescribed servings etc. In this phase the individual focuses on the benefits which she/he is getting.
6. **Termination/Adoption** – In the stage known as Termination or Adoption stage, the individual maintains his/her modified behaviour for more than five years without any break. The term “termination” is used in case of negative behaviour being terminated e.g., quitting of smoking, or taking alcohol. The word “adoption” refers to positive behaviour that has been adopted for five years continuously. Once an individual has entered in this stage, it is believed that lifestyle behaviour is adopted or terminated. Now the individual feels she/he will not relapse into negative behaviour. However, experts believe that in case of positive behaviour like weight reduction, taking regular exercise or a balanced diet, the chance of relapse is always high.

While for some individuals, relapses can be important for learning and helping the person to become stronger in their resolve to change, on the other hand, for others, relapses can be a trigger for giving up the process of change. The key to recovering from a relapse is to review the “quit attempt” up to that point, identify personal strengths and weaknesses, and develop a plan to resolve those weaknesses to solve similar problems the next time they occur. Relapse is a factor in the action or maintenance stages. Many people who change their behaviour decide for a number of reasons to resume their drug use or return to old patterns of behaviour. Research clearly shows that relapse is the rule rather than the exception.



I. Tick the correct options.

1. "I refuse to quit smoking! There is absolutely nothing wrong with what I am doing." Which of the following stages in the Trans-theoretical Model describes this individual?
 - i. Action
 - ii. Preparation
 - iii. Contemplation
 - iv. Pre-contemplation
2. In the Transtheoretical model, the maintenance stage refers to the period of _____ when the individual attains new behaviour.
 - i. one months to six months
 - ii. one month to five years
 - iii. six months to two months
 - iv. six months to five years

II. Answer the following questions briefly.

1. Define lifestyle with a suitable example.
2. Define the pre-contemplation stage of Trans-theoretical model

III. Answer the following questions in 150-200 words.

1. What is a healthy life style? How does it affect our health?
2. List down some good Lifestyle Habits
3. How can we modify our health-related life style?

Do you know?

TOP 10 CAUSES OF DEATH

	% of total deaths	% change 2005 to 2015
Heart attack/failure	16	+17
Lung disease (COPD)	10	+4
Stroke/brain hemorrhage	8	+7
Bronchitis/Pneumonia	5	-23
Diarrheal diseases	5	-32
Tuberculosis	5	-31
Diabetes	3	+35
Chronic kidney disease	3	+21
Preterm birth	3	-40
Road injuries	3	-3

■ Communicable
■ Non-communicable
■ Injuries



3.2.1 CONCEPT OF WELLNESS

The WHO defines health as “a state of physical, mental, and social well-being, not merely the absence of disease.” While the term **Health** focuses on an individual’s illness status and her/his relationship to that status, **wellness** transcends the absence of disease. It is much more than merely physical health, exercise or nutrition. In fact, wellness is the full integration of states of physical, mental, and spiritual well-being. Wellness is about living a life full of personal responsibility and, therefore, taking proactive steps for one’s entire well-being. This means that a person living a life of wellness controls risk factors that can harm her/him. Risk factors are different types of actions or conditions that increase a person’s chances for illness or injury. e.g., smoking is a risk factor as there is a risk for developing lung cancer. Alcohol is a risk factor as there is a risk for developing liver damage. So, an individual takes pro-active steps to remove such health risks from her/his life.



Maintaining an optimal level of wellness is absolutely crucial to living a higher quality life. Wellness matters because everything we do, and every emotion we feel, relates to our well-being. In turn, our well-being directly affects our actions and emotions. It’s an on going circle. Therefore, it is important for everyone to achieve optimal wellness in order to reduce stress and the risk of illness and to ensure positive interactions.

Thus, wellness may be defined as “the optimal state of health of individuals and groups. There are two focal concerns: the realization of the fullest potential of an individual physically, psychologically, socially, spiritually, and economically, and the fulfilment of one’s role expectations in the family, community, place of worship, workplace, and other settings.” – WHO Health Promotion Glossary Update 2006.

The integration of many different components (physical, emotional/mental, intellectual, social, and spiritual) that expand one's potential to live (quality of life) and work effectively and to make a significant contribution to society. Wellness reflects how one feels (a sense of well-being) about life, as well as one's ability to function effectively. Wellness, as opposed to illness (a negative), is sometimes described as the positive component of good health.

– Charles B. Corbin, Gregory J Welk, William R Corbin, Karen A Welk

Wellness is an active process through which people become aware of, and make choices toward, a more successful existence.

