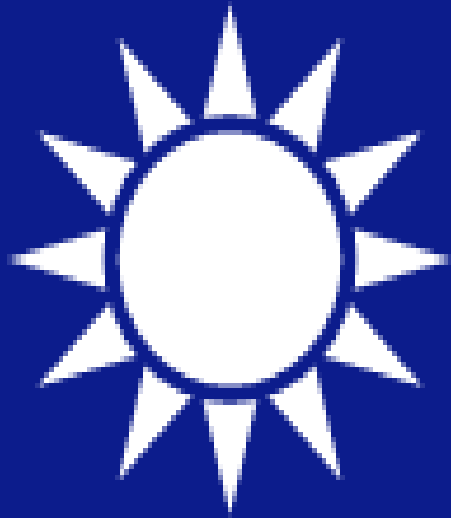


背痛

的成因及舒緩

楊梅東森渡假村 (10/10)

中央大學體育室姚承義



生日快樂

壓力最輕的是後仰坐姿



135

職業工作特徵

- 長途司機
 - 工作需要久坐的人
- 需要經常彎腰或久站的人
 - 經常搬重的人
 - 家庭主婦
 - 運動員



室外與室內工作，沒有明顯的差異
大都與久坐、彎腰、搬重這三個因素有關

腰痠背痛的三大主因

姿勢不良

用力不當

組織老化

組織老化 + 姿勢不良 + 用力不當 → 腰痠背痛

腰痠背痛的三種類型

單純下背痛

單純坐骨神經痛（下肢痠麻痛）

下背痛 + 坐骨神經痛

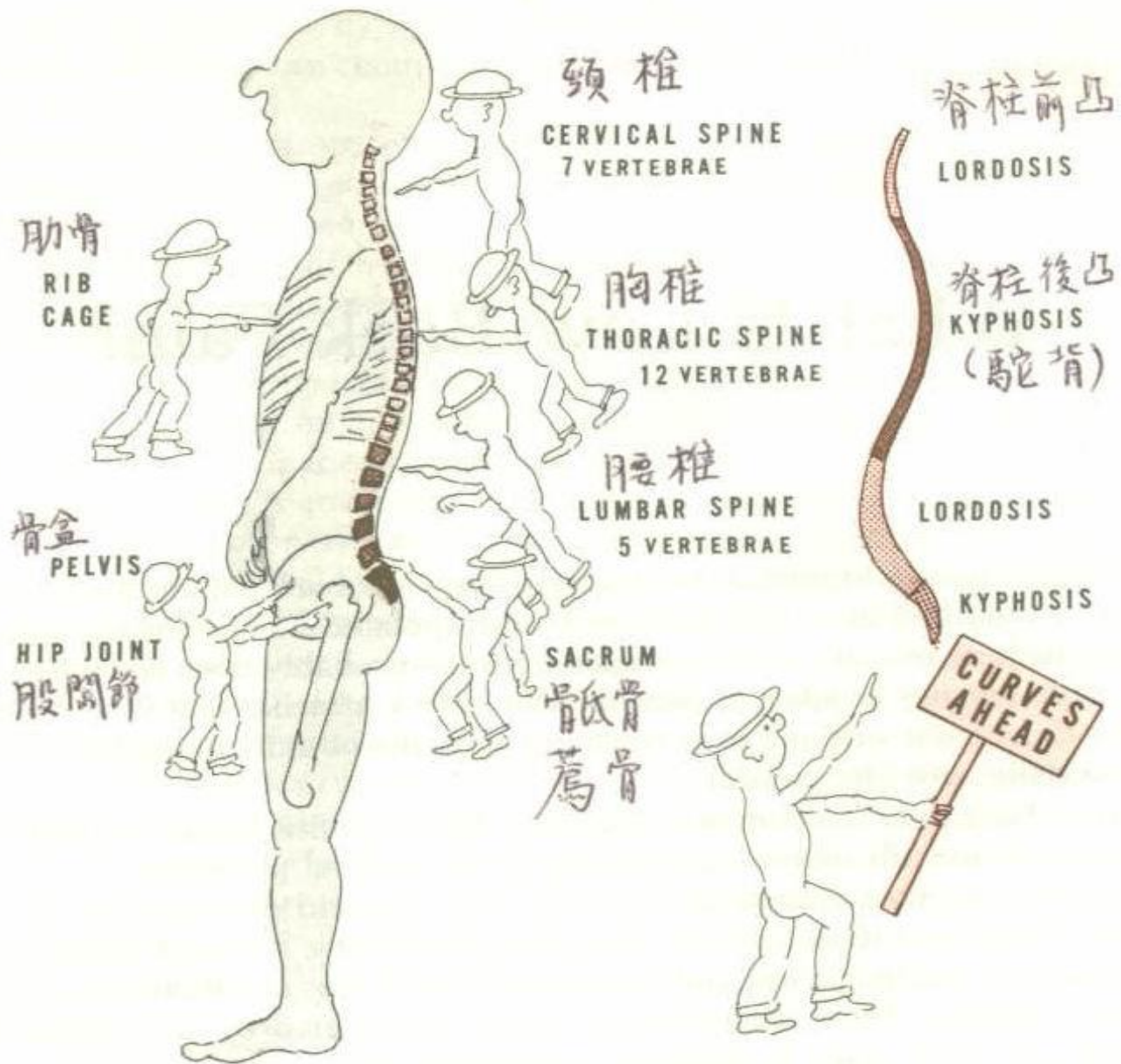


FIGURE 1. The vertebral column: the spine.

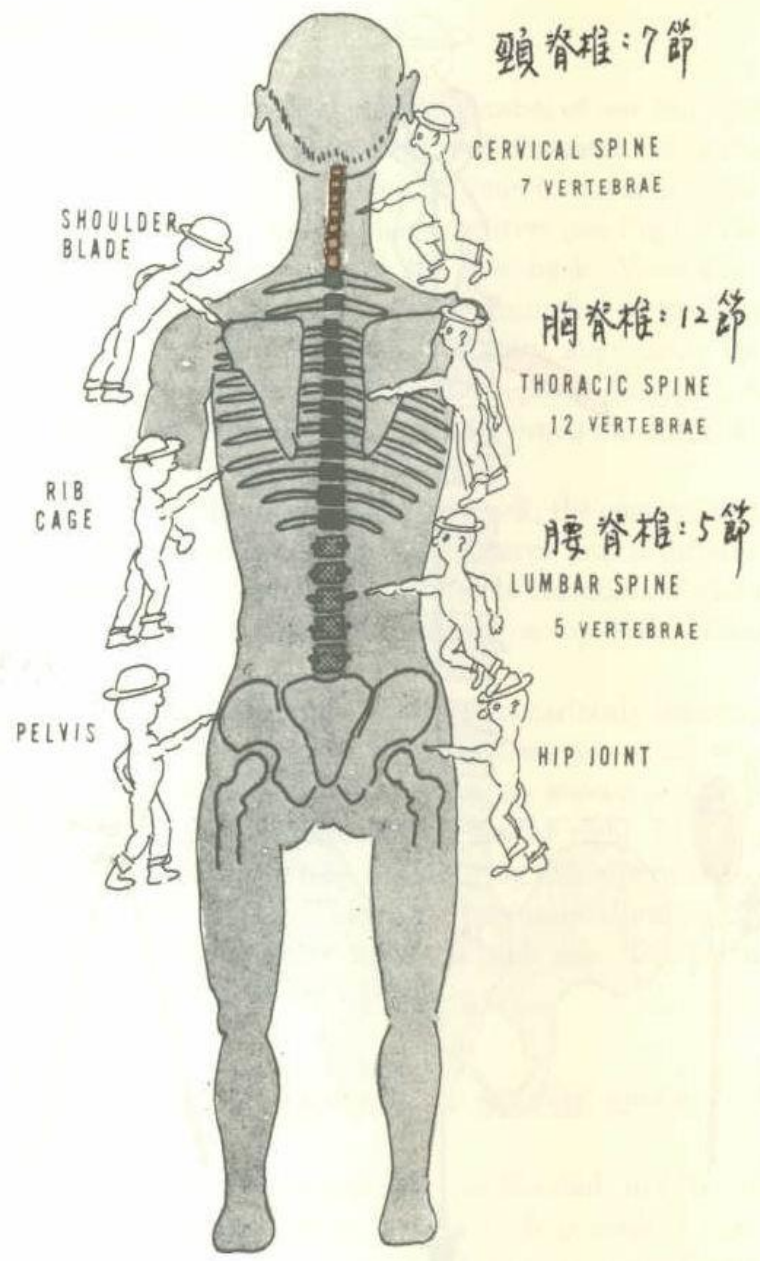
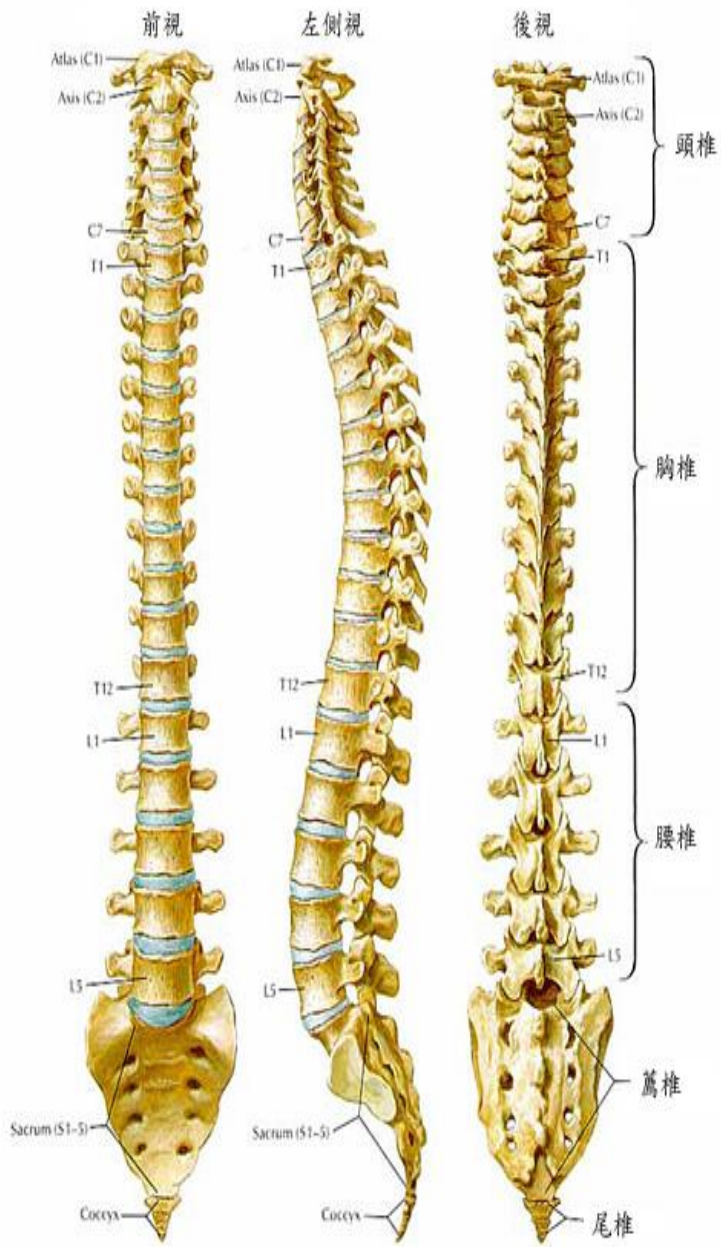
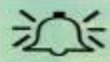
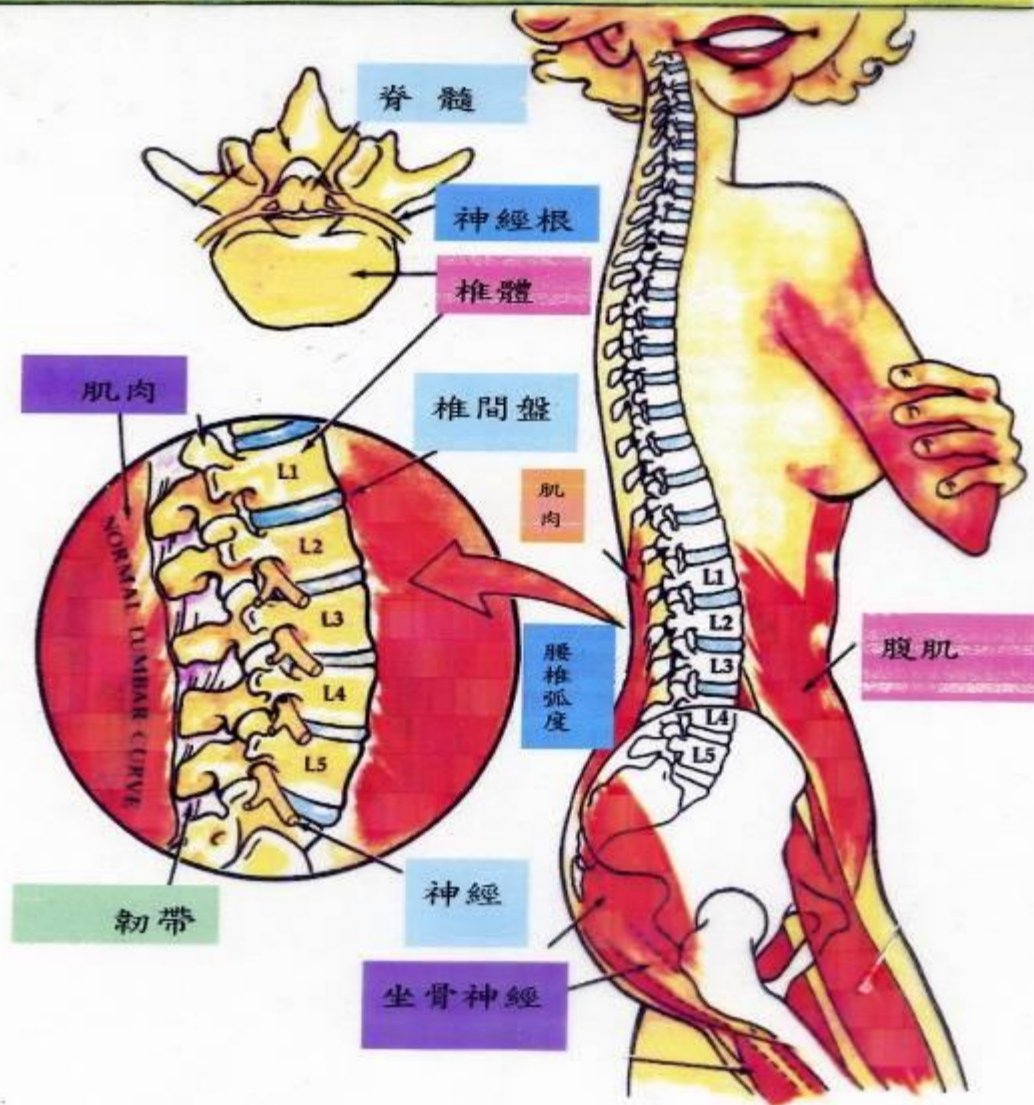


