

\* **Late Childhood Growth and Development (11 to 12 years)**: In this stage of childhood, gross and fine motor development activities are performed. At this stage, children run faster, are able to jump higher and throw farther; balancing and co-ordination become perfect.

→ **Activities for Late childhood** :- The activities like **yoga Asanas**, **Gymnastic**, **Athletic** and **Swimming** are good sports activities for this age group. Games like, **Football**, **Basketball**, **Handball**, **Volleyball**, etc. are helpful. Racket games like **Badminton** and **Lawn tennis** also develop fine motor development skills.

\* **Adolescence Growth and Development (13 to 19 years)**: This period is delicate period and challenge for parents. Sex difference is prominent and brings sex consciousness in this state. Adolescence age causes many changes related to physical, social and psychological.

→ **Activities for Adolescents** : Adolescent need good diet, heavy physical workout, creative activities; thus team games should be encouraged. Teenager should be motivated to develop moral values, controlling the emotions, proper use of finances, etc. All games and sports can be played at this stage. Aerobic activities are good for proper growth and development. Good coaching and sports environment should be offered to develop leadership qualities and team spirit among Adults.

\* **Posture** — Meaning of posture, Advantages of correct Posture and Causes of Bad posture.

\* **Posture** :- Posture is the specific body position. It may be static or dynamic such as sitting, standing, lying, walking, running, while reading etc. There are different views about posture.

\* According to doctors, "posture is soundness of physiological balance of body."

\* According to physical Educationists ; "Posture is a tool of mechanical efficiency of body which causes minimum stress to muscles. Moreover, maximum output of physical efficiency can be attained."

- \* Advantages of correct posture
- (1) - Attractive physical Appearance.
  - (2) → Improves Health status.
  - (3) → Psychological Balance.
  - (4) → Lesser strain and pain over joints.
  - (5) → Improves Social status.
  - (6) → Better functioning of Body systems.
  - (7) → Reduces postural Deformities.
  - (8) → Better skill perfection.
  - (9) → Better Selection of players.
  - (10) - Optimum physical Efficiency.

\* Causes of Bad posture (1) - Accidents (2) - Disease

- (3) → Lack of Nutritional Diet.
- (4) → wrong postural habits.
- (5) → Improper treatment.
- (6) → psychological stress.
- (7) → Lack of sufficient strength.
- (8) → Age factor.
- (9) → Poor Eyesight.
- (10) → Bad shoes or clothing.

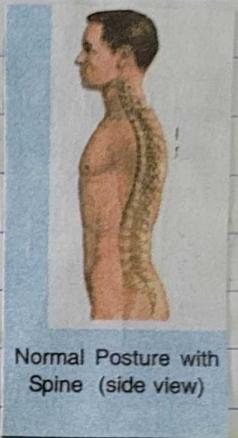
\* Common postural Deformities :- Kyphosis, Lordosis, Scoliosis, Flat foot, Bow legs, Knock-Knees, Round Shoulders.

\* Meaning of Kyphosis :- It is derived from Greek word 'Kyphos' which means 'a hump'. 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.

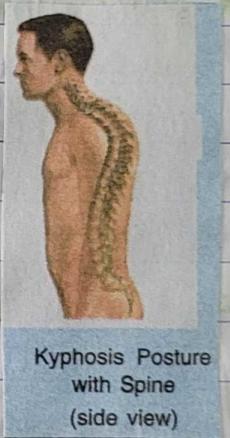
★ Causes of Kyphosis :- Kyphosis is caused by malnutrition, illness, deficiency of pure air, insufficient exercises, rickets, carrying heavy loads on back, poorly shaped furniture, weak muscles, ageing, spinal injury, arthritis and degenerative bone diseases and the habit of doing work by leaning forward.

★ Precautions :- If specific precautions are not followed it may result in Kyphosis.

- (i) - Should not lean forward during prolonged study.
- (2) - Proper and regular exercises should be performed.
- (3) - Balance diet play an important role to avoid Kyphosis.
- (4) - Teach appropriate posture of sitting, standing and walking to avoid this deformity



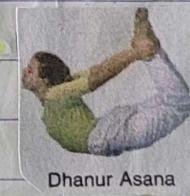
Normal Posture with Spine (side view)



Kyphosis Posture with Spine (side view)

★ Remedies : The following exercises should be performed for the remedy of Kyphosis.

- (1) Always keep a pillow under your back while sleeping.
- (2) Bend your head backward in standing position.
- (3) Perform Dhanurasana, the yogic asana regularly.
- (4) Sit in a chair such that your buttocks should touch the back of the chair.



Dhanur Asana



Reverse Sit-up



Holding Hands at Back



Backward Bending



Chakra Asana

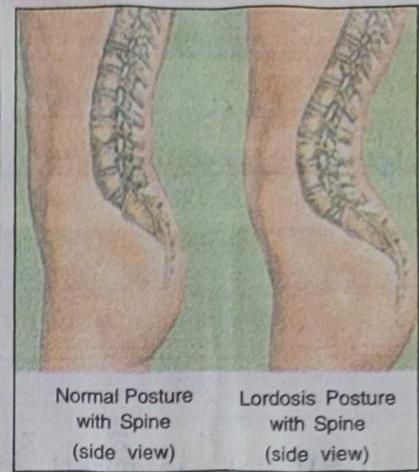


Bhujang Asana



Usht Asana

\* **Lordosis** :- Lordosis is the inward curvature of spine. In fact, it is an increased forward curve in the lumbar region. It creates problem in standing and walking. The body seems to be stiff.



