4 Individual Health

1. When and how to do regular exercise ?

One who wants to remain healthy and free from disease, should always do exercise. Young and aged, poor and rich , woman and man, all should do exercise to remain free from disease and healthy and also to live the life along with good health, must do the exercise. The people living in all regions (hot region, cool region, humid region, highly raining region etc.) must do exercise. Not only this but those who are doing some barginers and living sedentary life also should do exercise. Now, we shall get information regarding when and how to do the exercise, which is as follows :

When to do exercise ?

The following points should be kept in mind regarding, as to when the exercise should be done.

(1) Exercise can be done either in the morning or in the evening.

(2) Before doing the exercise in the morning, the morning physical cleanliness actions (like discharge of excreta) necessarily should be performed.

(3) After completing the morning physical cleanliness actions, the dress suitable for an exercise should be put on.

(4) Never do exercise without putting on the shoes. The shoes should be such that they can protact the legs. The shoes should be without heels.

(5) Never do exercise with empty stomach. This does not mean that the stomach should be completely empty. Before doing an exercise one can take tea, coffee or little hot water.

(6) Generally, exercise can be done after three hours of taking the food.

(7) In the hot season, thin and open, cotton clothes should be put on and then the exercise should be done.

(8) In cool season warm clothes, track suit etc. should be put on.

(9) After doing an exercise, if there is sweat, a track suit should be put on so that one can not suffer from the cold.

(10) After the exercise when heart beats become normal, one can drink the water and one can have the break fast too.

How to do exercise ?

(1) If one is suffering from tuberculosis, inactiveness of pancreas or any other disease, he should take the advise of a doctor and have physical check-up, before doing any exercise.

(2) An exercise can be had in the form of daily works of the home and outside labour works.

(3) An exercise can be with an equipment or without an equipment.

(4) An exercise can be in the standing position, sitting position or in the sleeping (inprone position or sleeping on the back position) position.

(5) An exercise can be that of the head, neck, the joints of the body, hands, legs etc. jumping or agility exercises include at most all the parts of the body.

(6) An exercise can be that of walking, jogging, running, jumping, ascending, descending, swimming or that of performing the skill of any of the games.

(7) An exercise can be individual or in a group.

(8) An exercise should be done in such an atmosphere that one can get pure air.

After doing any exercise, one should try to experience and observe as to how the body responds to an exercise, how the body adjusts to it and how the body accepts it. This type of experience and observation shall help in taking the decision regarding the load of exercise to be given to the body.

2. What is meant about an Exercise ?

In simple language, are exercise means the bodily movements or the physical movements being done by different physical activities. Thus, exercises are the important actions for doing physical activities, or we can say that different actions of physical activities are in the form of exercises.

An exercise is very important means or resource to know the effects on different systems of the body.

Effects of Exercise :

(1) As a result of effect of exercise on skeleton system, the bones of the body become strong, hard and heavy. The bones are not easily broken. The broken bones are easily repaired in short time. The mass of calcium increases in the bones. The red corpuscles increase in big quantity in the bone marrow of the bones.

(2) The muscles of the muscular system become strong. The endurance power of muscles increases. The size of the muscles increases. The efficiency of supplying more oxygen to the muscles increases.

(3) The working capacity of the heart in circulatory system increases, it means, the pumping of blood in bigger quanting in comparison with the normal condition, in one heart beat is seen i.e. the pumping efficiency increases. The quantity of haemoglobin increases in the blood. The efficiency to exchange the lactic acid and carbondioxide in the blood, increases.

(4) The efficiency of the lungs in respiratory system increases. The increase is seen in the aerobic capacity and anaerobic capacity and also in the vital capacity of an individual who does regular exercises.

(5) The efficiency, to throw out the solid waste (excreta) by means of a big intenstine in exretory system, liquid waste through the kidnies and the skin and the gaseous waste by means of the lungs, increases.

(6) Other systems of the body become efficient.

3. General types of Exercise :

In general types of exercise, the following are included.

(i) Walking exercise (ii) Swimming exercise (iii) Cycling exercise (iv) Rope Skipping exercise (v) Ascending and Descending the stair-case or the hill.

(i) Walking Exercise : Walking exercise is one of the good exercises for those; who are not able to play and probably not knowing cycling and also swimming too. As a matter of fact, walking is the best exercise, because all the systems of the body are in action at a time and also there is continuity of the actions of the systems of the body.

