Revised the illustration in the bottom right corner to label the Lumbar above the Sacrum followed by the Coccyx at the base of the Spinal Column. Corrected page attached for your reference.

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<th>PG # Book</th>
<th>NAME OF KRIYA/MEDITATION</th>
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<td>170</td>
<td>Spinal Column</td>
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Spinal Biomechanics

Basic Organ Structure & Function
The spine consists of 32-34 vertebrae of which three to five vertebrae are fused into one bone, the sacrum. Yogi Bhajan often counts them as 26, which considers the sacrum functionally as one and the tailbone (coccyx) as one.

The spine is divided into four regions of vertebrae:
- 7 cervical (neck)
- 12 thoracic (chest)
- 5 lumbar (lower back)
- 5 sacral (fused)
- 3-5 coccyx (This number varies among individuals.)

Between the vertebrae, intervertebral disks with elastic cores act as shock absorbers to avoid damage during movement. When this elastic core is squeezed out from its proper place, it presses on the nerves. This is called a “slipped disk.”

The spine has two mutually exclusive functions that it needs to balance: it houses and protects the nervous system, and allows for mobility. When there is a conflict, protecting the nervous system is the body’s top priority and the muscles connected to the spine go into spasm to prevent mobility.

The skull and spine house the central nervous system and have holes that allow nerves to communicate between the central and peripheral nervous systems.

Negative Influences & Risk Factors

Weakness in the Spine:
Common problem areas in the spine that yogic practice can help are upper back, neck and lower back pain. Back pain that is not caused by a pinched nerve, is often caused by muscle imbalance and less than optimal spinal mechanics. People tend to be too strong and too tight in their front thighs, chest, and posterior neck muscles. People tend to be weak in the hamstring, buttock, abdominal, middle back, and anterior neck muscles.

Weakness in the Neck:
A muscle imbalance in the neck, especially weak anterior neck muscles, tends to produce a posture that reinforces the imbalance. The neck tends to straighten and shift the head forward, which puts a strain on the muscles of the upper back and back of the neck.

Weakness in the Lower Back:
When the lower back is weak, it tends to arch forward and put pressure and strain on the joints in that region. Good yoga exercises for this weakness are those that involve stretching the overly tight muscles and exercising the weak muscles. Controlled elongation is the most important motion, especially in the abdominal area. This elongation is provided by controlling the lowering phase of leg lifts or sit ups—that means keeping the lower back pressed as flat as possible during any leg lifts and especially during Stretch Pose. (See the Form & Alignment Chapter in this Manual.)

How Yoga Helps
- Yoga re-hydrates the disks to normalize structure and function.
- Long Deep Breathing expands the ribs and the spine; the cranial bones move with the rhythm of the breath, and spinal and cranial movement pumps the cerebrospinal fluid.
- The movement of the sacrum circulates the spinal fluid.
- Stretching resets the resting tension in the muscles alongside the spine, and strengthens and re-patterns specific muscles.

Suggested Yoga Exercises
- Kriya for the Lower Spine and Elimination (Sadhana Guidelines, p. 52.).
- Flexibility and the Spine (Sadhana Guidelines, p. 47: in the “Sets” chapter.)
- Basic Spinal Energy Series (Sadhana Guidelines, p. 45: in the “Sets” chapter.)
- Exercises that strengthen the abdominal muscles.
- Spinal Flex, Cat-Cow, and Cobra.