FIGURE 21. The entire vertebral column.



健康脊椎解剖



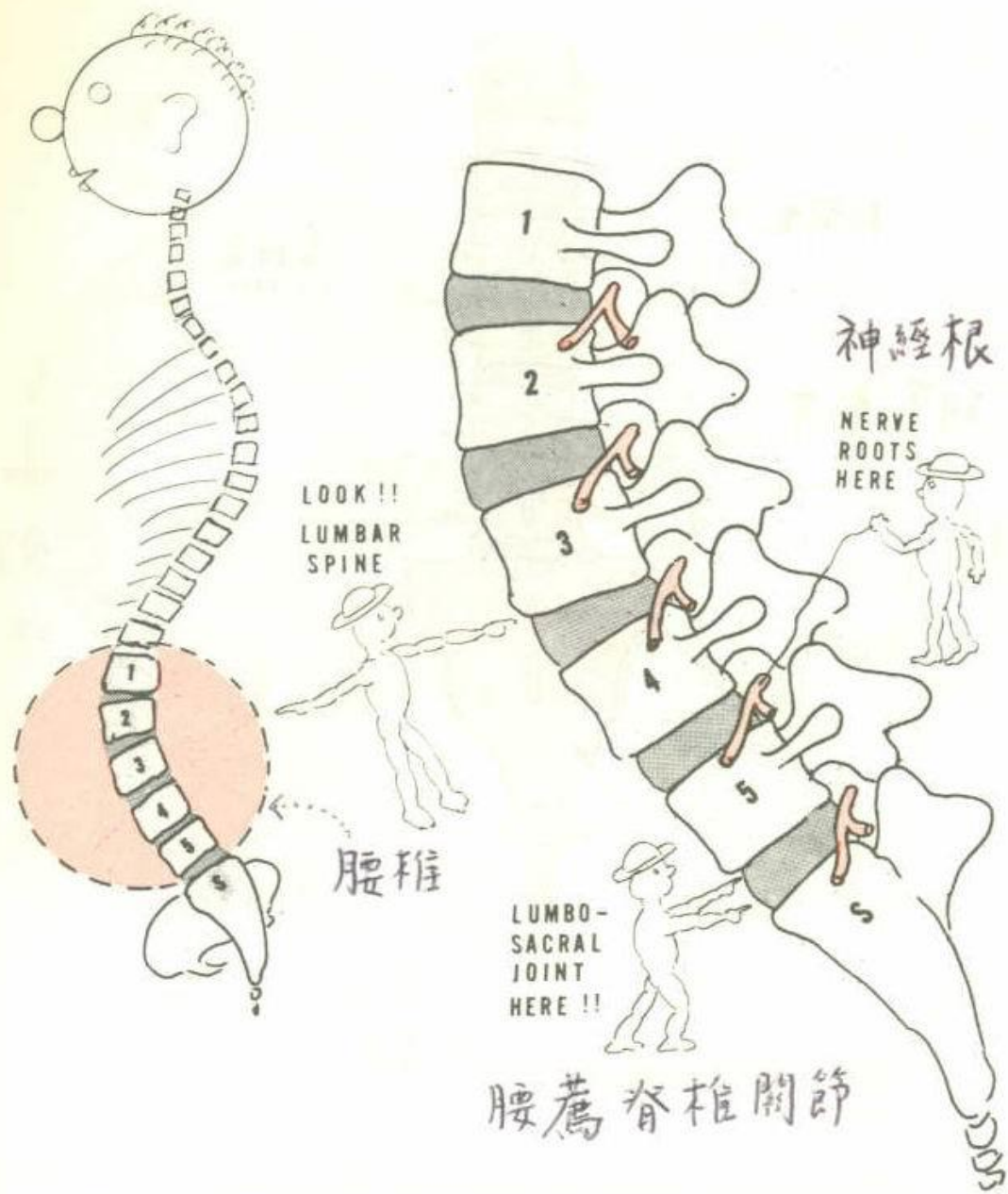


FIGURE 2. The lumbar portion of the spine viewed from the side.