It shall be the best if an individual walks daily three to five kilometeres continuously. In walking, one does not require any play ground or any equipment. For walking only a footpath is enough. The foot-path or any other walk-way should be levelled. It shall be suitable to put on heelless shoes while walking.

(ii) Swimming Exercise : For swimming, it shall be enough if a pond with no impurities in the water is there, or a river having slow flow of water. It shall be the best if a swimming pool is available for swimming. One who knows any of the methods of swimming only should take the risk of swimming in a pond or a river or a swimming pool.

Hands and legs get good exercise in the swimming. Breathing has got more importance in swimming, hence it increases the efficiency of lungs. Circucatory system also becomes efficient.

(iii) Cycling Exercise : The equipment for this exercise is bicycle. The path or a track for cycling should be levelled. The paths for cycling should be in the open air, because it requires more air while cycling. While cycling one has to hold the handles of the bicycle, which gives static exercise to the hands. The type of this exercise is called isometric exercise.

In cycling, the legs get maximum exercise. Mostly the quadriceps muscles (on the front side of the thighs) and the hemstring muscles (on the back side of the thighs) and also the calf muscles of the legs get maximum exercise. In the long distance cycling, the efficiency of the respiratory system and the circulatory system increases.

(iv) Rope Skipping Exercise : No special ground is required for rope skipping exercise. This exercise can be done in a room of a house or a little levelled space outside the house is enough.

The equipment required is a rope with handles at the ends of a rope. The length of a rope should be almost double the height of an individual. It is a jogging exercise with a rope.

The legs and the hands get good exercise. Since, one has to toss the body on both the palms of the legs, the tossing power of the legs increases, which is useful in the activity of high jump. Since, along with the jumping on the legs, the hands' round movement along with a rope requires more co-ordination, which develops one of the motor components i.e. the component of co-ordination of the body.

(v) Ascending and descending the staire-case or the hill :

One gets more fatigue in climbing the steps of a staire-case. By research it has been found out that the energy consumed in climbing one step is equal to the energy consumed in walking the straight distance fifteen times the height of one step.

Almost the similar exercise is that of ascending the hill. While ascending one has to lean a little on the front side. While leaning in front the the length of the step becomes less. While leaning in the front the extensor muscles of the back become active, which have to use more energy.

Thus, while ascending and descending the staire-case or the hill, the muscles of the back and the muscles of the legs become stronger. The respiratory system and the circulatory system also become efficient.

4. Warm-up exercises while taking part in sports and games :

Before doing any physical activity or taking part in coaching, training or a specific sports activity, it is necessary to do effective warm-up exercises. The warm-up programme can be for 5 to 15 minutes. Warm-up exercises should be done with legs intensity, less strength and legs speed. The repeatations of the exercise should be in accordance with the type of the game. They can be more or less. In doing such warm-up exercises, the circulatory system becomes active and makes the blood circulating in all parts of the body. The stretching exercises is an important part of warm-up programme, which helps in developing the flexibility of the body. Stretching exercises decrease the tension and the pressure of the minds of the players. Some years before, only the calesthenic exercises were considered important, but now, the stretching exercises are found more advantageous. Hence, they have become popular.

For most of the games, the following points can be included in the warm-up exercises :

(1) For first 5 minutes do jogging on the sloot or run with slow speed.

(2) Then do the exercises for neck, wrists, shoulders, hands, waist, legs etc for 5 minutes.

(3) Then do slow stretching exercises for 5 minutes in which stretching of the back, stretching of the trunk, stretching on the joint of the thigh i.e. ball and socket joint, stretching of the buttocks, stretching of the hemstring muscles (on the back side of the thigh), stretching of the quadriceps (on the front side of the thigh) and stretching of the calf muscles are included.

(4) The stretching positions on the respective muscles should be kept for 10 seconds each. Never stretch abruptly. One should experience ease (rest) while the stretch.

Proportions of Exercises :

Taking into consideration the type of warm-up exercise, the proportions of the exercise can be had as under :

(1) Jogging on the spot or running with slow speed - 5 minutes.
(2) Exercises for head, shoulder, hands, waist, and legs - 5 minutes.
(3) Stretching exercises - 5 minutes. Since, the stretching positions are to be hold for 10 seconds the time limit can be extended upto 7 minutes.