– National Wellness Institute

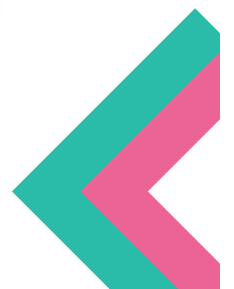
Thus, wellness is a continuous and thoughtful process to stay healthy and achieve total wellbeing. It is a positive and ideal state of an individual which is reflected in day to day work, contribution to society, optimal functioning and having a healthy quality of life.



3.2.2 THE SEVEN COMPONENTS OF WELLNESS

Most people think that physical fitness alone is sufficient to lower the risk of health-related diseases but it is not true. e.g., consider an individual who regularly does vigorous physical training in which she/he does aerobic exercises thrice a week, does weight training, and stretching and maintains a good ratio of fat percentage of the body, but at the same time she/he eats junk food regularly, smokes and drinks alcohol. By doing so, she/he is increasing her/his chances of suffering from cardiovascular disease and other health related issues.

Wellness includes factors like spirituality, healthy diet, regular physical activity, personal safety, avoiding drug abuse, preserving environment, prevention of disease, stress management etc. In fact, there are seven components of wellness namely physical, emotional, mental, social, environmental, occupational, and spiritual which are interlinked with each other.





1. **Physical Wellness** – Physical wellness is an individual's ability to meet the demands of day to day work and being able to take care of her/his health. Overall physical wellness encourages the balance of physical activity, nutrition and mental well-being to keep the body in top condition. Obtaining an optimal level of physical wellness allows the individual to nurture personal responsibility for her/his own health. As the individual becomes conscious of her/his physical health, she/he is able to identify elements she/he is successful in, as well as elements she/he would like to improve. Physical Wellness includes regular vigorous activities, balanced diet, proper rest, avoiding intake of tobacco or alcohol, living in a healthy environment, following safety precautions etc. A physically fit individual must have optimum muscular endurance, muscular strength, cardio vascular endurance, flexibility and a fit body composition.



2. **Emotional Wellness** – Emotional wellness inspires self-care, relaxation, stress reduction and the development of inner strength. It is an individual's ability to understand and balance her/his emotions, accept her/his own weaknesses, and respect another's strength. It is important to be attentive to one's positive and negative feelings and be able to understand how to handle these emotions. It allows the individual to accept her/his feelings. Once the individual accepts her/his feelings, she/he begins to understand why she/he is feeling that way, and can decide how she/he would like to act in response to those feelings. Emotional wellness also includes the ability to learn and grow from experiences. It is important in today's life that an individual should be able to cope with stress, adjust to one's environment, enjoy her/his life. Trust, self-esteem, self-confidence, optimism are key words for emotional wellbeing.



3. **Mental Wellness** – Mental wellness, also known as intellectual wellness, is an individual's ability to learn, evaluate, accept new ideas, develop creative thinking, have a good sense of humour, and promote a lifelong learning process. Intellectual wellness encourages the individual to engage in creative and mentally-stimulating activities that expand her/his knowledge and skills while allowing her/him to share them with others. Intellectual wellness can be developed through academics, cultural involvement, community involvement and personal hobbies. Intellectual wellness encourages learning and enables the individual to explore new ideas and understandings. It also stimulates curiosity, thereby developing a desire to try new things. An individual with intellectual wellbeing is open-minded and clear, enthusiastic to gather knowledge, accepting of ideas put forth by others.
4. **Social Wellness** – It is an individual's ability to positively interact with the people of different cultures, ages, gender, religion etc. without building stereotypes. Social wellness refers to the relationships an individual may have and how she/he interacts with others. Her/His relationships can offer support during difficult times. Social wellness involves building healthy, nurturing and supportive relationships. Conscious actions are important in learning how to balance one's social life with one's academic and professional lives. Surrounding oneself with a positive social network increases one's self-esteem. Social wellness enables an individual to establish communication and trust and to manage conflict. Having good social wellness is critical to building emotional resilience.
5. **Environmental Wellness** – Environmental wellness refers to respecting the environment and natural resources. Environmental wellness inspires the individual to live a lifestyle that is respectful of one's surroundings and leading the individual to take action to protect it. It promotes respect for all nature and all species living in it. It encourages the individual to adopt habits that promote a healthy environment resulting in a more balanced lifestyle. It helps develop habits like producing and eating organic food, minimising the use of petroleum products, and reducing air, water, noise and land pollution or food contamination. We are answerable to future generations in regard to natural resources. We should recycle the products which we use and reduce waste and pollution.
6. **Occupational Wellness** – Occupational Wellness is the ability to achieve a balance between work and leisure time, addressing workplace stress and building relationships with co-workers. It focuses on the individual's search for a calling and involves exploring various career options and finding where one fits. Occupational wellness deals with satisfaction from job and career of an individual. It is not about holding a big post in a company or drawing a high salary etc. e.g., Individual 'A' may have a good salary in a reputed company, but she/he may not be able to execute the plans or policies of the company effectively. Thus she/he may be stressed. Whereas Individual 'B', drawing a lesser salary and occupying a lower post than A may be satisfied with her/his life. An individual picking up a job should consider internal and external rewards.
7. **Spiritual Wellness** – Generally, people think that spiritual wellness is linked with religion, but the core of spiritual wellness is to find the meaning and direction of