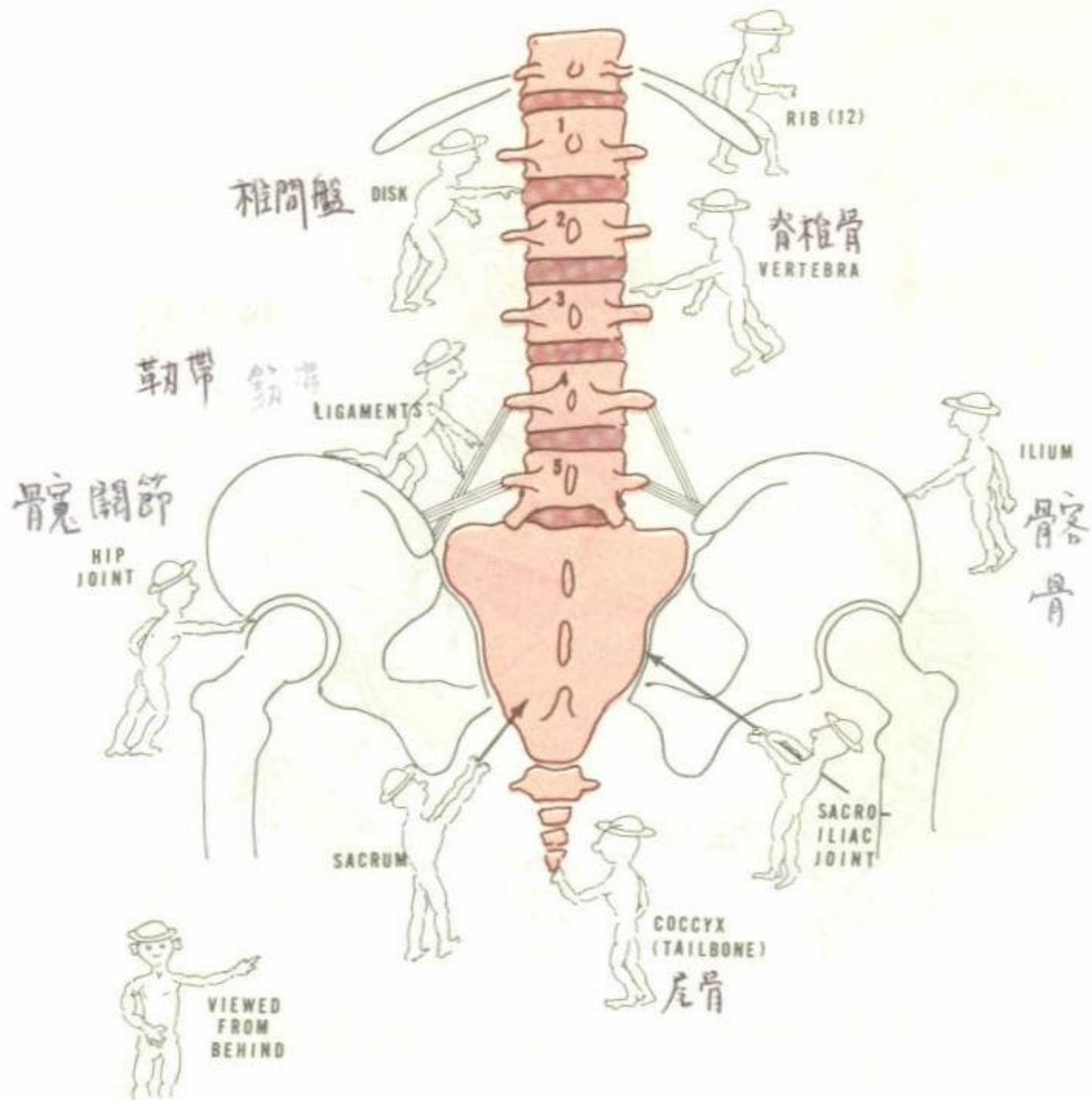


FIGURE 3. The lumbar spine viewed from behind.

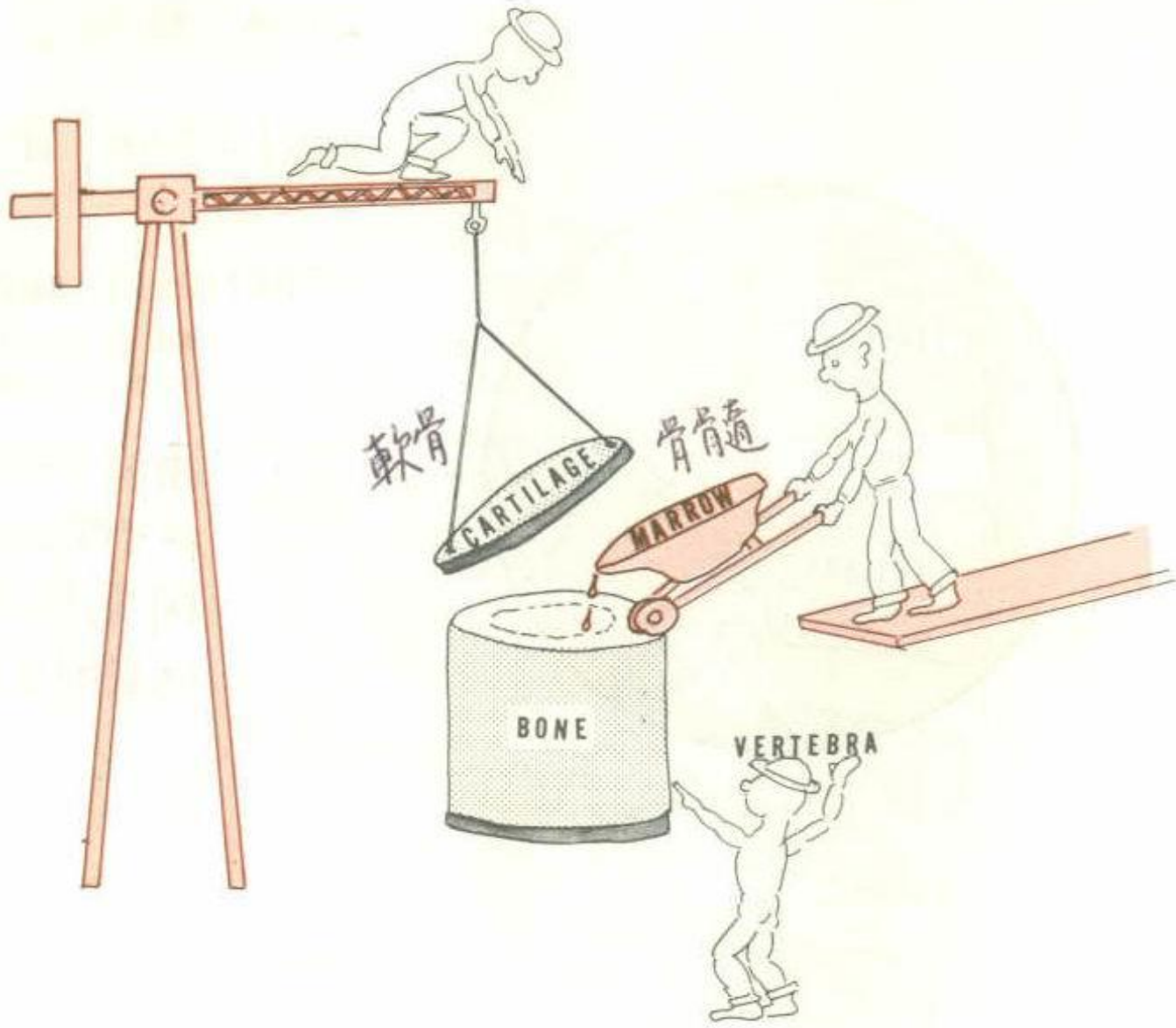
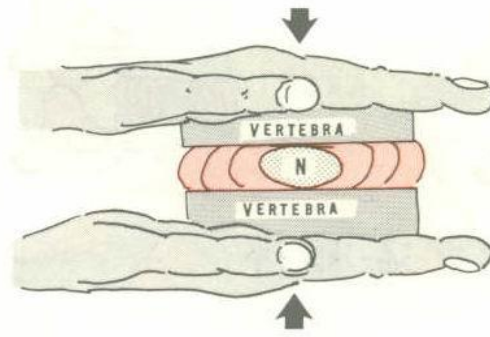
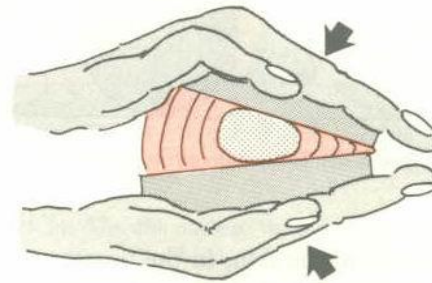


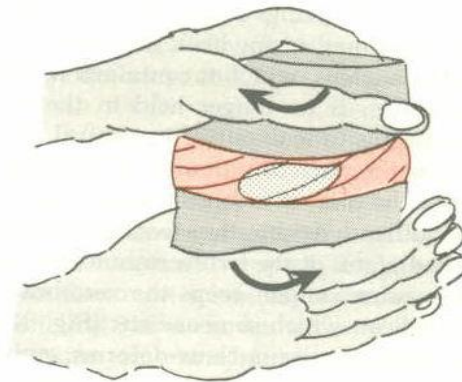
FIGURE 5. The vertebral body.



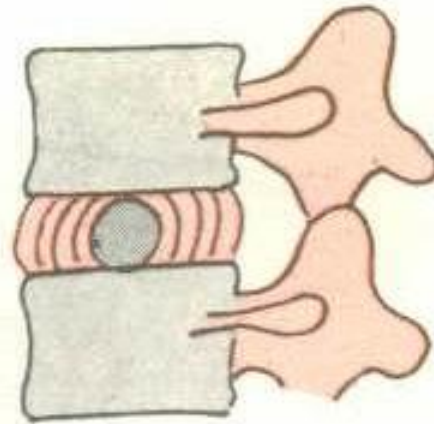
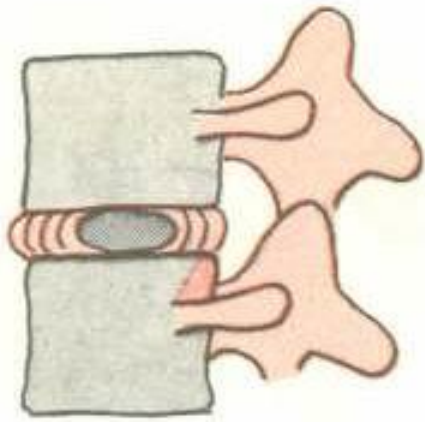
可壓



