On Board! BOOKS

Revised and Updated

On Board! BOOKS

"My single achievement is that, with my sincere and honest approach, I inculcated the spirit of oneness and togetherness among players."
– BISHAN SINGH BEDI

Includes
COMPETENCY-BASED QUESTIONS (CBQs)
Assertion-Reason Type Questions
Data-Based/Picture-Based/ Case-Based Questions
MCQs

As per the guidelines of NEP 2020

A TEXTBOOK OF

Physical Education

Based on the latest CBSE syllabus

XII

SCAN QR CODE

A TEXTBOOK OF PHYSICAL EDUCATION CLASS 12

Chapter 5

CHILDREN AND WOMEN IN SPORTS

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MOTOR DEVELOPMENT AND FACTORS AFFECTING IT

Meaning of Motor Development

"*Changes in children's ability to control their body's movements, from an infants' first spontaneous waving and kicking movements to the adaptive control of reaching, locomotion and complex sport skills.*"

– Adolph, Weise and Marin

There are two types of motor development:

1. **Gross Motor Development:**
2. **Fine Motor Development:**

On the basis of sporting environment, sports skills are of two types:

1. Open Skill:

2. Closed Skill:

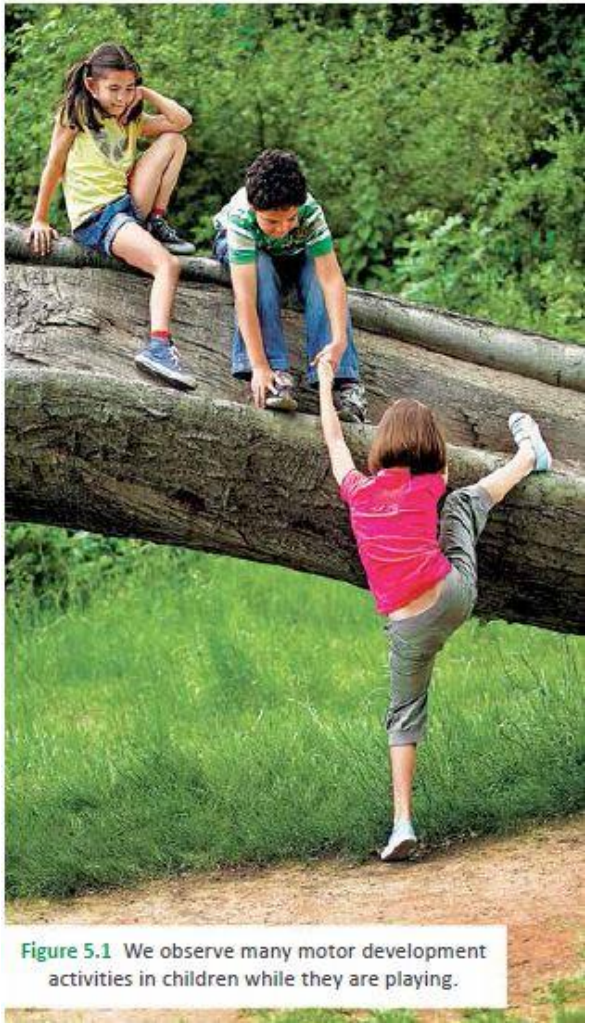


Figure 5.1 We observe many motor development activities in children while they are playing.

Functional aspect of motor development includes the following skills:

1. Stability Skill:

2. Locomotor Skill:

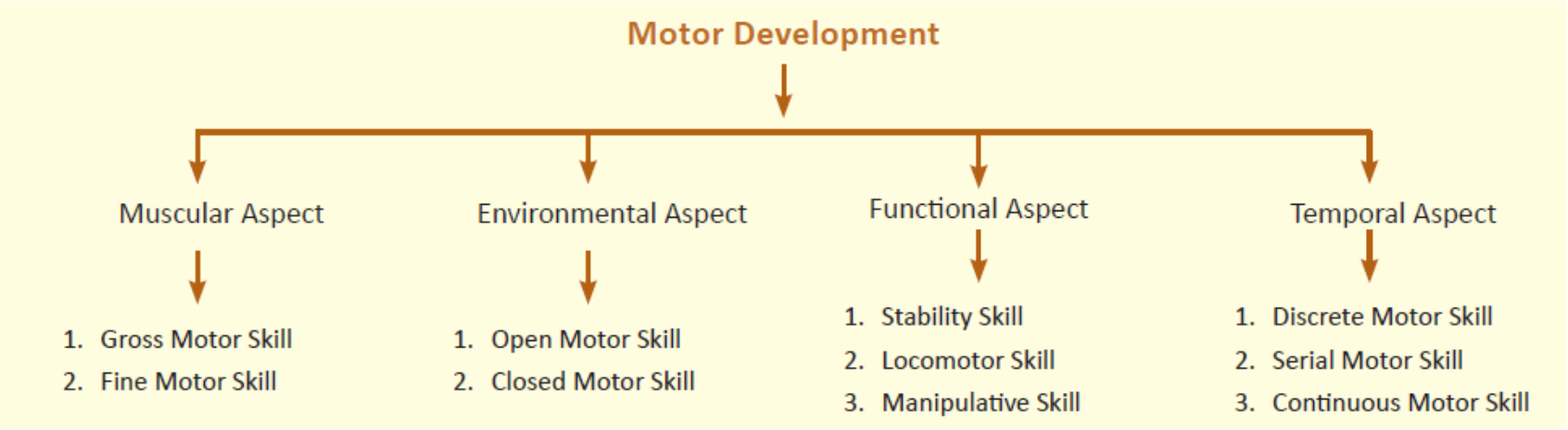
3. Manipulative Skill:

