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Role of the spine movements in the yoga poses

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Abstract
Yoga becomes the desecrating principle for the study of anatomy**,** by viewing the rest of the body structures in smooth of the connection to the breath and spine. The deepest principles of yoga are built on a unique and profound appreciation of however the human system is made. The topic of the study of the yoga is that the Self, and also the Self is dwelling house in an exceedingly chassis in a physical body. This paper may provide a proper view on the spine and its movements to try and do the correct yoga poses and movements.

Keywords: spine, poses, movements

Introduction

Yoga is extremely necessary to the human to guide the life healthy yet as mirthfully. There are various institutions are teaching yoga on their designed manner. However, all of the yoga poses and movements are associated with the spinal cord.

Especially, any yoga pose has one of the following common positions as its starting point:

- Standing-Supported on the soles of the feet
- Sitting-Supported on the bottom of the pelvis
- Kneeling-Supported on the knees, shins, and toes of the feet
- Supine- Supported on the back surface of the body
- Prone-Supported on the front surface of the body

Within each and every asana section have a minimum of one forward bend, back bend, twist, lateral bend and axial extension. Therefore, it's necessary to understand regarding the performance of the structure of the spine. To know the role the spine, it's necessary to understand about the systems of skeleton yet as central nervous systems. The human spine is exclusive among all mammals in this it exhibits each primary and secondary curves.

Structure of the Spine

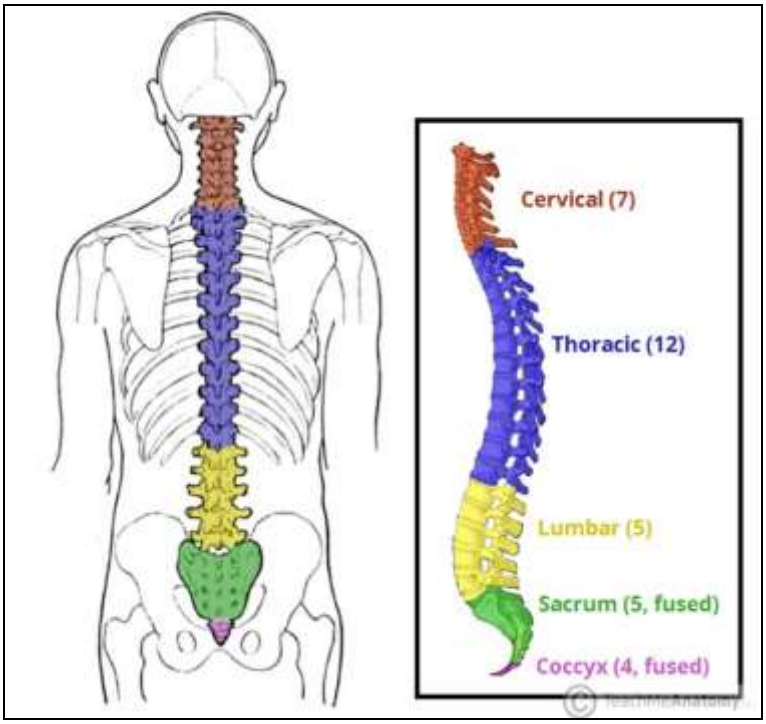

Fig 1: Spinal Column

The primary curve of the spine contains the body part the thoracic and sacral curves; the secondary, curves are present within the cervical and lumbar regions. The vertical column as a whole is ideally construed to neutralize the mix of compressive and tensile forces to which it is constantly subjected by gravity and movement. (Figure 1- Spinal Column) The 24 Vertebrae are bound to one another with intervening zones of cartilaginous discs, capsular joints, and spinal ligaments. This alternation of bony and soft tissue structures represents a distinction between passive and active elements; the vertebrae are the passive, stable elements, and also the action, moving components are the intervertebral bone discs, facet joints, and a network of ligaments that connect the arches of adjacent vertebrae. The intrinsic equilibrium of the vertebral column may be found within the integration of these passive and active components.