可彎



不可扭轉



海灘球

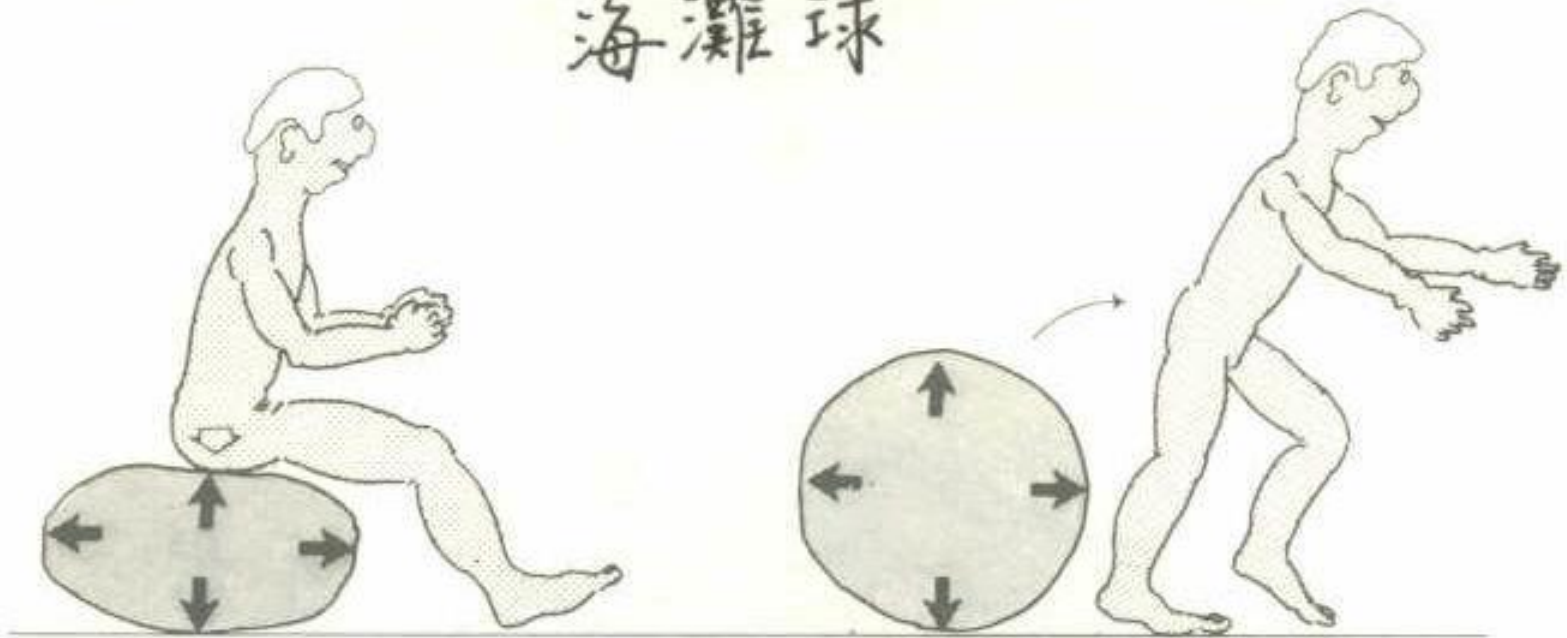


FIGURE 13. The beach ball action of the nucleus of the disk.

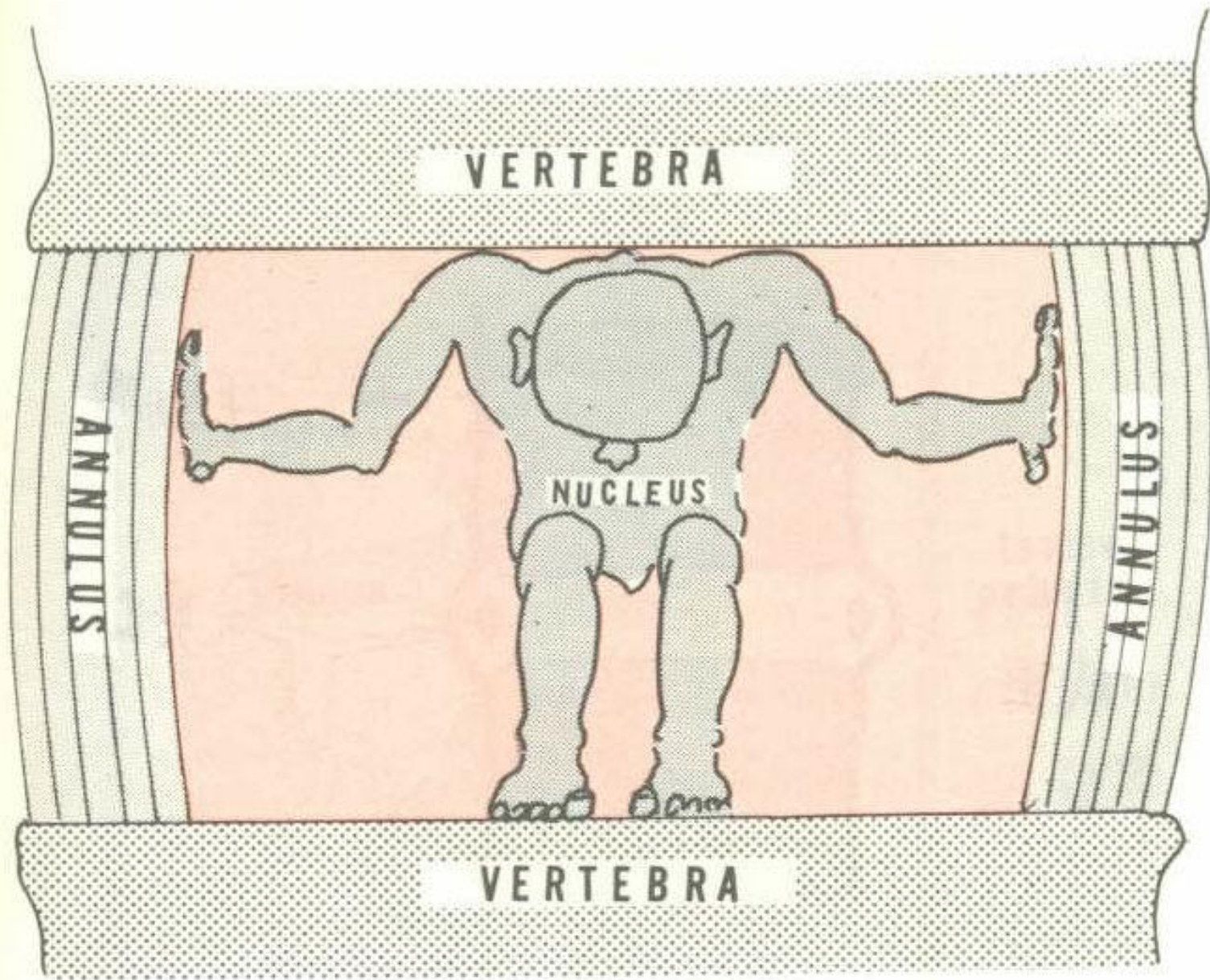


FIGURE 14. The disk nucleus: the Hercules of the spine.

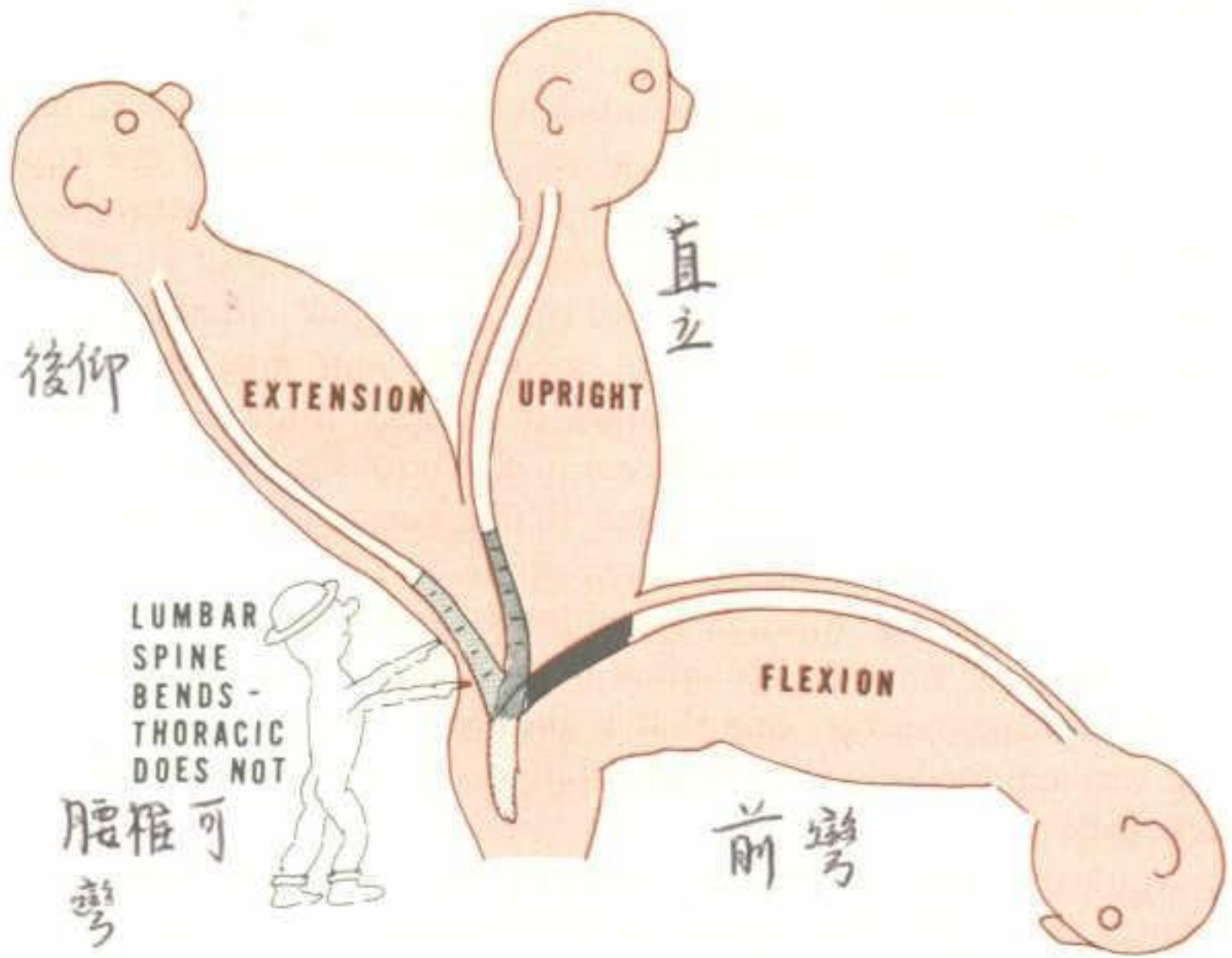


FIGURE 19. Movements of the spine: occurring *only* in the lumbar spine.