life. Spiritual wellness allows an individual to be in tune with her/his spiritual self and to appreciate her/his life experiences for what they are. It lets one find meaning in life events and define one's individual purpose. By finding meaning in her/his life experiences, the individual will be able to develop a harmony between her/his inner self and the outside world. A spiritually well individual should have beliefs, principles and values which guide and strengthen her/his life. By following the path of spirituality an individual gets faith, love, peace, joy, closeness with others, altruism, compassion and forgiveness.

Thus, we can see that all the components of wellness are linked with each other. Wellness is holistic, because rather than focusing on symptoms, it is important to integrate body, mind, and spirit as one whole person. Wellness also considers the self as the only true healer as one's wellness is one's own responsibility. Health professionals can only help facilitate the healing process. It is the individual's body, mind, and spirit that do all the healing. Therefore, it is important to think positive thoughts as negative thinking strips one of power and control. Wellness is outcome-oriented. As soon as one is able to identify a problem, one's energy must be put into the solutions.

3.2.3 IMPORTANCE OF WELLNESS

Wellness requires continuous and thoughtful efforts to remain healthy and to reach the highest level of wellbeing. Overall physical wellness is achieved through the balance of physical activity, nutrition and mental well-being to keep your body in top condition. Health related lifestyle habits lead to longevity, improve quality of life and help achieve total wellbeing.

After reading seven dimensions of wellness an individual can understand the importance of wellness:

- Wellness Programme should be developed with an aim to providing health-related lifestyle education with required support and resources to achieve wellness.
- Wellness makes the individual responsible for taking good decisions and adopting good practices and preventative measures for achieving optimum level of physical, emotional and social functioning.
- Wellness Programmes enable an individual to understand health issues like chronic diseases, cancer, cardiovascular disease, STDs, obesity, nutrition, diabetes, injuries, and other lifestyle related diseases and enhances longevity and the quality of healthy life.
- It promotes the behaviours which help maintain good health like quitting smoking, giving up alcohol abuse etc. and reducing social evils like violence, abuse, child labour, gender inequality, caste system etc. and adoption of positive values that result in an individual becoming a good citizen of the country.
- It also enables an individual to maintain balance between work, personal life and health that results in efficient and consistent output and improves general health,



and fitness through adopting regular physical activities.

- It also helps to develop healthy social environment where people share and solve personal and social problems, thus making the individual socially accessible and culturally sensitive.
- Wellness components like physical, emotional, mental, social, environmental, occupational, and spiritual are highly inter connected and can help to make environment disease and pollution free.

I. Tick the correct option.

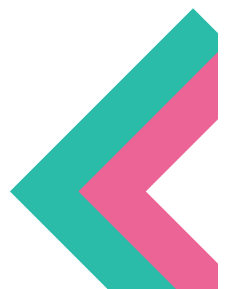
1. Which of the following is NOT a component of Wellness
 - a. Physical
 - b. Cosmetic
 - c. Mental
 - d. Occupational
2. Occupational wellness is related with
 - a. fitness
 - b. meditation
 - c. environment
 - d. job

II. Answer the following questions briefly.

1. Define wellness.
2. Define the physical component of wellness
3. Define the spiritual component of wellness

III. Answer the following questions in 150-200 words.

1. What is wellness? What is importance of wellness?
2. Describe the seven components of wellness



**Extension Activity**

Your school wishes to draw up an action plan for promoting wellness among all its students. Working in groups, help the school authorities draw up a plan wellness plan by suggesting activities.

Wellness Component	Activity suggested
Physical Wellbeing	
Emotional Wellbeing	
Mental Wellbeing	
Intellectual Wellbeing	
Environmental Wellbeing	
Occupational Wellbeing	
Spiritual Wellbeing	

3.3.1 PHYSICAL FITNESS

Before we begin, it is essential to understand the meaning of different terms– Exercise, physical activity and physical fitness. We often use these terms interchangeably, which is not the correct usage. Exercise refers to planned, structured and repetitive bodily movements aimed at improving one or more components of physical fitness. e.g., swimming as an exercise aims at improving cardio vascular endurance. Physical activity, on the other hand, is any bodily movement which is not specifically designed for physical fitness but results in significantly increasing resting energy expenditure. e.g., walking will increase the resting energy expenditure but will not contribute to any fitness component. Physical Fitness is a state of health and well-being and the ability to perform aspects of sports, occupations and daily activities.