\* **Causes of Lordosis** : Generally it causes due to imbalance diet, improper environment, improper development of muscles, obesity and diseases affecting vertebrae and spinal muscles are the causes of Lordosis. In addition to these causes, not performing exercises and eating excessive food are also the major causes of Lordosis.

\* **Precautions** : (i) - Balance diet should be taken.

(ii) - Obesity should be kept away specially in early age.

(iii) - The body should be kept straight while carrying weight.

(iv) - Excessive intake of food should be avoided.

\* **Remedies or Corrective measures** :- For the remedies or corrective measures following exercises and Asanas should be performed.

(i) **Paschimottan Asana**.

(ii) **Hal Asana**.

(iii) **Trikon Asana**.

(iv) - **Forward Bending** :- Body is bent forward while hands try to touch toes.

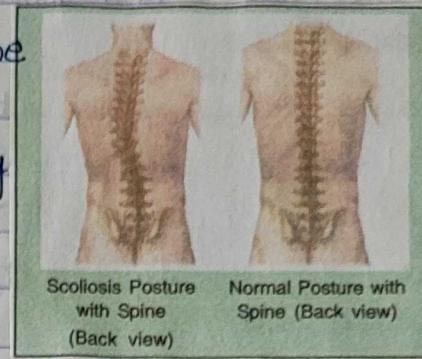
(v) - **Alternate toe Touching** : In this feet apart and try to touch opposite hand to foot while other hand is raised up.

(vi) - **Stoop Walking (long stride walking)** : In this long stride during walking is done while body is bent forward and downward.



★ Scoliosis :- Postural adaptation of the spine in lateral direction is called scoliosis.

In fact, these are sideways curves and may be called scoliotic curves.



★ causes of Scoliosis : Scoliosis may be due

to many reasons but the main reasons are diseases in the joints of bones, under-developed legs, infantile paralysis, rickets, carrying heavy loads on one shoulder, unhealthy conditions, uncomfortable desks, partial deafness and wrong standing posture.

★ Precautions : (i)- Balanced diet should be taken.

(ii)- Studying should be avoided in sideways bending position.

(iii)- Avoid walking for long time while carrying weight in one hand.

★ Remedies or corrective measures :- for the remedies or corrective measures following exercises and Asanas should be performed.

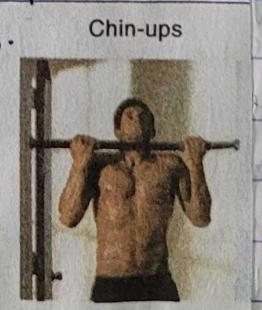
(i)- Trikon Asana :- In this body is bent to sideward with feet apart while opposite hand tries to touch the feet and other hand is raised up.



(ii)- Ardh chakra Asana :- In this body is bent sideward while standing with feet apart. One hand should be close to head.

(iii)- Bending exercise should be done on the opposite side of the 'c' shaped curved.

(iv)- Chin-ups :- In this body is stretched up over a horizontal bar while body weight hanging vertically and lifted up.

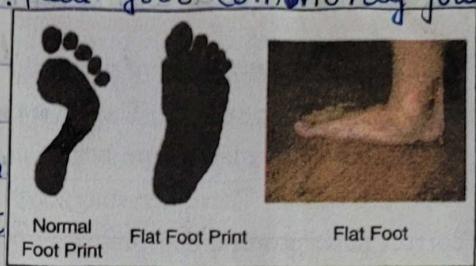


(v)- Tarr Asana :- In this body is raised up over the toes whereas hands are raised up while looking up.

(vi)- Swim by using breaststroke technique.



★ **Flat Foot** :- Flat foot is an abnormal condition of foot in which the arch of the foot collapses. Flat foot commonly found among new born baby but it becomes a postural deformity if it still persists during later childhood. The children with flatfoot deformity cannot become efficient sports persons.



★ **Causes of Flatfoot** : The main cause of flatfoot is Weak Muscles. Along with this, Rapid increase in body weight, improper shoes, and carrying heavy weight for a long time are also the causes of flatfoot.

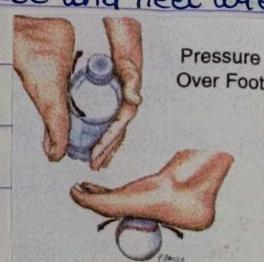
★ **Precautions** : (i) - The shoes should be proper shape and size.  
(ii) - Don't walk barefoot for a long duration.  
(iii) - Obesity should be avoided.  
(iv) - Don't force the babies to walk at an early stage.  
(v) - High heeled shoes should be avoided.  
(vi) - Children in early childhood should be avoid carrying heavy weight.