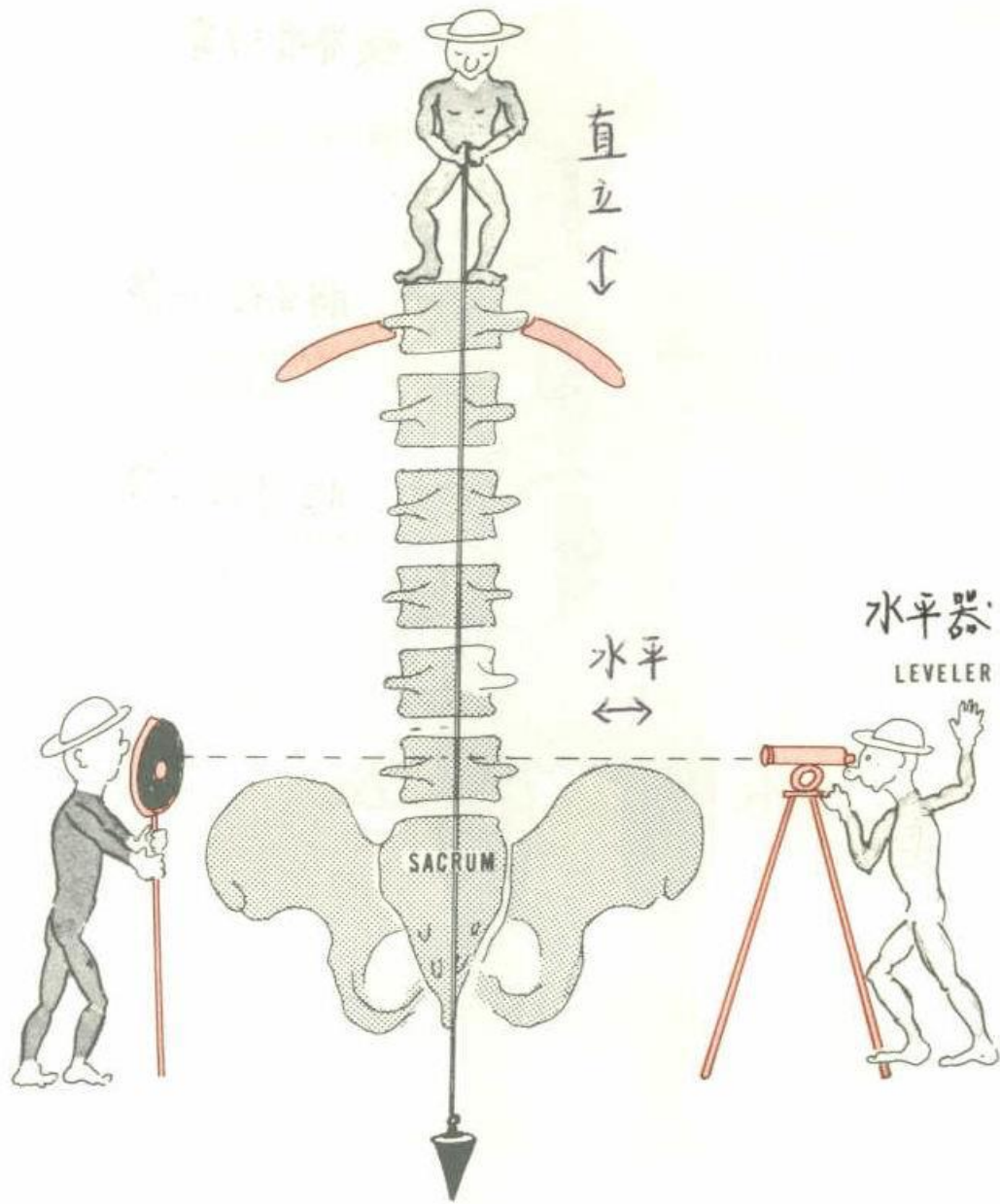
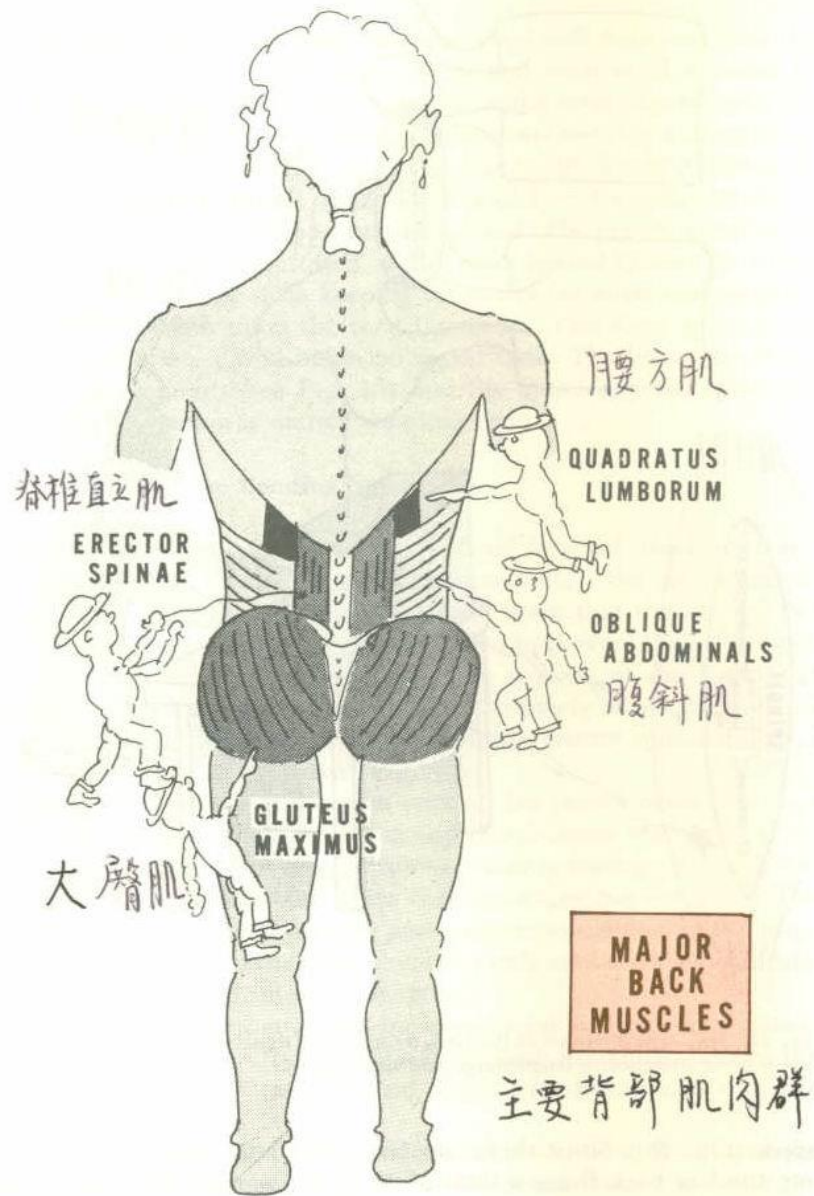


FIGURE 20. Balance of the spine upon the pelvis.

脊椎依靠骨盆做平衡調節



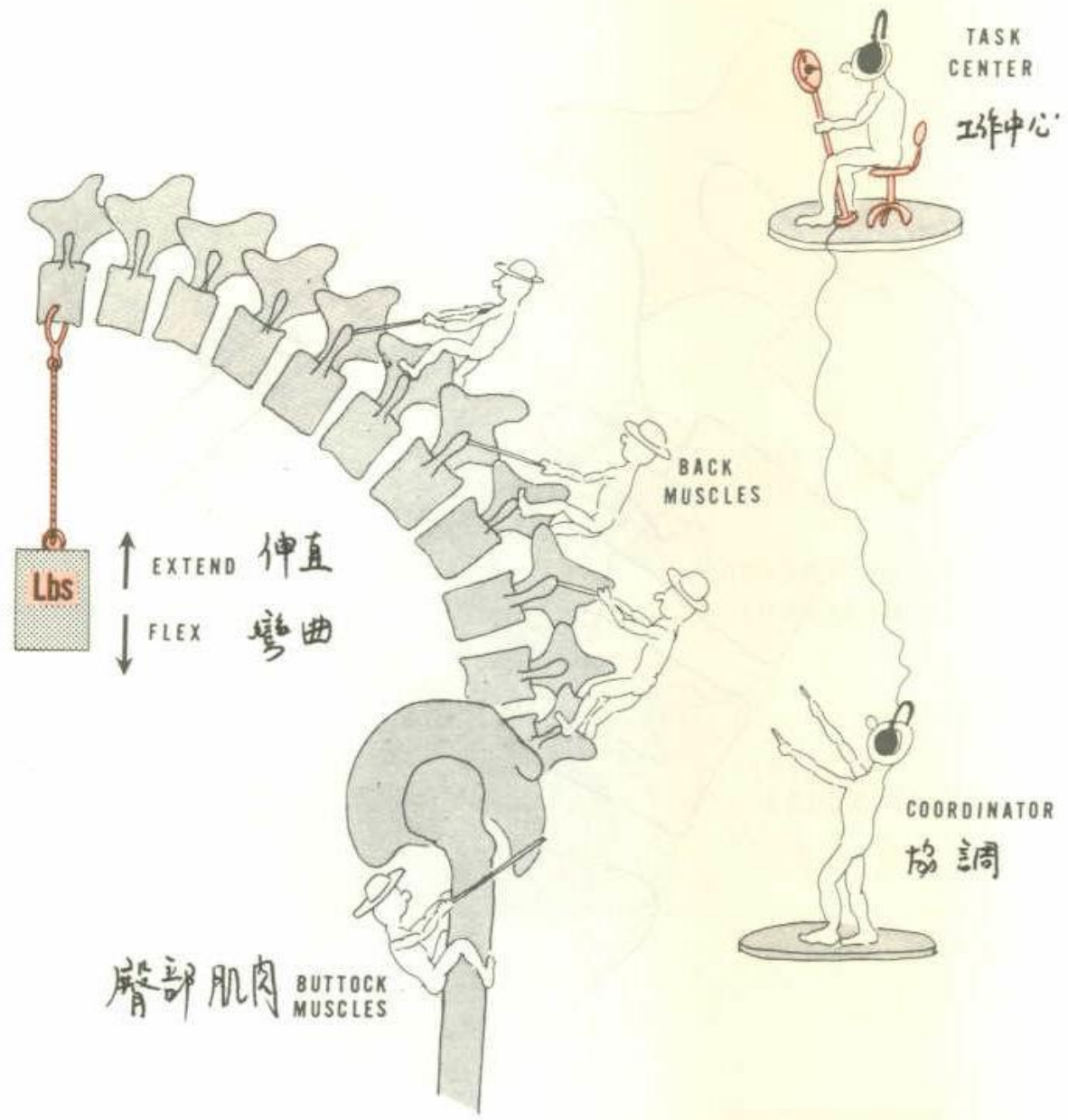


FIGURE 27. The back muscles, connecting two vertebrae each, lengthen to allow the spine to bend forward and shorten to bring the person to the upright, erect posture.

