

Let us use equipment adapting correct postures

We have to engage in different activities in our day-to-day life including pushing, pulling, lifting weights and lowering weights. When engaging in sports, too, we have to engage in activities which may include pushing, pulling, lifting or lowering. When doing these activities, the body must be kept in correct postures. By maintaining correct postures, damages that could be caused to the body can be minimized and correct posture enables us to perform the activity with ease.

In lesson 3, you identified the principles of biomechanics that influence postures.

In this lesson we will learn how to manipulate equipment, applying the knowledge of principles of biomechanics.

Pushing equipment

When pushing something,

1. body lean forwards.
2. feet should be kept apart and the supporting base should be wider.



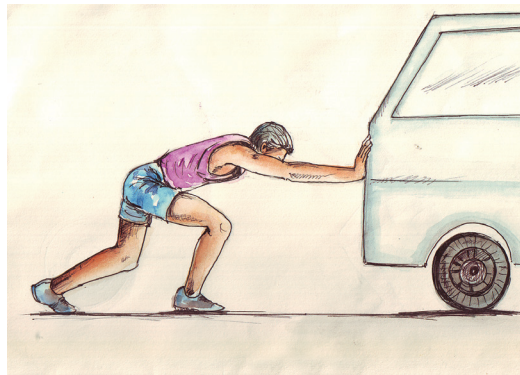
Figure 7.1 - Pushing equipment

When pushing a vehicle,

- move one foot backwards and keep the body leaning forwards so that the head and torso lie straight.
- then the force that is gained through the feet can be exerted directly on the object



✓ Correct posture
(a)



✗ Incorrect posture
(b)

Figure 7.2 - Pushing a vehicle

Pulling objects

When pulling an object

1. one foot is kept in front and the body is leaned backward at the beginning while the torso and the head lie straight.
2. the feet should be kept apart because the supporting base should be wider.



Figure 7.3 - Pulling a log

Force is gained by pressing the feet against the ground and the correct posture for pulling is maintained by maintaining the body balance.

Lifting a weight

The nature of the posture that should be maintained when lifting an object is as follows:

1. Keep the body straight.
2. Bend the knees and lower the body.
3. Keep the legs a little spread to wide the supporting base.
4. Hold the object as close to the body much as possible.
5. Keep the line of gravity along the central axis of the body.
6. The legs are straightened when lifting the object as that the weight of the object is distributed equally between the two legs.



✓ Correct posture
(a)



✗ Incorrect posture
(b)

Figure 7.4 - Lifting a weight

Lifting objects in incorrect postures can harm the body. The Figure 7.4b shows a person who tries to lift an object by bending the body forwards. The line of gravity of the person lies outside his supporting base in this posture. Therefore the total weight of the object has to be borne by the spine and it could damage the spine

Lowering an object which is at a higher position

The nature of the posture that has to be maintained when lowering an object from a high is shown below:

1. keep the torso and head straight.
2. move one leg a little backwards and keep the supporting base wider.
3. hold the weight close to the body.

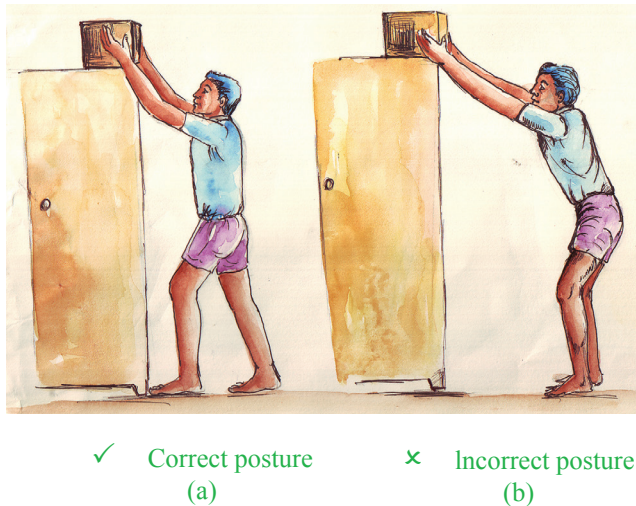


Figure 7.5 - Lowering an object from a height

Figure 7.5 (b) shows a person is trying to lower some object by standing a little away from the object and placing the both feet close together. When this person is standing in this posture, his body does not lie straight. Then the line of gravity lies behind the supporting base. That makes it difficult for him to maintain the balance of the body.

In figure 7.5 (a) the picture which shows the correct posture, the body of the person lies straight. One leg has been moved backwards and the supporting base is wider. The weight is held close to the body.

By adopting incorrect postures, you will lose your youthful appearance and the beauty of your body. Pushing, pulling, lifting or lowering objects adopting incorrect postures can damage the spine and muscles.

Summary

Correct postures can be maintained by following the principles of biomechanics in day-to-day activities like pushing, pulling, lifting and lowering objects.

Manipulating objects adopting incorrect postures can damage the appearance of the body and may also result in various physical disabilities.



Exercise

1. Name three features of the correct posture for pushing some object.
2. Mention two factors that are useful to maintain the balance of the body when pulling an object.
3. Write five features of the correct posture that should be adopted when lifting some object.
4. Write three features of the correct posture that should be adopted when lowering an object from a height.