3 Let us identify physical deformities which prevent good posture

We engage in many activities throughout the day. Each of these activities is associated with a specific posture. Maintaining good posture is necessary to carry out our tasks efficiently, for a healthy life and to have a pleasant and attractive appearance. Ilnesses and bad habits can lead to bad posture. Maintaining a bad posture results in injury and physical deformity. Physical deformities will affect maintaining correct posture. Therefore, it is important to identify physical deformities early in life and to treat them early to develop good posture.

In previous grades we discussed about the good postures that should be adopted during sitting, walking and marching.

This lesson will focus on identifying deformities that would prevent good posture.

What is a good posture?

Good posture is proper alignment of the body during a movement or when in a still position. This enables us to carry out activities easily, efficiently and, to move our limbs and joints properly.

Benefits of maintaining good posture

1. Less energy is spent during an activity
2. Feels less tired during an activity
3. Increased efficiency
4. Maintains optimal physical fitness
5. Prevents illness and injury
6. Less body aches and pains
7. Becomes healthy
8. Looks pleasant and attractive

Activity

Stand in front of a mirror so that you can see your full body. Hunch your body by rounding your shoulders, hanging the hands in front and extending the neck forward. Observe yourself in this position. Then adopt the proper posture for standing which you learnt in Grade 7. See the difference in appearance.

You may have observed that, when you are in the proper posture your appearance is more attractive.

Deformities which prevent good posture

Deformities can occur due to;

1. Congenital factors
2. Environmental factors

These conditions can be acute (short term) or chronic (long term).

Deformities caused by Congenital factors

These diseases can arise due to genetic defects or due to harmful conditions, which affect the foetus. Genetic defects are inherited. Infections and nutritional deficiencies during pregnancy are factors which can affect the foetus. The features of congenital diseases are present from birth.

Eg: Genetic defects leading to abnormalities in bone and muscle development.

Figure 3.1 - A child with a spinal deformity due to a genetic abnormality

Deformities caused by environmental factors

Unhealthy habits, improper life style, nutritional deficiencies, diseases and bad posture are environmental factors that can cause physical deformity.

1. Nutritional deficiencies

Nutritional deficiencies can affect bone and muscle growth.

Eg:

- Vitamin D is needed for growth and maintenance of bones. Vitamin D deficiency prevents proper absorption of calcium. Vitamin D deficiency during childhood causes rickets. In rickets the bones become weak. This can result in fractures and deformity. People living in cold countries who have inadequate exposure to sunlight can develop vitamin D deficiency. It is not very common in Sri Lanka. Vitamin D deficiency can arise due to improper diet and also due to renal diseases.
- Calcium and protein is essential for bone growth. Calcium and protein deficiency during childhood can slow bone growth and cause deformities. In adults, calcium deficiency causes osteoporosis. This leads to weakening of bones, bone pain and fractures.

2. Diseases

Bones and muscles can be affected by different diseases

Eg:

- Bone infections
- Osteoporosis caused by hormone imbalances

3. Bad posture

Prolonged use of bad posture during daily activities and wrong posture adopted during use of equipment can cause injury.

Eg:

- Incorrect postures of sitting and standing

Correct posture

Incorrect posture

Figure 3.2 - Using computers

Correct posture

Incorrect posture

Figure 3.3 - Standing

Correct posture

Incorrect posture

Figure 3.4 - Writing

- Repetitive use of bad posture when lifting heavy weights - Weight lifting and other sports, during work
- Use of unsuitable clothing and footwear - Clothes which are tight at the shoulders or hips, shoes with high heels
- Use of inappropriate equipment - Use of heavy, non ergonomic school bags. Using brooms, ekel brooms, chairs and tables which are inappropriate for the person's height. Driving the vehicle with the driving seat too far or too close to the steering wheel.
- Using wrong technique during exercise.

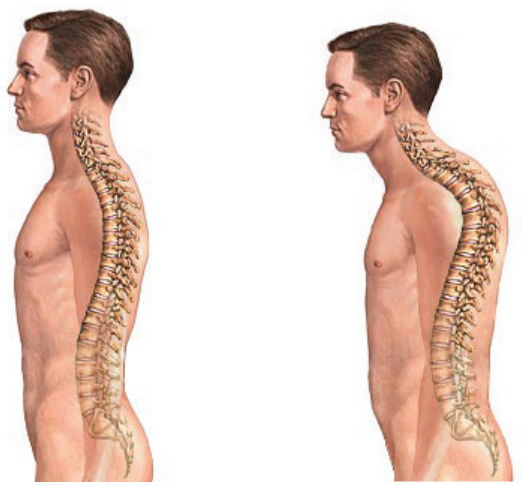
Activity

Name five postures you use during daily activities. Draw one bad posture and the correct posture for each of these examples.

