

# BACK : Care & Relief by Nirankar S. Agarwal, Ph.D.

## "Vertebral Movements

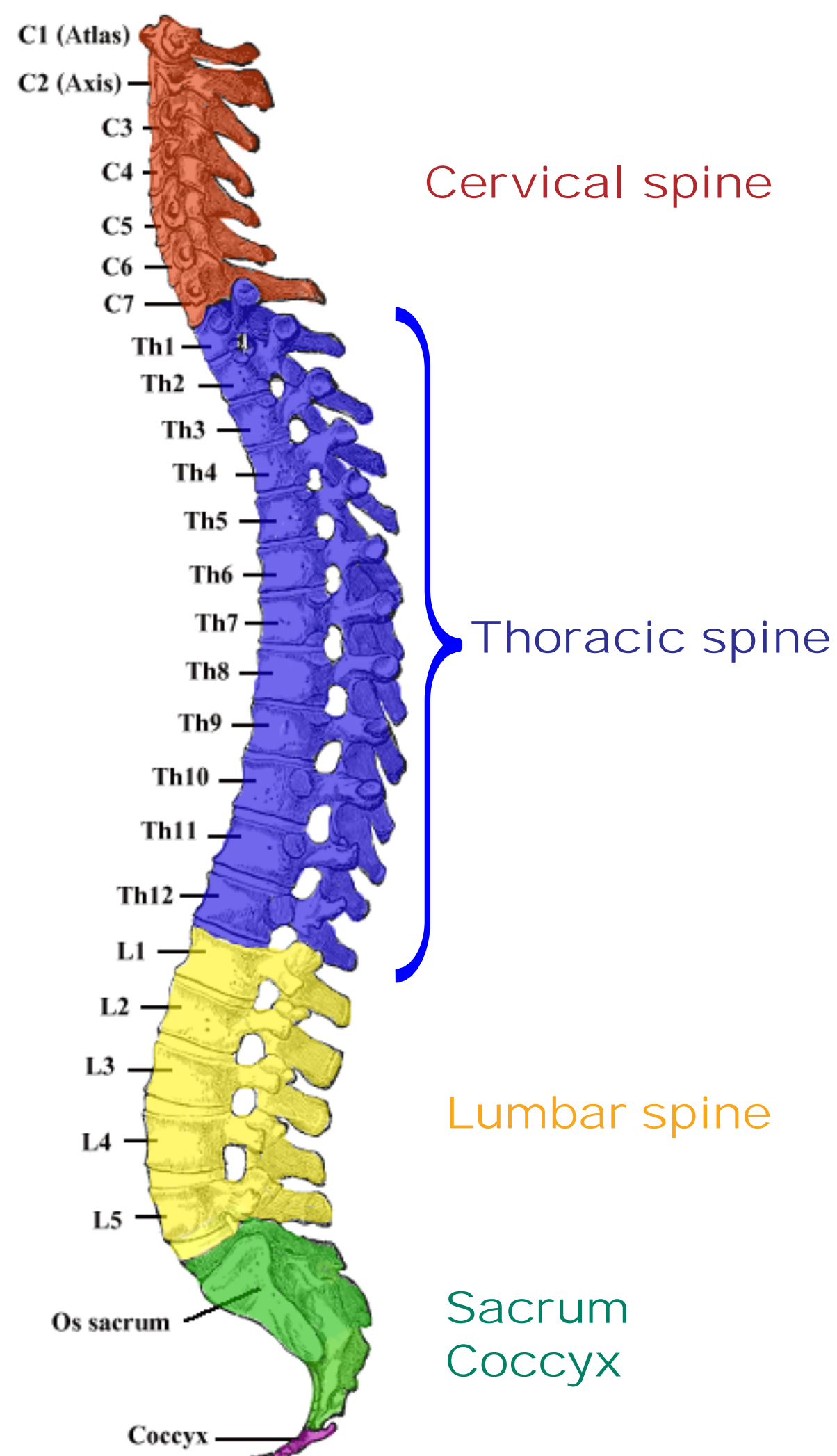
The following movements of the vertebral column are possible:

1. *flexion*, bending forward
2. *extension*, bending backward
3. *lateral flexion*, bending to the side
4. *rotation*."

[Ref. Frederic H. Martini, *Fundamentals of Anatomy & Physiology*, 3rd Ed., Prentice Hall 1995; p 272]

## To The Reader

Exercises and yogic postures recommended here aid in making the back strong and supple by focusing on all the six possible movements mentioned in the Anatomy Text.



## Exercises for Lower Back & Hips

- Lie down on the back. Raise one leg 90°. Point toes up, rotate leg with small circular clockwise motion 5 times, counterclockwise 5 times. Same routine with the other leg.
- Raise one leg 90°. Now point heel up, rotate leg with large radius circular motion clockwise 5 times, counterclockwise 5 times. Same routine with the other leg.
- Raise both legs 90°. Force right leg to the left and left leg to the right in a scissor-like motion, 5 times. Arms do the same motion in synchronization with the legs.