Benefits of Exercise :

Since the exercise is meant for whole of body, the benefits are for all the systems of the body. They are as under :

(1) The bones of the body become strong, hard and heavy. In the case of fractures, the bones are repaired in short time.
(2) The muscles become strong. The size of the muscles increases. The endurance power of the muscles increases.
(3) The working efficiency of the heart increases. The heart pumps the blood in bigger quantity in one heart beat. Controles the systolic and diastolic pressures of the blood.
(4) The efficiency of the lungs increases. The aerobic capacity, anaerobic capacity and the vital capacity of the lungs increases.
(5) The secretion, of the hormones of the ductless glands increases.

Necessity of exercise according to the game :

(1) In all most all the items of running, more oxygen is required. This requirement can be fulfilled only when the lungs' working is efficient. Lungs can be made more efficient by means of Pranayam activities.
(2) In volley ball the legs and the hand should be strong. Hence, the exercises which can make the legs and hands strong, should be done.
(3) There is much more use of the legs in foot ball game. Hence, the exercises which can make the bones and the muscles strong, should be done.
(4) In basket ball and hockey games, the legs and the hands are in much more use. So, to make them strong, the suitable exercises should be done.
(5) For the game of kho-kho the legs and the lungs should be strong. Hence, to make them strong, the suitable exercises should be done.
(6) For the game of kabaddi, the hands, legs and the lungs should be strong. Hence, their suitable exercises should be done.
(7) For weight-lifting, the wrists of the hands, waist and the legs should be strong. Hence, to make them stronger, the suitable exercises should be done.
(8) For the game of Badminton, the legs and the shoulders should be strong. Hence, the suitable exercises should be done.
(9) For the game of cricket, the hands and legs should be strong. Hence, the suitable exercises to make them strong should be done.

Here, the information regarding the games which are popular, has been given. But to take in to consideration the skills of these games, the specific exercises in view of the skills also should be done.

5. Main Components of Individual Health :

The components are as follows :

(i) The evidences of the physical health of Human beings.
(ii) The impression of the family, relatives and the friend circle.

(iii) Food of proper type and in proper proportion

(iv) Physical Health

(v) Mental Health.

Now we shall get detailed information regarding these components.

(i) The evidences of the Physical Health of Human - beings :

The main evidence of the physical health of a human being is the heredity of his parents. Suppose an individual has not got the hereditary disease, but he has not got nutritive food from the childhood, he shall not be physically healthy. If such a child does not get nutritive and balanced food even in his young age and if in his life he has not done any lat physical labour or any type of exercise, it is possible that he shall be very weak from the view point of his health.

Suppose, an individual has got good food, but if his thoughts and the way of life is not proper, it shall have an adverse effect on his health.

Suppose, there is no discipline, regularity and control in the way of his life, it may have adverse effect on his health, which ultimately may give birth to various diseases.

Even if, an individual is not steady in his thoughts and understanding, it may have adverse effect in his life, creating transience (ક્ષણભંગુરતા) in his thoughts. He can not steadily think, as a result of which the mental diseases like disturbance, impatience and mental tension remain in his life for ever.

An individual having balanced diet, way of life and thoughts is supposed to have good physical health.

(ii) The impression of family, relatives and the friend-circle :

The members of a family, relatives and the friend-circle alway shall have good physical health; who are united, their social circle is cultured, disciplined, always with each other in good or bad circumstances, always thinking good about others and creating an atmosphare of culture.

(iii) Food of proper type and proper proportion :

Generally, good physical health depends upon the type of food and its proportion.

(a) Proper food : The food in which all the constituents of food are included is called proper food.

They are as follows :

(1) Carbohydrates

(2) Proteins

(3) Fats

(4) Vitamins

(5) Salts (minerals)

(6) Water.

We are taking these constituents in different forms. The main constituents are carbohydrates, proteins and fats. They evolve different calories from such foods. One gram of carbohydrate supplies 4 kilo calories. Similarly one gram of protein also supplies 4 kilo calories, but one gram of fat supplies 9 kilo calories. Calorie is a unit of heat or energy.

Vitamins and minerals (salts) do not supply energy but they play important role in the regulation of several essential matabolic processes in the body and help in the utilisation of the main three constituents.