The organisation of motor skills in time is discussed under temporal aspect of motor development. They are as follows:

1. Discrete Skills:

2. Serial Skills:

3. Continuous Skills:



Motor Development in Children

Infanthood (0 to 2 years)

During this stage, there is extremely rapid growth and development of muscles. Please Refer to Table 5.1 on page 90 of the textbook.

Early Childhood (2 to 6 years)

The early childhood period is the most rapid development of motor behavior and this period is also called preschool years.

Children of this age are proficient at basic movements like rolling, hanging, pushing and pulling, etc.

Middle Childhood (7 to 10 years)

It becomes progressively more difficult to describe changes and differences in motor skill development after the age of 6 years.

At this stage, children run faster, are able to jump higher and throw farther; balancing and coordination becomes perfect.

Late Childhood (11 to 12 years)

At the age of 11 years, children are better able at making decisions and begin to understand that everyone has different beliefs. There is rapid height gain. They have a hard time sitting still. This is the period in which most of the complex motor skills are mastered and boys and girls can compete evenly.

Factors Affecting Motor Development

Biological Factors
Environmental Factors
Nutrition
Physical Activities
Opportunities
Sensory Impairments
Postural Deformities
Obesity

EXERCISE GUIDELINES AT DIFFERENT STAGES OF GROWTH AND DEVELOPMENT

Refer to Table 5.2 for Exercise guidelines

COMMON POSTURAL DEFORMITIES – KNOCK KNEE; FLAT FOOT; ROUND SHOULDERS; LORDOSIS, KYPHOSIS, BOW LEGS AND SCOLIOSIS AND THEIR CORRECTIVE MEASURES

Spinal Curvature

Kyphosis

It is a condition where abnormal curvature of the spine occurs in the backward or posterior curve or reversal of forward curve, often causing depression of the chest. It is also known as round back or humpback.

Kyphosis is caused by malnutrition, illness, deficiency of pure air, insufficient exercises, rickets, carrying heavy loads, poorly shaped furniture, weak muscles, etc.

Kyphosis can be prevented by following correct postures while sitting, standing and walking from an early age. Dhanurasana is helpful in correcting this.

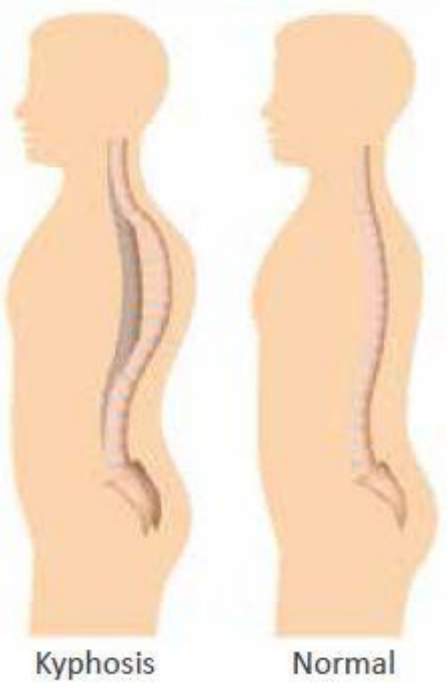


Figure 5.6

Lordosis

Lordosis is the excessive inward curvature of spine resulting in a forward curve in the lumbar region.
Many factors result in lordosis. Some of them are an imbalanced diet, improper environment, improper development of muscles, obesity and diseases affecting vertebrae and spinal muscles like spondylolysis and osteoporosis.

To treat lordosis, stand straight with the feet and shoulder width apart. Take a balanced diet. Toe touching exercises, sit-ups and halasana should be performed regularly.
For performing head to knee exercises, remain seated on the mat with your legs stretched forward. Slowly, lower your head and try to touch your forehead to your knees. Hold to count of 10 and repeat it for 10 to15 times.