Definitions of Physical Fitness

Fitness is the ability of an individual to lead a full and balanced life. It includes physical, mental, emotional, social and spiritual factors and capacity for their wholesome expression.

- Charles A. Bucher (1958)

Physical fitness is the ability to carry out daily tasks with vigour and alertness, without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet unforeseen emergencies.

- H Harrison Clarke (1976)

Physical fitness is the ability to perform moderate to vigorous levels of physical activity without undue fatigue and the capability of maintaining such ability throughout life.

(American College of Sports Medicine)

Individuals are physically fit when they can meet both the ordinary and the unusual demands of daily life safely and effectively without being overly fatigued and still have energy left for leisure and recreational activities.

- Wener W.K. Hoeger, Sharon A. Hoeger (2014)

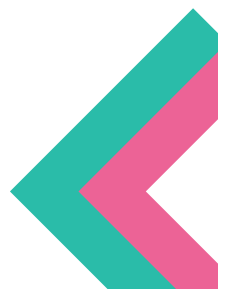
Physical fitness is associated with a person's ability to work effectively, enjoy leisure time, be healthy, resist hypokinetic diseases or conditions, and meet emergency situations.

- Charles B. Corbin, Gregory J Welk, William R Corbin, Karen A Welk, (2015)

As per above definitions an individual who is physically fit should be able to perform daily tasks efficiently and effectively, without undue fatigue, and, along with that, she/he should also successfully complete the demands of recreational activities and emergent situations.

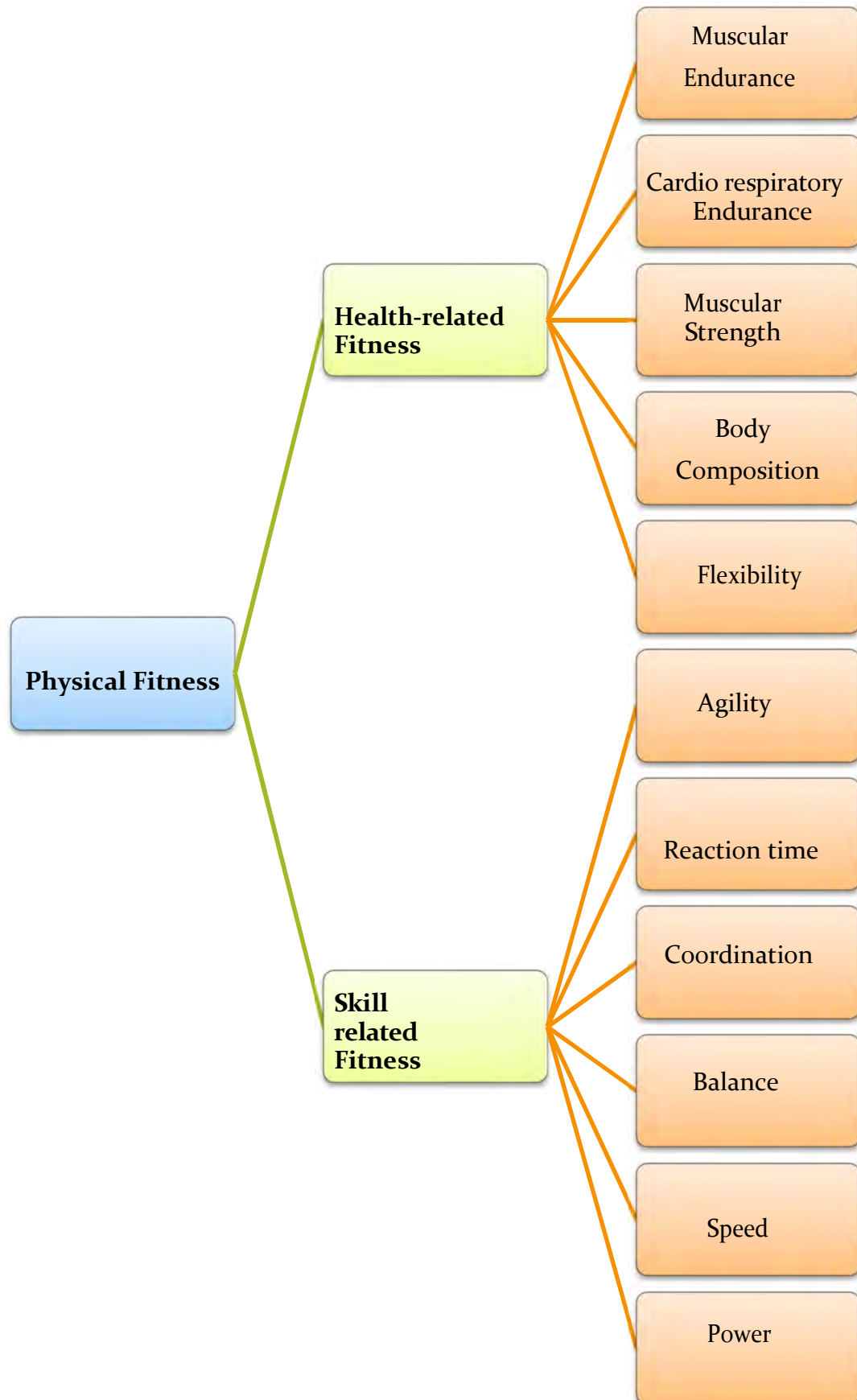
Each individual's physical fitness differs from the other's depending upon their profession or day to day activities. A doctor's activity is to check patients within the room, while a farmer works hard in the field. Similarly, a sports person performs skilfully on the field or court. But as per the definition of physical fitness each of these individuals must successfully perform their day to day tasks without undue fatigue, and have enough energy for leisure activities like going for a walk, playing table tennis or football etc. whatever she/he wishes to do. In addition, she/he should be able to meet the situation if there is an emergency at work. e.g., the doctor may be called to see a patient in an emergency, and may need to travel some distance to see the patient, or the farmer may have to rush to his farm to save his paddy crop from a natural calamity, when after a day at work, he is participating in some recreational physical activity.

