Extends from the skull to the pelvis

33 vertebrae
- 7 Cervical vertebrae (C1-C7)
- 12 Thoracic vertebrae (T1-T12)
- 5 Lumbar vertebrae (L1-L5)
- 5 fused Sacrum vertebrae (S1-S5)
- 4 Coccyx vertebrae

Spinal Curves
Curve Description
- Kyphosis or Kyphotic Curve
  Concave anteriorly and convex posteriorly
- Lordosis or Lordotic Curve
  Convex anteriorly and concave posteriorly

Normal Curvature
- Cervical Lordosis 20 to 40 degrees
- Thoracic Kyphosis 20 to 40 degrees
- Lumbar Lordosis 40 to 60 degrees
- Sacral Kyphosis Sacrum fused in a kyphotic curve
Anatomy

Functions of The Spinal Column

Protects  •
Spinal Cord  –
Nerve Roots  –
Internal organs  –

Mobility: allows for  •
Flexion (forward bending)  –
Extension (backward bending)  –
Side bending (left and right)  –
Rotation (left and right)  –

Structure  •
Anchors head, shoulders, chest  –
Connects upper and lower body  –
Balances body  –
Distributes weight  –
Figure 4.2  A: Lateral view of the vertebral column. B: General features of different kinds of vertebrae.
The Motor Strip
Fibers
Figure 4-11  Transverse section of the spinal cord at the midcervical level showing the general arrangement of the ascending tracts on the right and the descending tracts on the left.
Figure 4-31  Spinal cord syndromes.
Figure 4-33  Skin area in which the sensations of pain and temperature are lost in syringomyelia.
**Figure 4-32** Brown-Séquard syndrome with a spinal cord lesion at the right 10th thoracic level.
Figure 14-7  This man is making good use of the sympathetic part of his autonomic nervous system.
Figure 14-8  There is nothing like a good, large meal and a comfortable armchair to facilitate the activities of the parasympathetic part of the autonomic nervous system.
<table>
<thead>
<tr>
<th>Root Injury</th>
<th>Dermatome Pain</th>
<th>Muscles Supplied</th>
<th>Movement Weakness</th>
<th>Reflex Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5</td>
<td>Lateral side of upper part of arm</td>
<td>Deltoid and biceps brachii</td>
<td>Shoulder abduction, elbow flexion</td>
<td>Biceps</td>
</tr>
<tr>
<td>C6</td>
<td>Lateral side of forearm</td>
<td>Extensor carpi radialis longus and brevis</td>
<td>Wrist extensors</td>
<td>Brachioradialis</td>
</tr>
<tr>
<td>C7</td>
<td>Middle finger</td>
<td>Triceps and flexor carpi radialis</td>
<td>Extension of elbow and flexion of wrist</td>
<td>Triceps</td>
</tr>
<tr>
<td>C8</td>
<td>Medial side of forearm</td>
<td>Flexor digitorum superficialis and profundus</td>
<td>Finger flexion</td>
<td>None</td>
</tr>
<tr>
<td>L1</td>
<td>Groin</td>
<td>Iliopsoas</td>
<td>Hip flexion</td>
<td>Cremaster</td>
</tr>
<tr>
<td>L2</td>
<td>Anterior part of thigh</td>
<td>Iliopsoas, sartorius, hip adductors</td>
<td>Hip flexion, hip adduction</td>
<td>Cremaster</td>
</tr>
<tr>
<td>L3</td>
<td>Medial side of knee</td>
<td>Iliopsoas, sartorius, quadriceps, hip adductors</td>
<td>Hip flexion, knee extension, hip adduction</td>
<td>Patellar</td>
</tr>
<tr>
<td>L4</td>
<td>Medial side of calf</td>
<td>Tibialis anterior, quadriceps</td>
<td>Foot inversion, knee extension</td>
<td>Patellar</td>
</tr>
<tr>
<td>L5</td>
<td>Lateral side of lower leg and dorsum of foot</td>
<td>Extensor hallucis longus, extensor digitorum longus</td>
<td>Toe extension, ankle dorsiflexion</td>
<td>None</td>
</tr>
<tr>
<td>S1</td>
<td>Lateral edge of foot</td>
<td>Gastrocnemius, soleus</td>
<td>Ankle plantar flexion</td>
<td>Ankle jerk</td>
</tr>
<tr>
<td>S2</td>
<td>Posterior part of thigh</td>
<td>Flexor digitorum longus, flexor hallucis longus</td>
<td>Ankle plantar flexion, toe flexion</td>
<td>None</td>
</tr>
</tbody>
</table>
Causes of myelopathy:
1- congenital (chiari-malformatin, syringomyelia)
2- acquired (stenosis, traumatic, disc,)
3- neoplastic
4- vascular (hematoma, AVM)
5- infectious (TB, others)