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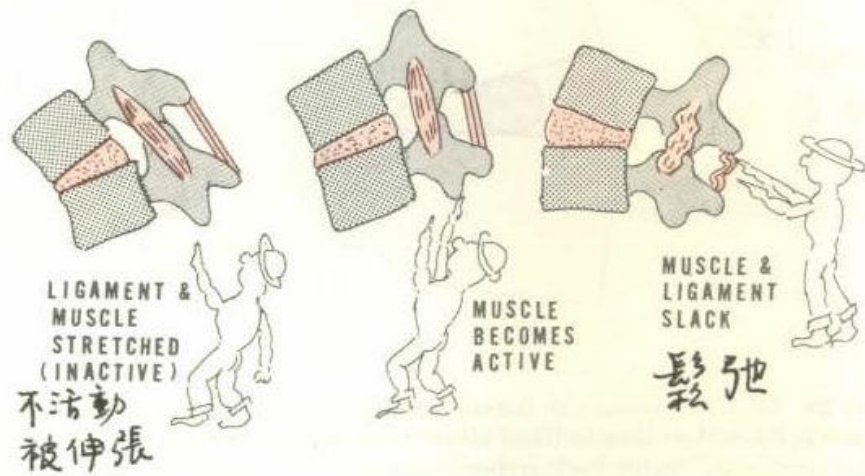
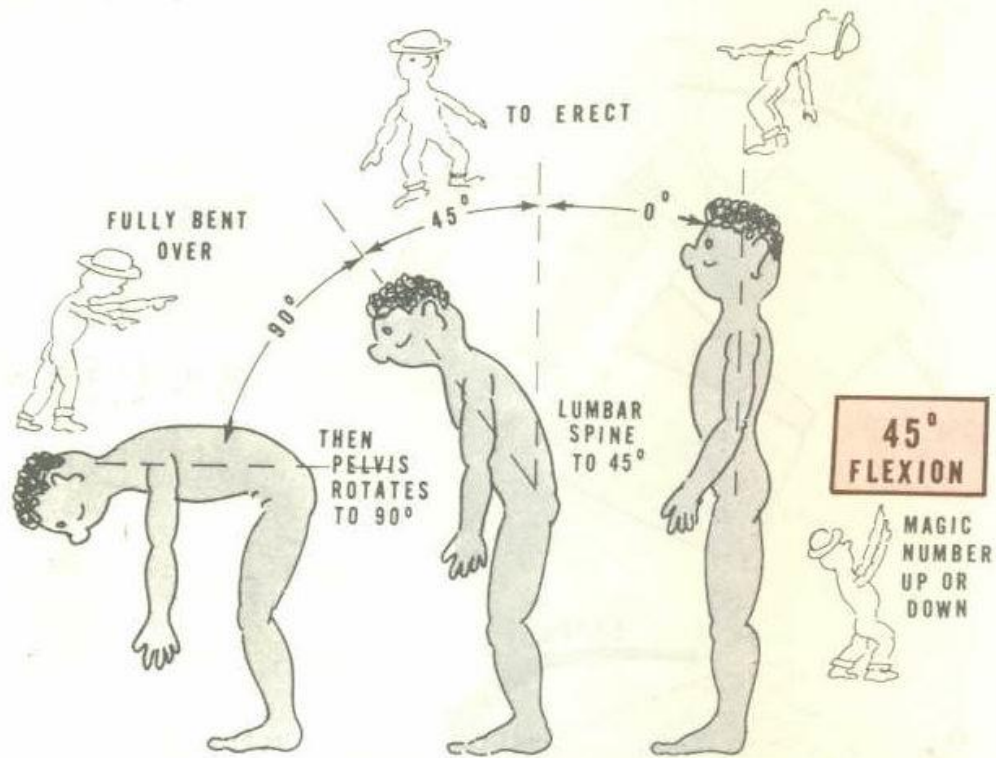


FIGURE 29. Since each functional unit opens to flex forward 8 to 10 degrees and there are five lumbar units, the lumbar spine bends forward about 45 degrees.

DEVIL: 困擾

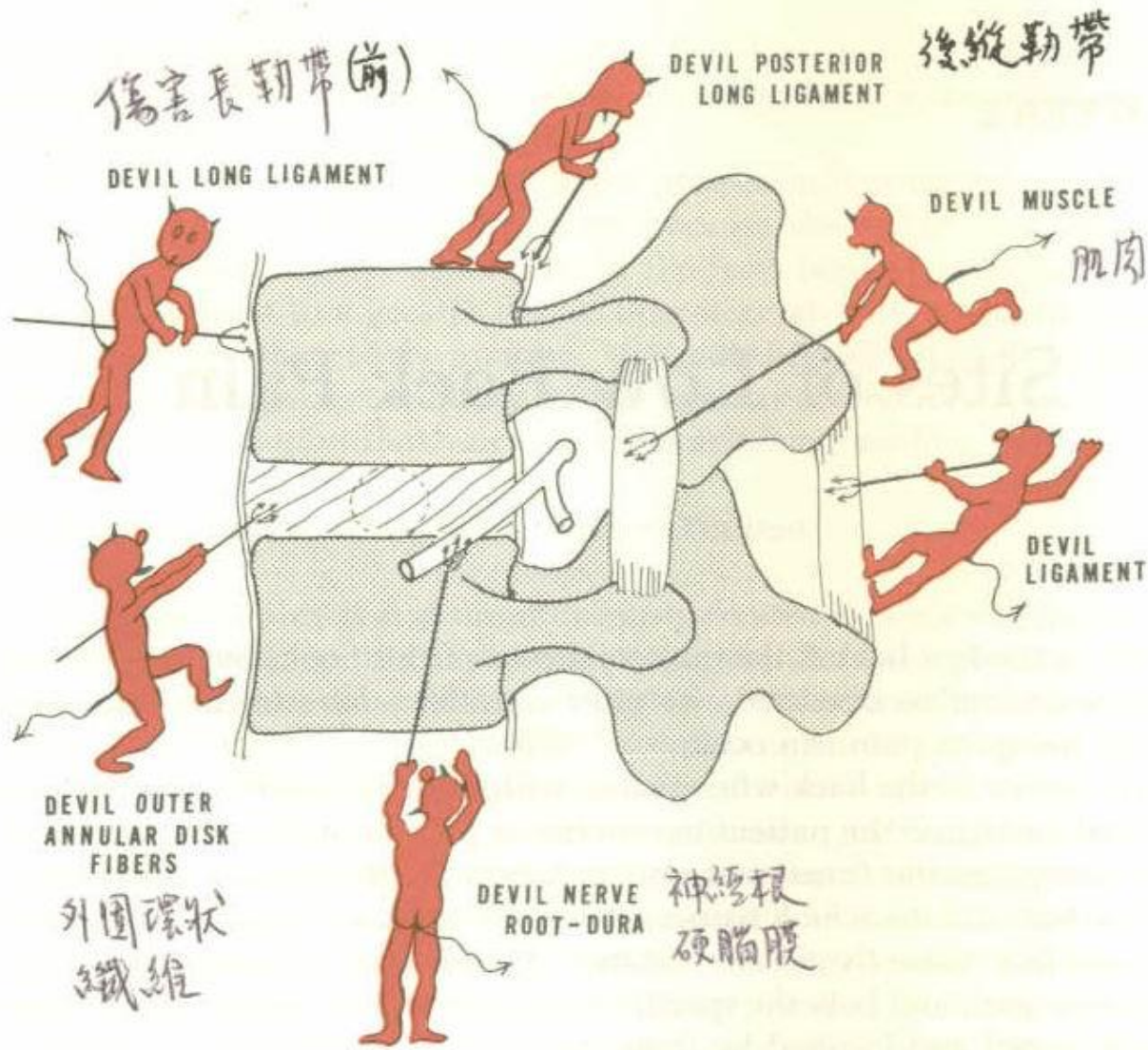


FIGURE 32. Tissues within functional unit capable of causing pain when irritated. The "sensitive tissues" within the functional unit seen from the side view (left side).