## General Tips

- After shower/bath, vigorously rub lower back and hip with a coarse towel, 10-12 strokes
- Get blood tested for vitamin D3 (commonly known as vitamin D)
- Vit. D is essential for Calcium absorption in the body.
- A lacto-vegetarian diet with seeds and nuts is adequate for calcium availability

## Vertebral Column

Given our lifestyle today, any long-lasting relief & cure of back problems must depend on strengthening and flexibility enhancing exercise regimen practised on a regular, preferentially daily, basis.

Side, forward & backward bends, and spinal twists by stretching and contracting the vertebral column engender the six possible motions of the vertebral column.

The following six exercises are simple and can be done any time, any place, and are a good beginning. Yoga postures detailed later provide intenser workout of vertebral column with many supplementary benefits.

### Sideways stretch and contraction

1. Stand with feet parallel and about 1½ feet apart. Raise right hand with the arm along the right side of the head and ear and bend at the waist to the left. Left hand slides down the left thigh and calf. Keep the body in one plane. Hold for a count of 10, and revert back to starting position.



2. Now repeat with the opposite side. Stand with feet parallel and about a half meter apart. Raise left hand with the arm along the left side of the head and ear and bend at the waist to the right. Right hand slides down the right thigh and calf. Keep the body in one plane. Hold for a count of 10, and revert back to starting position.

### Forward & backward stretch and contraction

3. Feet together. Raise hands and bend backwards at the waist. Hold for a count of 2-5. Do this 5 times

4. Bring hands slowly forward and downwards and touch the ground in front with your fingers. Strive to place your palms on the ground next to the toes with forehead touching the knees. Try not to bend the knees. Hold for a count of 2-5. Do this 5 times.



### Twists

5 & 6. Feet parallel and 1/3 meter (one foot) apart. Stretch hands to the sides at shoulder level, palms facing down. Keeping the feet firmly on the ground, twist



torso to the right, hold for a count of 2. Then with a steady motion twist all the way to the left and hold for 2 counts. Do this 10 times.

### Ardha-Matsyendrasana (Spinal Twist)

Sit with legs outstretched. Fold left leg at the knee and place the foot next to right hip. Now fold right leg and place the sole of the right foot next to left knee. Right knee points upwards. Catch hold of right foot with left hand keeping the left arm to the right of the right knee. The chin touches the left shoulder and right hand is placed on the left knee.

Now twist the body at the waist to the right and strive to place right-hand fingers on the left thigh from behind. The head is also twisted to the right at the neck. Hold for 15 counts.



Back to starting position. Reverse. Fold right leg at the knee and place the foot next to left hip. Now fold left leg and place the sole of the left foot next to right knee. Left knee points upwards. Catch hold of the left foot with right hand keeping the right arm to the left of the left knee. The chin touches the right shoulder and left palm is placed on the right knee.

Now remove the left hand and twist the body at the waist to the left and strive to place left hand fingers on the right thigh from behind. The head is also twisted to the left at the neck. Hold for 15 counts.

### Janusirasana (forehead to knee posture)

Sit with legs stretched out. Fold left leg at the knee and place the heel below the scrotum. Grab hold of the big toe of the right foot and bending forward touch forehead to right knee. Place elbows on the ground and strive to keep right knee flush to the ground. Hold for up to 15 counts.



Back to outstretched legs. Fold right leg at the knee and place the heel below the scrotum. Grab hold of big toe of the left foot and bending forward touch forehead to left knee. Place elbows on the ground and strive to keep left knee flush to the ground. Hold for up to 15 counts.

### Chakrasana (Wheel posture)

Lie on the back. Fold legs at the knee and place feet about a foot apart close to the hips. Now place palms on the ground near the shoulders with fingers pointing towards the feet. Raise the body with weight balanced on the palms and soles or the toes of the feet. Push the abdomen upward arching the back. Hold for up to 25 counts. Lower the body slowly to the ground.



### Halasana (the plough)

Lie down on the back. Hands to the side. Raise both legs six inches above the ground. Hold for 3 counts. Raise legs farther up to 45° and hold for 3 counts. Raise the legs farther up to 90° (per-



pendicular to the ground), and hold again for 3 counts. Now lower the legs behind your head and without bending knees touch the ground with the toes. Interlace fingers and place palms on the head. Press the chin to the base of the throat and strive to move the toes as far back as possible. Hold for up to 15 counts.

Benefits: Provides stretch to vertebral column. Beneficial for liver, spleen, stomach and fat reduction.



### Bhujangasana (cobra posture)

Lie face down on the mat. Raise torso from waist up by pressing palms in front and arching the back; look straight up.

### Matsyasana (Fish posture)

Sit in *padmasana* (lotus posture) by placing right foot over the left thigh and the left foot over the right thigh. Taking support of the elbows, lower the torso and the head to the ground. While raising the torso off the ground support the weight on top of the head and the elbows. Grab the big toes between the index finger and the thumb. Hold for up to 25 counts.



**Variation:** If *padmasana* is not possible, do as follows. Lie down on your back. Keeping the hips and legs on the ground, raise the back off the ground and balance the weight on top of the head so that the chin is facing up. Hands can be placed behind head with interlaced fingers or to the side of the torso.



**Relief :** In case of lower back pain, lie on a firm mattress and place a cushion to arch the lower back. It generally relieves pain and can be done for a few minutes several times a day.