There are a lot of health benefits of physical fitness. Optimum fitness is required to prevent injuries, to maintain a stable posture etc. However, physical fitness cannot be achieved without regular physical activity. Physical fitness is an important dimension of the Wellness Programme.





3.3.2 TYPES OF PHYSICAL FITNESS





1. **Health-related Fitness** – There are five components of health-related physical fitness – muscular endurance, cardio respiratory endurance, flexibility, muscular strength and body composition. These are directly related with good health, and help to reduce the risk of hypokinetic diseases. For health promotion and disease prevention, each of the components of health-related fitness are important in moderation. A higher level of health-related fitness is directly related to the degree of skill performance. e.g., moderate level of muscular strength is required to maintain posture and to prevent neck, back or knee pain etc. but a high amount of muscular strength helps to increase performance in weight lifting, jumps, throws etc.
2. **Skill-related Fitness** – Skill related fitness has six components namely agility, balance, coordination, reaction time, power and speed. These are associated with performance. An individual who has achieved a good skill-related fitness is able to achieve high level of motor skills, which are a prerequisite in sports and in certain jobs. Though, skill-related fitness is generally known as sports fitness or motor fitness, but it is very specific and multi dimensional. e.g., agility is required in combat sports as well as in the job of a fire fighter.

3.3.3 IMPORTANCE OF PHYSICAL FITNESS

Exercise helps to promote health, to maintain or improve physical appearance and to improve the overall quality of life. Physically active people live life with less health problems and enjoy a better quality of life than people who are physically inactive. Regular physical activity has lots of permanent benefits.

1. **Physical and physiological importance** – Regular exercise improves posture, thus preventing back pain, neck pain etc. and improving physical appearance. It also helps to strengthen the cardiovascular and digestive systems. Muscular strength, endurance and flexibility is also improved by regular exercise. Exercise helps to maintain the balance between lean body mass and fat, and helps maintain body weight. A physically active lifestyle speeds up the recovery process after injury, disease or intensive work out. Due to continuous physical activity, flexibility of joints increases, reducing chance of developing arthritic pain and helping to relax muscles. It helps to maintain healthy bones and to maintain bone mass, which lowers the risk of osteoporosis. It also upgrades athletic performance and keeps energy levels high. Due to regular physical activity, an individual's resting metabolic rate become high and her/his body develops such immunity which help to lower incidence of disease. As a result, the individual feels energetic and that helps in job productivity, enjoyment of leisure time activities and the ability to face emergencies.
2. **Mental and psychological importance** – Regular physical exercise increases the function of brain, enhances memory, and develops creative thinking. Physical fitness enhances self-image, increases morale, self-confidence and self-esteem and also reduces tension, stress and anxiety. Psychological well-being helps an individual cope better with stress and anxiety, thereby improving her/his mental health.