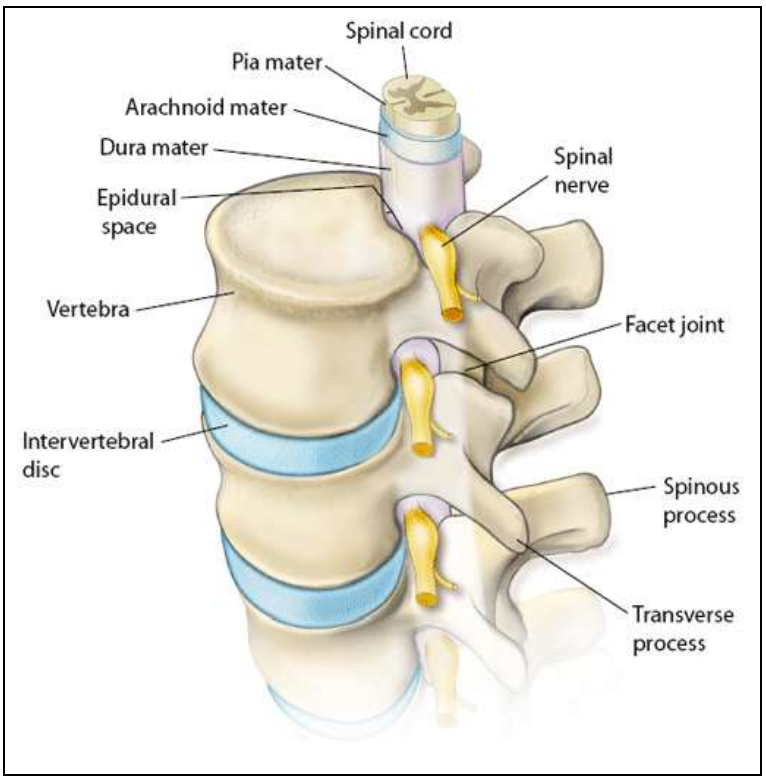

Fig 2: in the schematic side view

(Figure -2 in the schematic side view) To understand the general design of the spine, it is helpful to look at it as two separate columns. Within the schematic side view in figure 2, its front-to-back dimension can be roughly divided in half between a column of vertebral bodies and a column of arches. The anterior column of vertebral bodies deals with weight-bearing, compressive forces, whereas the posterior column of arches deals with the tensile forces generated by the movement. Within each column, in the dynamic relationship of bone to soft tissue, there is a balance of Sthira and Sukha. The vertebral bodies transmit compressive forces to the discs, which resist compression by pushing back. The column of arches transmits tension forces to all or the attached ligaments, which resist stretching by pulling back. In short, the structural components of the vertebral column are involved in an intricate dance that protects the central nervous system by neutralizing the forces of tension and compression.

Vertebral Structure

From the top of the cervical spine to the bottom of the lumbar spine, individual vertebrae are completely indifferent in shape based on the demands of the varying regions of the spine. When the weight is taken off the spine, the hydrophilic nucleus draws the water back in, and the disc returns to its original thickness. That is why humans are a bit taller right after getting out of bed. The movements of flexion, extension, and lateral flexion produce asymmetrical movements of the nucleus; however the result is the same: Wherever the vertebral bodies move toward one another, the nucleus is pushed within the wrong way, wherever it meets the counter push of the annulus that causes the nucleus to push the vertebral bodies back to neutral. Assisting in this counter push is the long ligaments that run the complete length of the spine, front and back. The anterior longitudinal ligament runs all the way from the upper front of the sacrum to the front of the occiput, and it is fixed tightly to the front surface of every intervertebral disc. Once it's stretched throughout backward bending, not only does it tend to spring the body back to neutral, but the increased tension at its attachment to the disc additionally helps to propel the nucleus back to neutral. The other action happens within the posterior longitudinal ligament once it's stretched in an exceedingly when it is stretched in a forward bend. It runs from the back of the sacrum on the back of the occiput. Each movement that produces disc compression within the anterior column essentially leads to in tension to corresponding ligaments attached to the posterior column. The recoiling of those ligaments out of their stretched state adds to the other forces of intrinsic equilibrium, which combine to return the spine to neutral. All this activity happens in the tissues that behave independently of the

circulatory, muscular and voluntary nervous systems.

Types of Spinal Movement

There are four possible movements of the spine:

- Flexion
- Extension
- Axial rotation (twisting)
- Lateral flexion (side bending)

These four movements occur more or less spontaneously in the course of life: as bend over to tie shoes (flexion), reach for something on a high shelf (extension), grab a bag within the seat behind (axial rotation), or reach into the sleeve of an overcoat (lateral flexion). There is a fifth chance of the movement is termed as axial extension. This motion doesn't happen spontaneously within the traditional course of daily movements.

Yoga poses and the spine movements

Here are some yoga poses with type of the spine movements.

1. **Standing Poses**
   - Thadasana , Utkatasana-Axial Extension
   - Uttaanasana, Garudasana- Flexion
   - Vrksasana-Neutral
   - Virabhadrasana 2, Trikonasana -Neutral Extension
   - Virabhadrasana 3-Axial Extension
   - Parivrtta Baddha Parsvakonasana-Axial Rotation
2. **Sitting Poses**
   - Sukhasana, Siddhasana, Padmasana-Neutral Curves or Axial Extension
   - Dandasana-Neutral or Axial Extension
   - Pachimottanasana, Janusirsasana-Flexion (moving toward Extension)
   - Ardha Matsyendrasana-Rotation, Neutral Extension
   - Gomukasana -Neutral
   - Hanumanasana-Extension
   - Mahamudras-Axial Extension
3. **Kneeling poses**
   - Supta Virasana-Axial Extension
   - Balasana-Flexion
   - Ustrasana-Extension
   - Simhasana-Neutral Extension
4. **Supine poses**
   - Savasana, Halasana-Flexion
   - Sarvangasana, Setu Bandhasana-Flexion & Extension
   - Jathara Parivrtti-Axial Rotation Matsyasana-Extension
   - Anantasana-Lateral Flexion
5. **Prone poses**
   - Bhujangasana-Extension
   - Dhanurasana, Salabhasana-Extension
6. **Arm Support Poses**
   - Adho Mukha Svanasana-Neutral or Axial Extension
   - Astavakrasana-Cervical Extension and Rotation
   - Bakkasana, Mayurasana-Cervical Extension
   - Vrschikasana, Dhanurasana-Extension

Conclusion

This article explains the structure and performance of the human figure**.** Since, the yoga emphasizes the connection of the breath and also the spine, and concentrates thereto. With this clear view the yoga professional person might get a correct pose and movements to get the best benefits of an equivalent pose.

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