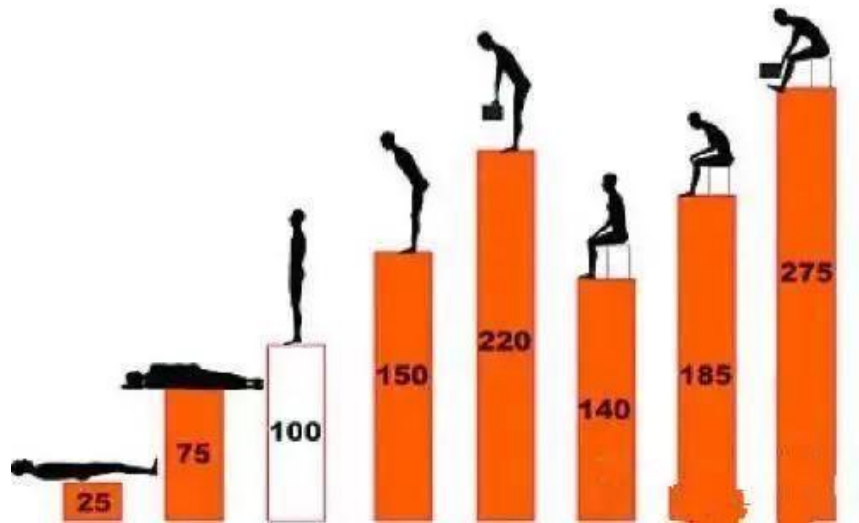


## The Relationship Between Posture and Lumbar Load

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This is an image used in an article by Dr. Nachemson, published in *SPINE* magazine in 1976. It illustrates the load on the third lumbar disc for an individual weighing 70 kg under different postures:

- When lying flat, the lumbar load is minimal, approximately **25 kg**.
- In a side-lying position, the lumbar load increases to about **75 kg**.
- While standing upright, the lumbar load is **100 kg**.
- In a seated position with an upright posture, the lumbar load rises to **140 kg**.

However, both standing and sitting postures with a forward-leaning position significantly increase the load on the lumbar spine:

- When leaning forward while standing, the lumbar load increases to **150 kg**.
- When leaning forward while seated, the lumbar load approaches **200 kg**.
- In a seated forward-leaning position while holding a heavy object, the lumbar load can reach **300 kg**!

This occurs because, when the upper body leans forward, the weight of the head, torso, and upper limbs concentrates on the lumbar spine as the primary support point, placing maximum pressure on the lumbar discs.

Understanding the relationship between posture and lumbar load is essential for better protecting our lumbar spine and avoiding postures that are likely to cause lumbar injury.