3. **Social importance** – Improved emotional health and self-esteem improves social relations. Increased self-confidence prompts an individual to reach out to others. Participation in physical activities and sports promotes leadership qualities and strengthens bonds of friendship. Also, participating in sports activities provides opportunity to meet new people who share a common interest. Meeting others may be the first step towards establishing new friendships and developing a support network.
4. **Improved health** – Continuous physical activity increases longevity and slows down the process of aging. It also decreases the mortality rate from chronic diseases. It promotes the quality of life, enabling the individual to live longer, happier and healthier. Physical activity improves sleep quality and increases sleep duration. Individuals who exercise regularly are less likely to suffer from troublesome sleep disorders, such as sleep apnea and restless leg syndrome. Regular physical activity reduces risk of heart disease, type 2 diabetes, high blood pressure, adverse blood lipid profile, metabolic syndrome, colon and breast cancers etc. It keeps the blood thin which helps to decrease chances of heart disease and stroke and to maintain level of blood lipid.
5. **Improved financial condition** – Regular physical activity makes an individual healthier and fitter and helps develop good habits. People who adopt an active lifestyle have less chances of falling ill, and less chance of disease means bigger savings in terms of money and time.

I. Tick the correct option.

1. Physical activity can help with
 - i. increased stress levels
 - ii. getting sleep apnea
 - iii. causing restless leg syndrome
 - iv. helping your social life
2. Which is NOT a health related Physical Fitness component?
 - i. Muscular endurance
 - ii. Cardio respiratory endurance
 - iii. speed
 - iv. flexibility
3. Which is a component of Skill related Fitness?
 - i. Muscular Strength
 - ii. Power
 - iii. Body Composition
 - iv. Flexibility

II. Answer the following questions briefly.

1. Write a short note on health related fitness.



2. What do you mean by skill related fitness?
3. How does physical fitness improve your financial health?

III. Answer the following questions in 150-200 words.

1. What do you mean by Physical Fitness?
2. What is the importance of Physical Fitness?

3.4.1 COMPONENTS OF HEALTH-RELATED FITNESS



Body Composition



Muscular Endurance



Cardiorespiratory Endurance

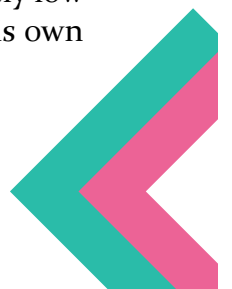


Muscular Strength



Flexibility

Body Composition – Body composition may be defined as the relative percentage of fat and lean body mass. Lean body mass is fat-free mass of our body which covers muscle, bone, and other tissues that make up the body except fat. A healthy individual should have relatively low percentage of fat in the body. It is important for an individual to regularly check her/his own





body composition because body fat is associated with incidence of heart disease, diabetes, hypertension etc. There are several techniques to measure body composition. You will study some of these methods in greater detail in Unit 7.

- Height and Weight
- Body Mass Index
- Waist-to-Hip Ratio
- Girth Circumference
- Skin folds
- Bio electrical Impedance Analysis
- Hydrostatic Weighing

1. **Height and Weight** – While measuring the height of an individual, keep in mind the following points:

- first, remove shoes
- stand up straight, and take a deep breath
- look straight ahead
- record the height in centimetres or inches

To measure the weight of an individual, the following points should be kept in mind:

- remove shoes and as many clothes as possible
- record the weight in kilograms

The next step is to compare height and weight. This can be done using given parameters. However, as per experts' opinion no single number can represent healthy weight because fat, bone, muscle mass varies from individual to individual.

2. **Body Mass Index (BMI)** – Body mass index (BMI) is a convenient rule used to broadly categorize a person as underweight, normal weight, overweight, or obese based on tissue mass (muscle, fat, and bone) and height. To calculate the index, it is required to measure height in metres and weight in kilograms. Carrying too much weight can lead to a variety of health conditions, such as type 2 diabetes, high blood pressure, and cardiovascular problems. On the other hand, a weight that is too low can increase the risk of malnutrition, osteoporosis, and anaemia.

3. **Waist-to-Hip Ratio (WHR)** – The waist-to-hip ratio (WHR) is a ratio between the circumference of the waist and the circumference of the hip. It indicates health risk of obesity. An individual who has a greater circumference of trunk is an indicator of high risk of hypertension and type 2 diabetes as compared to an individual who has equal hip and waist circumference.

5. **Girth Circumferences** – Circumferences of different segments of our body also give the estimation of body composition. It is a technique that is easy to administer and can be locally used to measure the size of muscles of arms, legs etc. It also shows the changes in the body before and after training and helps to document the body size. There are formulas to estimate the percentage of body fat where circumference is used.