Figure 5.9

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Scoliosis

Scoliosis is the abnormal lateral curvature of the spine. It can be bending, twisting or rotating of the spine. The primary causes of scoliosis are diseases in the joints of bones, polio, rickets, infantile paralysis, cerebral palsy and juvenile osteoporosis or other diseases.

Scoliosis can be corrected by performing the following exercises:

- *Hold a horizontal bar with your hands and rotate your body in a clockwise and anticlockwise direction.*
- *Lie down facing the ground, bend your elbow, and support your body with your toes. Squeeze your abs in and hold this position for 5 seconds. Repeat these steps 10 times.*
- *Scoliosis can be cured by breaststroke or butterfly technique of swimming.*
- *Yoga has been one of the best practices to cure any ailment and also helps in enhancing overall physical strength. It maintains a balance for the body in case of scoliosis.*

Figure 5.11 Scoliosis

Flat Foot

Flat foot usually develops due to excessive stress on the feet. Weak muscles in feet, ankles and lower leg cannot bear body weight.

Flat foot can be taken care of with the following precautionary measures:

- Wearing comfortable shoes that fully support the arch and help stabilize the heel.
- Walking bare feet should be avoided.
- Losing excess weight can reduce the stress on feet. So, maintaining weight is also essential.

The exercises for the treatment of flat feet are:

- Heel walking involves walking on the heels with the whole body weight on the heels.
- Walking on the toes to strengthen the intrinsic muscles of the foot.
- Walking on the lateral border of the foot and many other exercises.

Figure 5.13 Flat Foot

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Knock knee

It is a condition of postural deformity where the knees knock or rub together while walking or standing and the feet and ankles are far apart than normal. An individual with this postural deformity faces problems in walking and running.

Knock knees are common among the healthy children under the ages of six to seven years.

Problems associated with the development of bones and joints like rickets, osteoporosis and arthritis also contribute to knock knee.

To correct the deformities associated with knock knee, the following measures are recommended:

- *Daily cycling for 20–30 minutes and horse riding would help naturally in making a gap between the knees.*
- *Keep a pillow between the legs while sleeping, walking or sitting daily for 15–20 minutes.*
- *Knock knees' special shoes, night braces and walking calipers may prevent knocking thus it will enhance posture while walking or running.*
- *Perform the padmasana and gomukhasana daily; etc.*

Figure 5.15
Knock knee

Bow Legs

Bow leg is simply a normal variation in leg appearance. It is a condition of physical deformity marked by an outward bowing of the leg, i.e. knees are wide apart and ankles are touching. Rickets is one of the main causes of bow legs. To avoid developing this condition, the following points should be kept in mind:

- Never force babies to walk at a very tender age.
- Appropriate body weight with respect to ages should be maintained, etc.

Figure 5.17
Bow legs

Corrective measures include:

- Vitamin D should be given in a recommended amount and in turn might help in correcting bow legs.
- Intake of well balanced diet is crucial for overall development and functioning of body.
- Some special shoes, casts and leg braces can be used for correcting bow legs in young children.
- Yoga can be a challenge who has bow legs. However with the help of a yoga strap, it can correct postures and straighten bow legs.

Round Shoulders

This postural abnormality is characterised by a drooping shoulder which appears round and a slight forward bending of the back. Heredity factors lead to rounded shoulders.

Precautionary measures that may be taken up to check rounded shoulders are:

- Never slouch while sitting and walking and always stand with flat back position.
- Those who have rounded shoulders should not wear tight fitting clothes and avoid high-heeled shoes.
- Avoid sitting on faulty furniture which is not comfortable.

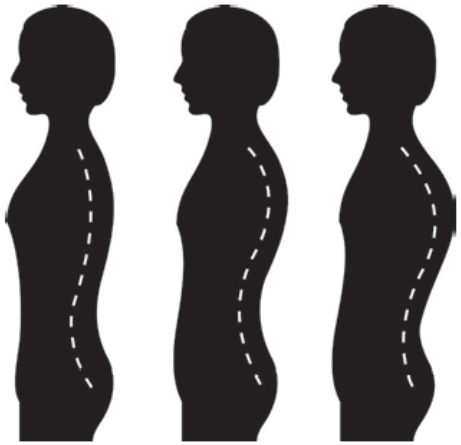

Figure 5.19 Round shoulders

To rectify the round shoulders deformity following exercises can help:

- Place the tips of fingers of both hands on shoulders and encircle the elbows in a clockwise and anticlockwise direction.
- Hang on the horizontal bar for some time.
- Perform yogic techniques especially chakrasana and dhanurasana on a regular basis.