★ **Remedies or corrective Measures** :- The following exercises and yoga asanas should be done to rectify or treat flatfoot deformity.

- (i) - Vajra Asana (Rock sitting): perform Vajrasana.
- (ii) - Tarr Asana
- (iii) - Skipping or Rope jumping.
- (iv) - Walking on heels and toes.
- (v) - Jumping on toes for some times.
- (vi) - Good quality of shoes with inner curve on sole helps to avoid flatfoot.

(vii) - Pressure over foot : Flatfooted person is to give pressure over the foot while toe and heel are at side.

(viii) - Stand up and down on the heels.



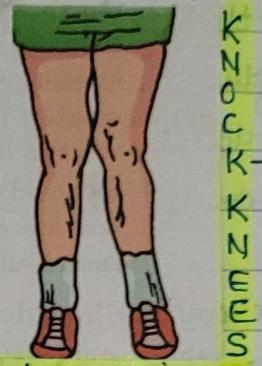
Jumping on Toes.



Skipping or  
Rope jumping

\* Knock-Knees :- Knock-Knees is one of the major postural deformity. In this deformity, both the knees - knock or touch each other while in normal standing position. The individual faces difficulty in walking and running. He cannot run or walk in a proper manner.

\* Causes of Knock-Knees :- Generally, the lack of balance diet, especially Vitamin D, calcium and phosphorus is the main cause of Knock-Knees. It may also be caused due to rickets. Chronic illness, obesity, Flatfoot and carrying heavy weight in early age may be other causes of Knock-Knees.



#### \* Precautions :

- Balanced diet should be taken.
- Babies should not be forced to walk at an early age.

\* Remedies or Corrective Measures : To rectify or treat this deformity, the following points should be taken into consideration.

- Horse-riding is the best exercise for remedying this deformity.
- Perform Vrikshasana regularly for some time.
- Pillow Exercise :- In this pillow is kept between legs and person presses the legs.
- Perform Padmasana regularly for some time.



Vriksh  
Asana

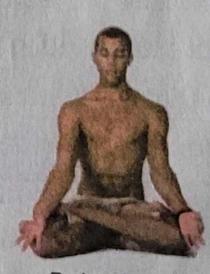


Pillow Exercise

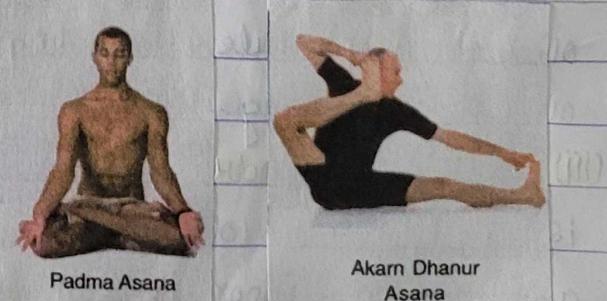
- Perform Akarn Dhanur Asana for some time regularly.

- Use of walking calipers may also be beneficial.

- Cod liver oil may be beneficial in reducing this deformity up to some extent.



Padma Asana



Akarn Dhanur  
Asana

★ Bow Legs :- Bow Legs is also a postural deformity. It is opposite to Knock-Knees position. If there is a wide gap between the knees when standing with feet together, the individual has bow legs deformity. In this deformity, knees are wide apart. This deformity can be observed easily, when an individual walks or runs.



★ Causes of Bow Legs : The main cause of bow legs is the deficiency of calcium and phosphorus in bones. Long bones of legs become soft, hence they are bent outward. The chances of bow legs also increase when children become overweight. This deformity may be due to the deficiency of vitamin D. Improper way of walking and forcing the babies to walk at a very early age may also lead to bow legs deformity.

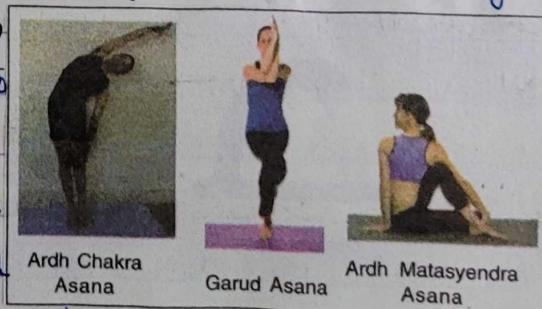
★ Precautions : (i)-Don't let the children be overweight.

(ii)-Balance diet should be taken.

(iii)-Obesity should be avoided.

★ Remedies Or Corrective Measures :- The following yog asana and exercises are performed to rectify or treat bow legs.

(i)-Ardh chakra Asana :- In this person starts bending sideward. One hand close to head while other pushes the leg.



(ii) - Garud Asana :- In this body balances over one leg while other leg is rolled over the other leg. Hands are also rolled in front of face.

(iii)-Ardha Matsyendra Asana :- In this crossed leg sitting position, one leg is placed over the other so that the foot touches the opposite hip whereas one hand supports the leg and other rolls over the spine.

(iv)- Walking with inward toe helps to correct bow legs.

(v)- Special shoes:- Special shoes helps to correct bow legs.