Let us identify some abnormalities due to congenital or environmental causes

Kyphosis

Kyphosis is the excessive curvature of the upper back (thoracic region). This could be congenital or occur later in life due to environmental factors.

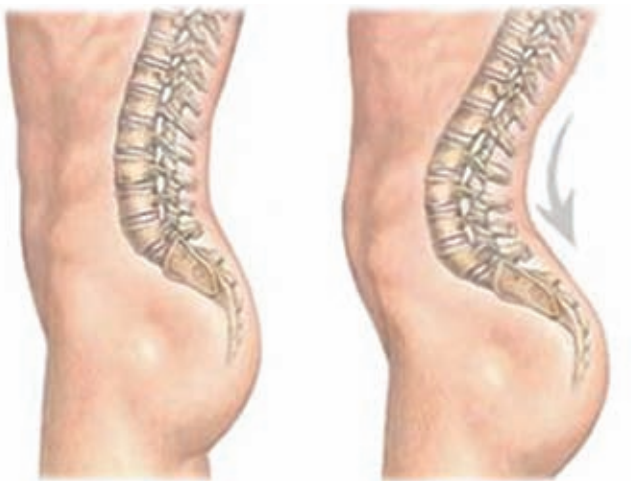


Normal Abnormal

Figure 3.5 - Kyphosis

Excessive lumbar lordosis

Excessive lumbar lordosis occurs due to the excessive curvature of the lumbar region (lower region) of the spine. The hips are pushed back, the abdomen protrudes forward and the head moves forwards.



Normal Abnormal

Figure 3.6 - Excessive lumbar lordosis

Scoliosis

In scoliosis the spine is curved to the side. Because of this, the shoulder on one side drops down and the hip on the opposite side goes up.

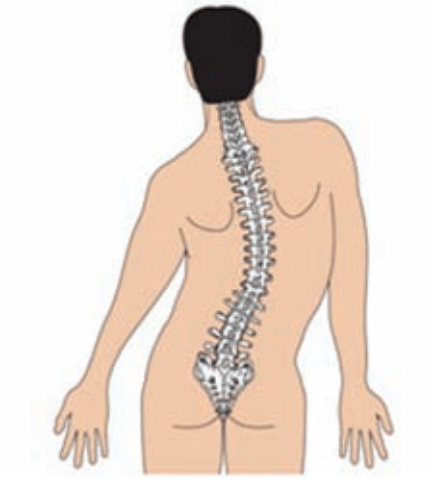


Figure 3.7 - Scoliosis

Flat back

The normal curvature of the lower back is not present.

Figure 3.8 - Flat back

Bow legs and knock knees

Bow legs is a condition where the knees are wide apart when the person stands with the feet together. In knock knees the knees are angled in and touching each other when standing. These conditions make walking difficult. Nutritional deficiencies during childhood can be one reason for this condition.

Figure 3.9 - Bow legs and knock knees

The deformities described above should be recognized early and medical treatment should be sought.

Most hospitals have an orthopaedic division which treats such conditions. Surgery may be needed to correct some of these deformities.
The physiotherapy unit in hospitals can help with exercises that will strengthen muscles and improve functioning of the affected parts.

The Medical Officer of Health (MOH) clinic or the hospital can advice regarding nutritional deficiencies.

Special Sport Medicine units provide advice and treatment for sports related injuries.

A healthy lifestyle can prevent most of the environmental causes.

Healthy behaviours which can prevent bad posture and other skeletal conditions

1.Taking a balanced diet
2. Exercising daily
3. Getting adequate sleep and rest
4. Maintaining weight appropriate for height (BMI) for age
5. Correcting hearing and visual defects
6. Adopting correct posture during day to day activities
7. Maintaining good mental health
8. Always obtaining medical advice regarding medication and nutritional supplements

Summary

Good posture makes us attractive and enables us to carry out our work efficiently.

Disease conditions can interfere with good posture.

Physical deformities can occur due to congenital or environmental (acquired) causes.

Congenital diseases can arise due to genetic defects or due to harmful conditions, which affect the foetus. Environmental reasons include bad life style, disease and nutritional deficiencies.

Adopting good posture and a healthy life style can prevent physical deformities.

Early treatment can correct physical deformities or minimize their impact.

Exercise

1. List five advantages of having good posture
2. What are the main causes of physical deformities?
3. List some of the physical deformities you learnt about in this chapter
4. What are the health behaviours that can prevent or minimize physical deformities?