6. **Skinfolds** – Skinfolds determine body fat quite accurately as compared to techniques mentioned above because skinfold measurements are directly measured. But still, it is not an absolute measure of the percentage of fat. The skinfold technique can only be performed by a trained technician with the help of skinfold callipers. Skinfold estimations are based on the principle that the amount of subcutaneous fat is proportional to the total body fat. But technically it varies according to gender, age and race.
7. **Bioelectrical Impedance Analysis** – Bioelectrical impedance analysis (BIA) is a commonly used method for estimating body composition, in particular body fat and muscle mass. In BIA, a weak electric current flows through the body and the voltage is measured in order to calculate impedance (resistance) of the body. Most of our body water is stored in our muscles. Therefore, if a person is more muscular there is a high chance that the person will also have more body water, which leads to lower impedance. Bio electrical impedance analysis (BIA) is a portable machine easy to administer and gives reliable results of body composition.
8. **Hydrostatic Weighing** – Underwater weighing is known as the gold standard method to measure body composition. It is also referred to as “underwater weighing”, “hydrostatic body composition analysis”, and “hydro densitometry”. It is a technique for measuring the mass per unit volume of a living person’s body. It is a direct application of Archimedes’ principle, that an object displaces its own volume of water. This principle can be used to determine a person’s percentage of body fat because the density of fat mass and fat-free mass are constant. Lean tissue, such as bone and muscle, is denser than water, and fat tissue is less dense than water. Basically, muscle sinks and fat floats. Therefore, a person with more body fat will weigh less underwater and be more buoyant. Someone with more muscle will weigh more underwater.

3.4.2 MUSCULAR ENDURANCE

Muscular endurance is the ability of the muscles to exert themselves repeatedly. A fit person can repeat movements for a longer period without undue fatigue. The definition of muscular endurance is the ability of a muscle group to execute repeated contractions over a period of time sufficient to cause muscular fatigue, or to maintain a specific percentage of the maximum voluntary contraction for a prolonged period of time. To measure muscular endurance following equipment are used: Free weights (barbells, dumbbells), Gym mat (curl-ups, push-ups), Stop watch.

Following activities can be used to measure muscular endurance:

- Bench-jump
- Abdominal crunch
- Bent-leg curl-up
- Bench Press
- Biceps Curl
- Triceps Curl
- Half Squat





- Wrist Curl
- Lunge

3.4.3 CARDIO RESPIRATORY ENDURANCE

Cardio respiratory Endurance is the ability of the heart, blood vessels, blood, and respiratory systems to supply nutrients and oxygen to the muscles and the ability of the muscles to utilize fuel to allow continuous exercise. A healthy individual can sustain physical activity for a longer duration without undue stress. Lack of cardio respiratory fitness may cause restriction in daily activities due to inefficiency of the heart to supply blood to different body parts. Cardiorespiratory endurance activities are also called aerobic exercises. e.g., walking, jogging, swimming, cycling, cross-country race, skiing, water aerobics, climbing stairs and skipping a rope. An individual can be tested for cardio respiratory endurance through following tests.

- 12-Minute Swim Test
- Step Test
- 1.0-Mile Walk Test
- 1.5-Mile Run Test

3.4.4 MUSCULAR STRENGTH

Muscular strength is the ability of the muscles to exert an external force or to lift a heavy weight. A fit person can do any work that involves exerting force like lifting or controlling own body weight, pushing almira at home, lifting gas cylinder etc. The definition of muscular strength is the maximal force that can be generated by a specific muscle or muscle group. Muscular endurance is defined as the ability of a muscle or group of muscles to repeatedly exert force against resistance. Muscular strength is defined as the maximum amount of force that a muscle can exert against some form of resistance in a single effort.

Do you know?

Fast Twitch fibres: muscle fibre that contracts quickly especially during brief high-intensity physical activity requiring strength such as sprinting.

Slow Twitch fibres: muscle fibre that contracts slowly especially during sustained physical activity requiring endurance such as long-distance running.

There are two types of muscle fibres that allow for both muscular endurance and muscular strength. These are the fast and slow twitch fibres.

Fast twitch fibres, also called Type 2 fibres, are the main source of muscular strength. Fast twitch fibres are able to produce more force but they fatigue much faster than slow twitch fibres. **Slow twitch**, or Type 1, fibres are mainly used for muscular endurance exercises because they contract more slowly and take a much longer time to fatigue.



Do you know?

Static Contraction: where muscle exerts force but movement does not take place. Example: pushing wall, pulling rope

Dynamic contraction: an individual can see movement when muscle exerts the force. Example: pushups, pull-ups **Concentric Contraction:** When muscle contraction takes place, shortening of muscle happens; that is concentric contraction.

Eccentric contraction: in the process of contraction, the opposite muscle's lengthening takes place; that is known as eccentric contraction.

Muscle strength is specific to the muscle group, type of contraction (static or dynamic; concentric or eccentric), the speed of the contraction, and the joint angle being tested. Therefore, no single assessment exists for evaluating total body muscular strength.