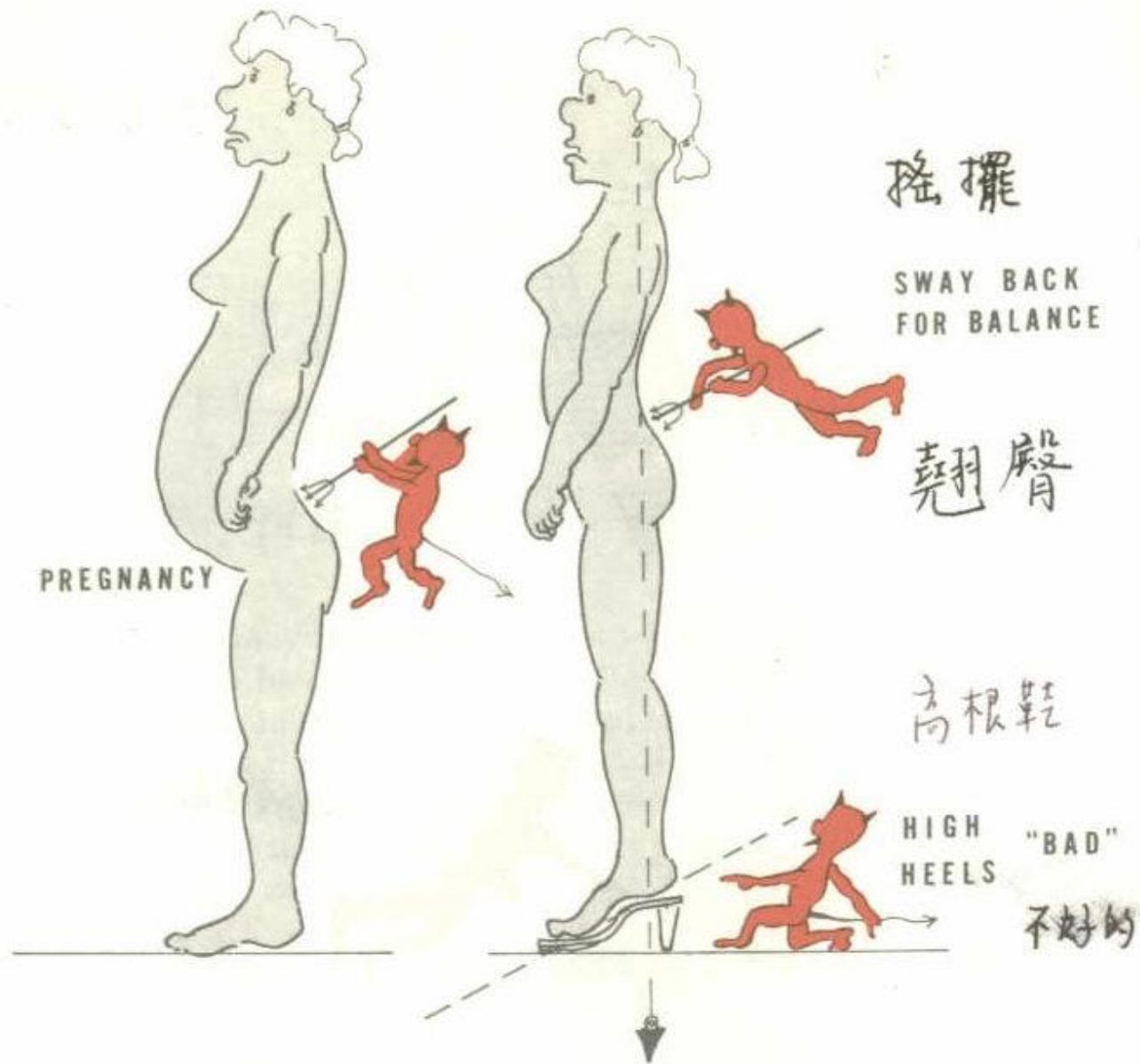


FIGURE 39. "Sway back" from pregnancy or high heels increases lordosis and can cause low backache.

唯有太極拳
含胸拔背
(直背豎脊椎)

合乎生理



阿兵哥抬頭挺胸
造成腰痛。

傾斜
SWAY BACK =
OUCH!!!

錯誤

Outs 啊唷!

FIGURE 40. "Military posture" can cause low backache if it increases lordosis.

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FIGURE 41. Prolonged standing with excessive lordosis plus fatigue may cause low backache. This can be eliminated by placing one foot up on a small stool.

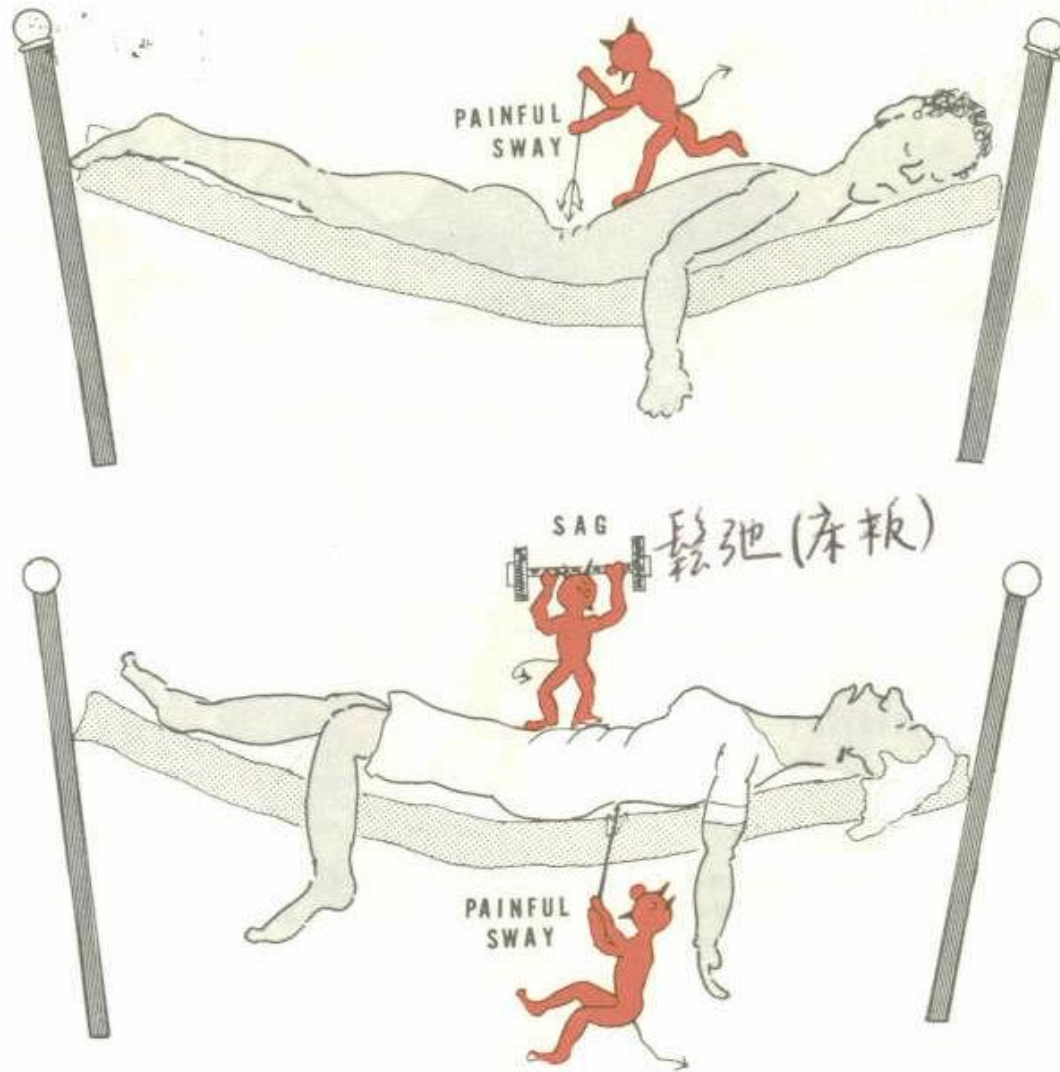


FIGURE 42. Faulty sleeping positions. Sleeping on one's stomach with a sagging mattress causes painful arching of the back (top). Even lying on one's back (called supine), the soft, sagging mattress can cause low backache (bottom). Obviously, the desirable bed is one with a firm mattress that does not sag because of firm under-mattress support. The objective is to prevent sag.

含胸拔背
脚板貼地

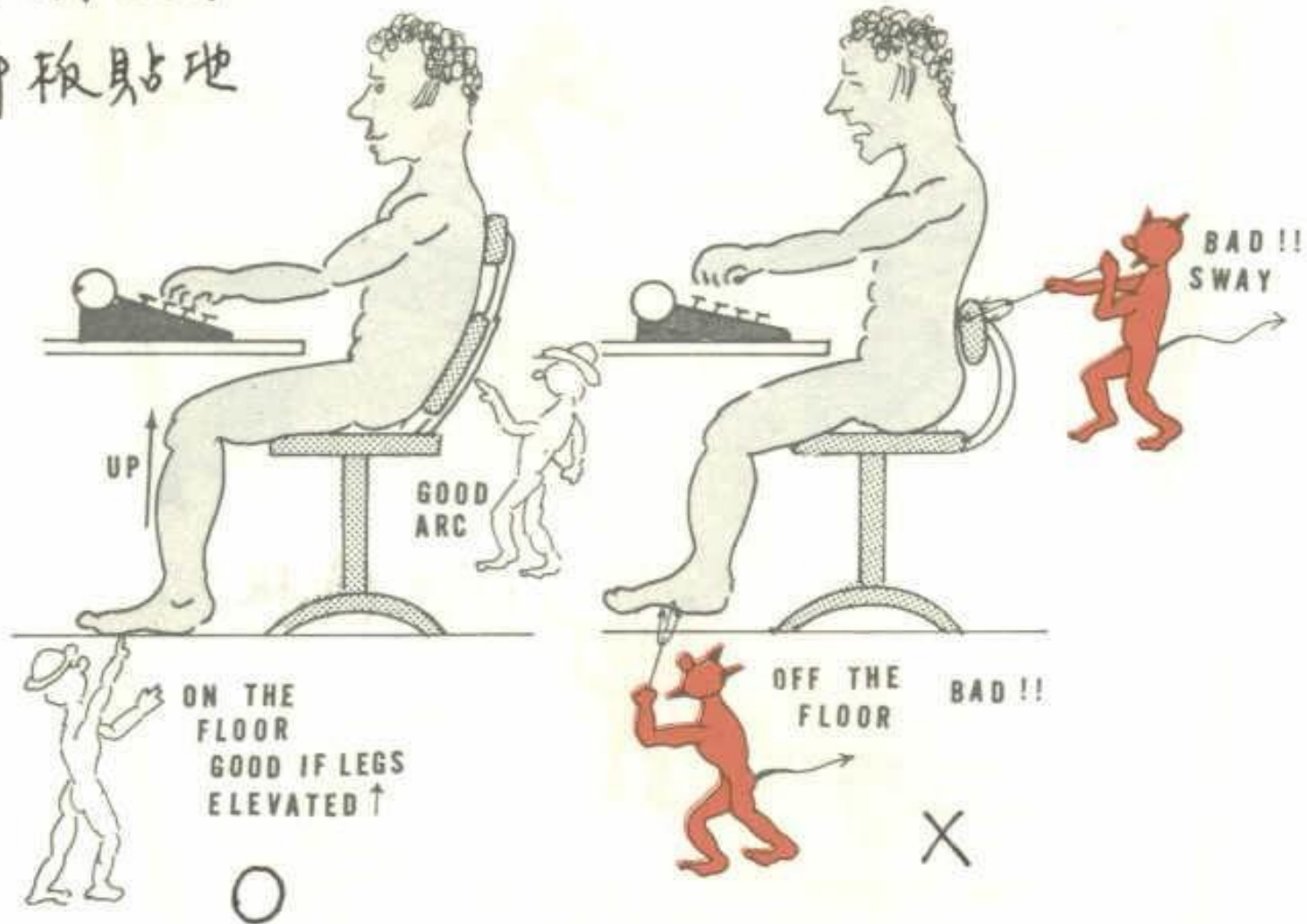


FIGURE 43. Faulty sitting posture may cause low backache. The proper low back support, feet on the floor with legs slightly elevated, table and typewriter at the right level—all must be proper to avoid low back strain.