Corrective Measures for Postural Deformities

There are numerous physical activities or exercises which would be helpful in correcting postural deformities. Each specific postural deformity has its own corrective exercises.

Exercises to Correct Kyphosis : Dhanurasana, Chakrasana, Roller foam exercise, etc.

Exercises to Correct Lordosis: Halasana, Stability ball exercise, etc.

Exercises to Correct Scoliosis: Tadasana, Trikonasana, Table pose, etc.

Exercises to Correct Flat Foot: Marble picking exercise; Walking on spiky rubber ball; Skipping, etc.

Exercises to Correct Knock Knee: Gomukhasana,Padmasana, etc.

Exercises to Correct Bow Legs: Garudasana, Ardha Matsyendrasana, etc.

Exercises to Correct Round Shoulders: Bhujangasana, Ustrasana, etc.

SPORTS PARTICIPATION OF WOMEN IN INDIA

History of Women's Participation in Sports

The first time women participated in the Olympics was during the second Games in 1900 held in Paris; only 22 women participated in two events – golf and tennis.

In 2016 Rio Olympic Games 45% were women, which was the highest number ever recorded.

Entry of Indian Sportswomen in International Arena

The first Indian woman to win a medal in the Olympics was Karnam Malleswari in weightlifting at the Sydney Olympics, 2000. Names of women like Anju B George, Sania Mirza, Krishna Poonia, Seema Antil, Garima Chaudhary, Jwala Gutta, Geeta Phogat, Heena Sidhu, Ankita Das, N S Chanu, Deepika Kumari, Dipa Karmakar, Hima Das, Dutee Chand, PU Chitra, Manasi Joshi and Shaili Singh can be mentioned here.

Figure 5.22 Indian sportswomen have given a much needed impetus to Indian sports.

Why Fewer Women Participate in Sports

The reasons behind the low rate of women's participation in sports in India are:

1. **Lack of Adequate Legislation for Gender Equality:**
2. **Lack of Time to Dedicate to Sports:**
3. **Masculine Sports Culture:**
4. **Lack of Self-confidence:**
5. **Lack of Interest:**
6. **Lack of Female Sportspersons as Role Models:**
7. **Lack of Fitness and Wellness Movement:**
8. **Lack of Education among Women:**
9. **Fewer Number of Women Coaches:**
10. **Attitude of Society towards Women's Sports Participation:**
11. **Lack of Personal Safety:**
12. **Lack of Proper Access to Facilities:**

SUMMARY

1. Motor development is the change in children's ability to control their body movements and gradually develop a wide range of motor skills, such as sitting, walking, jumping, running and so on.

2. Motor development can be classified as gross motor development and fine motor development.

3. During early childhood, the child starts climbing and crawling, and manages to walk like an adult by the age of four years. Middle childhood is characterised by the child's ability to focus on the development of hand-eye coordination and balance. They also like to compete with their peers during this period. By late childhood, all individuals have achieved the fundamental aspects of motor development. Puberty sets in for both male and female children.

4. Motor development is influenced by various factors: biological, environmental, nutritional, physical activities and opportunities as well as health conditions like sensory impairment, obesity and postural deformities.

SUMMARY

6. There are three types of abnormal spinal curvatures: kyphosis, lordosis and scoliosis.

7. In kyphosis, the abnormal curvature of the spine occurs in the backward or posterior curve or reversal of forward curve, often causing depression of the chest.

8. Lordosis is the excessive inward curvature of spine resulting in the forward curve in the lumbar region. Scoliosis is the abnormal lateral curvature of the spine.

9. In flat foot, the individual has flat foot and feels pain mainly in the heel area and experiences difficulty in standing and walking.

10. Knock knee is a condition of postural deformity where the knees knock or rub together while walking or standing and the feet and ankles are far apart than normal. Lack of essential vitamins/minerals & degenerative bone diseases are common causes.

SUMMARY

11. Bow legs is a condition of physical deformity marked by an outward bowing of leg, i.e. knees are wide apart and ankles are touching.

12. Round shoulders is characterised by a drooping shoulder which appears round and a slight forward bending of the back.

13. Postural deformities can be functional or structural. Functional postural deformities can be corrected with the help of physical exercises; structural postural deformities may require surgical procedures.

14. Although a number of female sports players have gained recognition and success in both national and international arenas, the overall participation is still low owing to social stigmas and the culture of masculinity in sports.

15. Some of the reasons why fewer girls and women participate in sports in India are lack of proper legislation for gender equality, lack of time to dedicate to sports, lack of self-confidence and female role models, lack of fitness and wellness movement, etc.