The measurement of muscle strength production is used for the following:

- To assess muscular fitness
- To identify weaknesses
- To monitor progress in rehabilitation
- To measure effectiveness of training

An individual can test Muscular Strength through following tests:

- Handgrip Test Procedures
- 1-Repetition Maximum (RM) Bench Press Test
- Upper Body Strength
- Isokinetic Testing

3.4.5 FLEXIBILITY

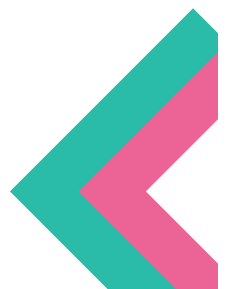
Flexibility is the ability of a joint to move effectively through its full range of motion without incurring pain. Movement happens due to muscle length, joint structure, and other factors. A healthy person can move the body joints through their full range of motion in work and in sports. Due to lack of flexibility, performance of daily life activities decreases, and there is occurrence of problems like lower back pain.

While whole body flexibility cannot be tested in one run, but “sit and reach” test is broadly used test to assess the flexibility of hamstring, hip, and lower back muscles.

To measure flexibility through “sit and reach” test following equipment are used:

- Goniometers, sit and reach box
- Sit and Reach Test (Trunk Flexion)

Before starting the test, an individual should do proper warm-up and stretching.





3.4.6 COMPONENTS OF SKILL-RELATED FITNESS



Reaction Time



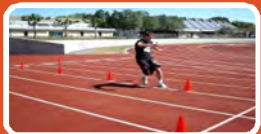
Power



Balance



Speed



Agility



Coordination

1. **ReactionTime**–Reaction time is an individual' sability to quickly respond to a stimulus.

It is the interval time between the presentation of a stimulus and the initiation of the muscular response to that stimulus. e.g., in a sprint start, focusing on the starter's voice and the sound of the gun and reacting, reaction to a football, reaction of the goalkeeper during the penalty kick in a football match.

Tests to measure reaction time include

- Reaction Time Ruler Test
- Reaction Stick Timers
- Other game specific test



2. **Power** – Power refers to an individual's ability to act fast with resistance. It is a combination of strength and speed. Throwing shot put, long jump, kicking in karate are power dominant activities. Power can be tested by the following tests:

- Standing broad jump test
- Burpee jump test
- Medicine ball throw test
- Vertical jump
- Other game specific tests

3. **Balance** – Balance is an individual's ability to maintain the state of equilibrium while moving or in a stationary position. There are two types of balance one is static and another is dynamic.

Static balance is where individual maintains the state of equilibrium in a stationary position.

Dynamic balance refers to maintaining equilibrium during motion.

Gymnastics, surfing, squash, diving are balance dominant sports. An individual can test the fitness component balance through following tests

- Flamingo Balance Test
- Stork Stand Test
- Standing Balance Test
- One Leg Stand
- Other game specific test

4. **Speed** – Speed refers to an individual's ability to perform the movement in the shortest possible time. It is the minimum time taken to complete the task. Examples are 100 m and 200 m sprint, ice hockey etc.

Following are the tests to assess the speed of an individual:

- 20 meter dash
- 30 yard dash
- Other game specific tests

5. **Agility** – Agility is an individual's ability to change the direction of the body rapidly and accurately. It is a combination of speed, balance, power and co-ordination. Rugby, football, hockey are the examples of sports requiring agility. Following are tests to assess the agility of an individual:

- AAHPERD Agility Test
- Illinois Agility Run
- Shuttle Run test
- Zig Zag Test





- Other game specific test
- 6. **Coordination** – Coordination is the ability of an individual to perform a motor task by using body movements and senses accurately and fluently. Juggling in football, hitting a tennis ball and kicking of football are good examples coordination.
- Stick Flip Coordination Test
- Wall-Toss Test
- Block Transfer
- Plate Tapping

I. Tick the correct options.

1. Which of the following is NOT a technique to assess body fat?
 - i. body mass index
 - ii. skin fold thickness
 - iii. hydro static weighing
 - iv. air displacement
2. Which is NOT a balance test?
 - i. Standing Balance Test
 - ii. One Leg Stand
 - iii. Plate Tapping
 - iv. Flamingo Balance
3. Which is a gold standard measure of body composition?
 - i. Height and Weight
 - ii. Bioelectrical Impedance Analysis
 - iii. Hydrostatic Weighing
 - iv. Skin fold

II. Answer the following questions briefly.

- Q1. Define physical fitness component “Muscular Endurance”
- Q2. What is the difference between Physical fitness component Speed and agility?
- Q3. List the methods used to measure body composition.

III. Answer the following questions in 150-200 words.

1. Describe Health related fitness components?
2. Differentiate between skill-related and health-related components of physical fitness



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