Water is a unique vehicle of chemical transport and the medium in which practically all metabolic reactions take place.

In our daily food, all the six constituents should be included according to the requirement to keep good physical health.

(b) Proper Proportion of Food : Proper proportion of food can be different according to the age. This proportion can be known from the requirement of the calories necessary for a day.

The daily requirement of the calories from a six months child to different age groups is shown in the following table :

Sr. No.	Age : Months/Years	Necessary Daily Calories
1.	6 months child	118
2.	7 to 12 months child	108
3.	1 to 3 years child	1125
4.	4 to 6 years child	1600
5.	7 to 9 years child	1925
6.	10 to 12 years	
	Boy	2150
	Girl	1950
7.	13 to 15 years	
	Boy	2400
	Girl	2050
8.	16 to 18 years	
	Boy	2600
	Girl	2050
9.	Above 19 years	
	(A) Sedentary persons	
	Man	2350
	Woman	1800
	(B) Persons doing less labour	
	Man	2700
	Woman	2100
	(C) Persons doing more labour including active players	
	Man	3200
	Woman	2450

(iv) Physical Health :

Different parts of the body and the sustems of the body, when are found, properly and efficiently working, it reflects that the physical health of an individual is good. Such healthy body conveys that an individual is -

(1) Powerful

(2) His posture is good.

(3) Taking into consideration the age and height his weight is proportionate.

(4) All the parts of his body are working properly.

(5) His skin is smoth and clean.

(6) His eyes are shining and bright.

(7) His respiration is regular.

(8) His liking for the food is good.

(9) His sleep is enough.

Over and above the points shown above, for the maintenance of physical health, an individual shall have to take necessary steps like maintenance of health taking proper food, doing the exercise, avoiding bad-habits, to take responsible decision regarding sex, to remain alert about the symptoms of the diseases, to have medical check-up regularly, to take necessary steps to prevent injuries etc.

(v) Mental Health :

The contribution of the effects of mental components over physical health is very important. In these components, the effects of motivation, intelligence, emotional stability etc. are important. In the context of mental fitness, the difference is seen in the level of physical health of all the individuals. Since, the anxiety creates tension over the mind, it is harmful for physical health. The direct or indirect effects of the above mental components are seen over the physical health of an individual. Even then, that individual is mentally healthy -

(1) who has control over emotions.

(2) who is sensible for the necessities of others.

(3) one who is free from unnecessary mental tension, anxieties and uneasiness.

(4) one who is confident about his capability.

EXERCISE

1. Give answers of the following questions in detail :

(1) What shall you keep in mind before doing regular exercise ?

(2) Explain, what is meant by an exercise.

(3) Show the types of general exercises and give the understanding regarding any two of them.

(4) Give an understanding regarding the warm-up exercises to be done while taking part in the game.

(5) Show the main components of physical health and give an understanding regarding any two of them.

2. Answer the following questions in short :

(1) Give understanding of physical health.

(2) Give understanding of mental health.

(3) Give understanding as to what is the proper food ?

(4) Explain, what should be the impression of a family, relatives and friend-circle regarding individual health.

(5) Explain the benefits of exercise.

3. Write answers to the following questions by selecting correct option from the options given bellow :

(1) What is necessary to do before doing exercise ?

(A) To take food
(B) To put on any clothes
(C) Morning physical cleanlinss actions
(D) Drinking the stimulating drink

(2) What is the effect of exercise on muscles ?

(A) Muscles become loose
(B) Muscles become strong
(C) Muscles pulled
(D) Mucles become weak

(3) After what time of taking the food exercise should be done ?

(A) After one hour
(B) Immediately after taking food
(C) After three hours
(D) After two hours

(4) How many constituents are there for food ?

(A) Four
(B) Eight
(C) Five
(D) Six

(5) From which constituent maximum calorie is achieved ?

(A) Carbohydrates
(B) Proteins
(C) Fats
(D) Salts (minerals)

(6) From 1 gram carbohydrate substance, how many calories or energy is achieved ?

(A) 3 calorie
(B) 4 calorie
(C) 5 calorie
(D) 6 calorie

(7) From 1 gram fatty substance how many calories or energy is achieved ?

(A) 4 calorie
(B) 7 calorie
(C) 9 calorie
(D) 11 calorie

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