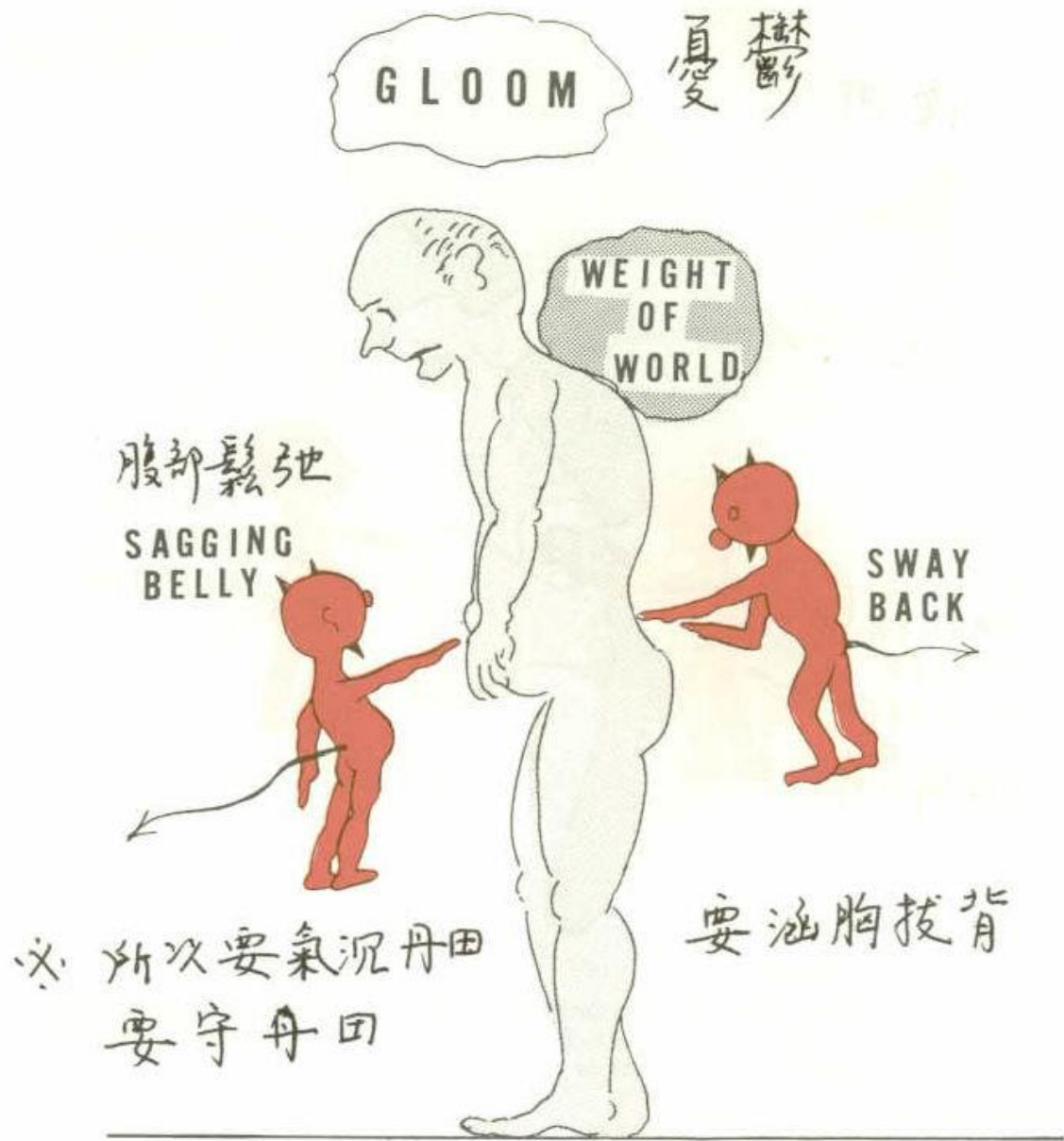
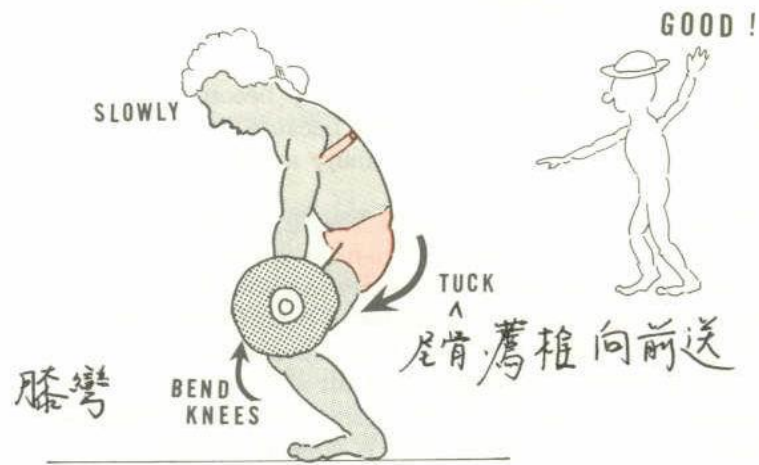
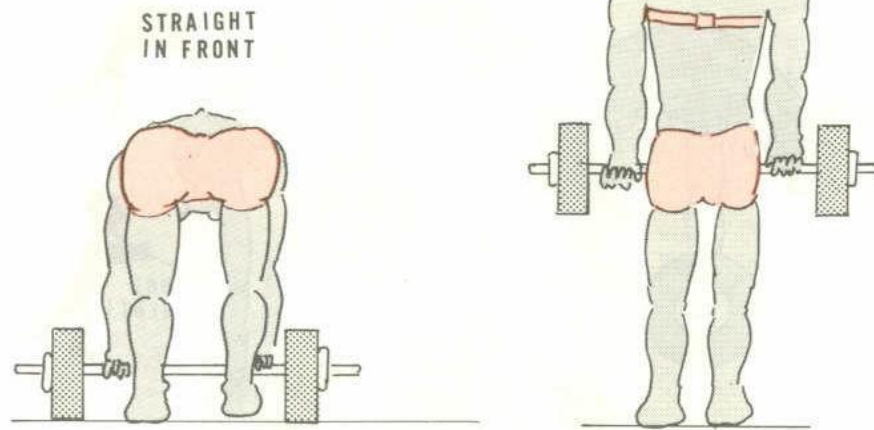


FIGURE 45. The depressed posture causing low back pain. Not only the posture but the depression make the patient more prone to having backache.



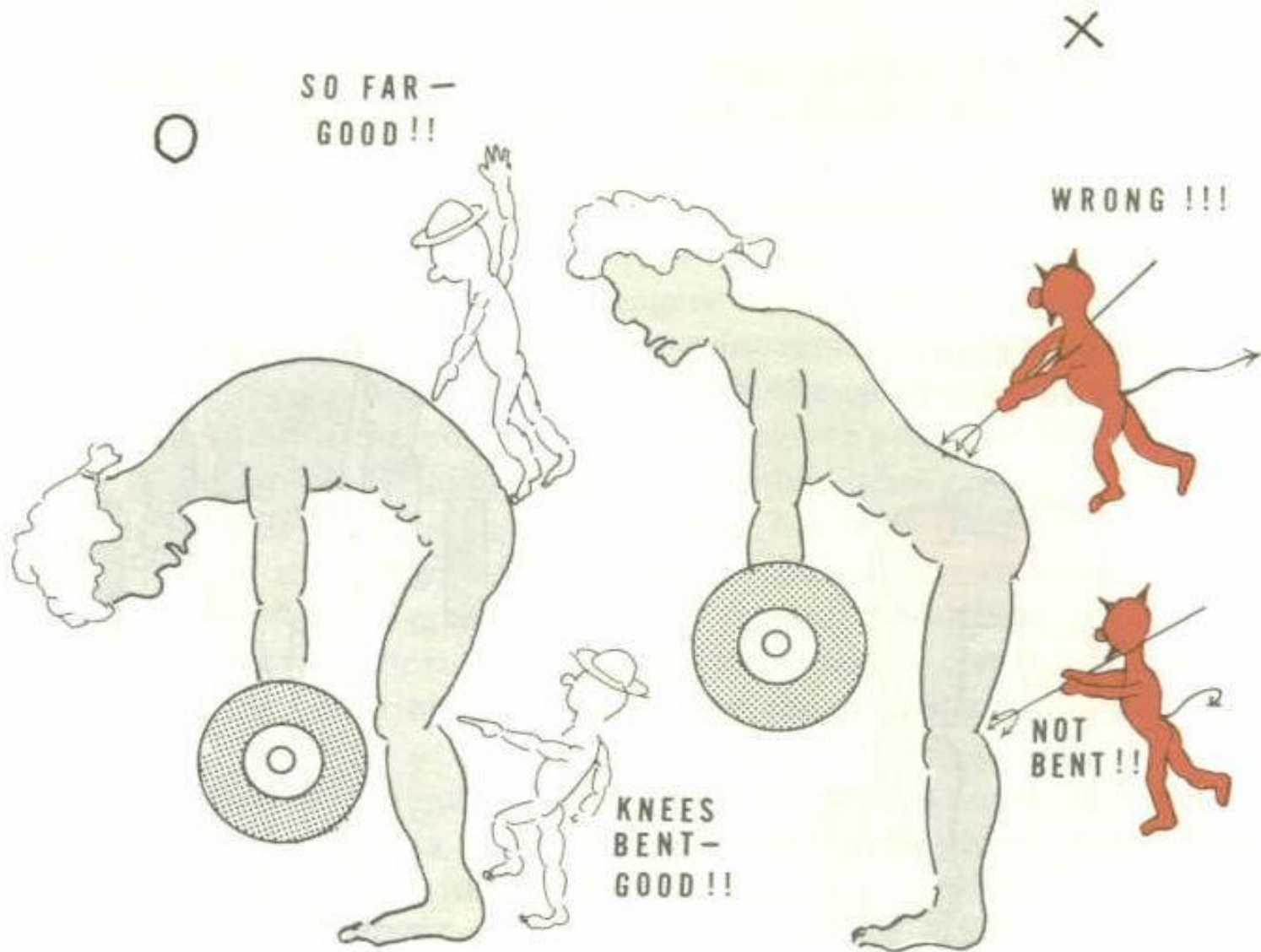


FIGURE 47. Improper bending and lifting. Regaining the low back lordosis too soon in lifting and with the knees not bent causes low back pain.

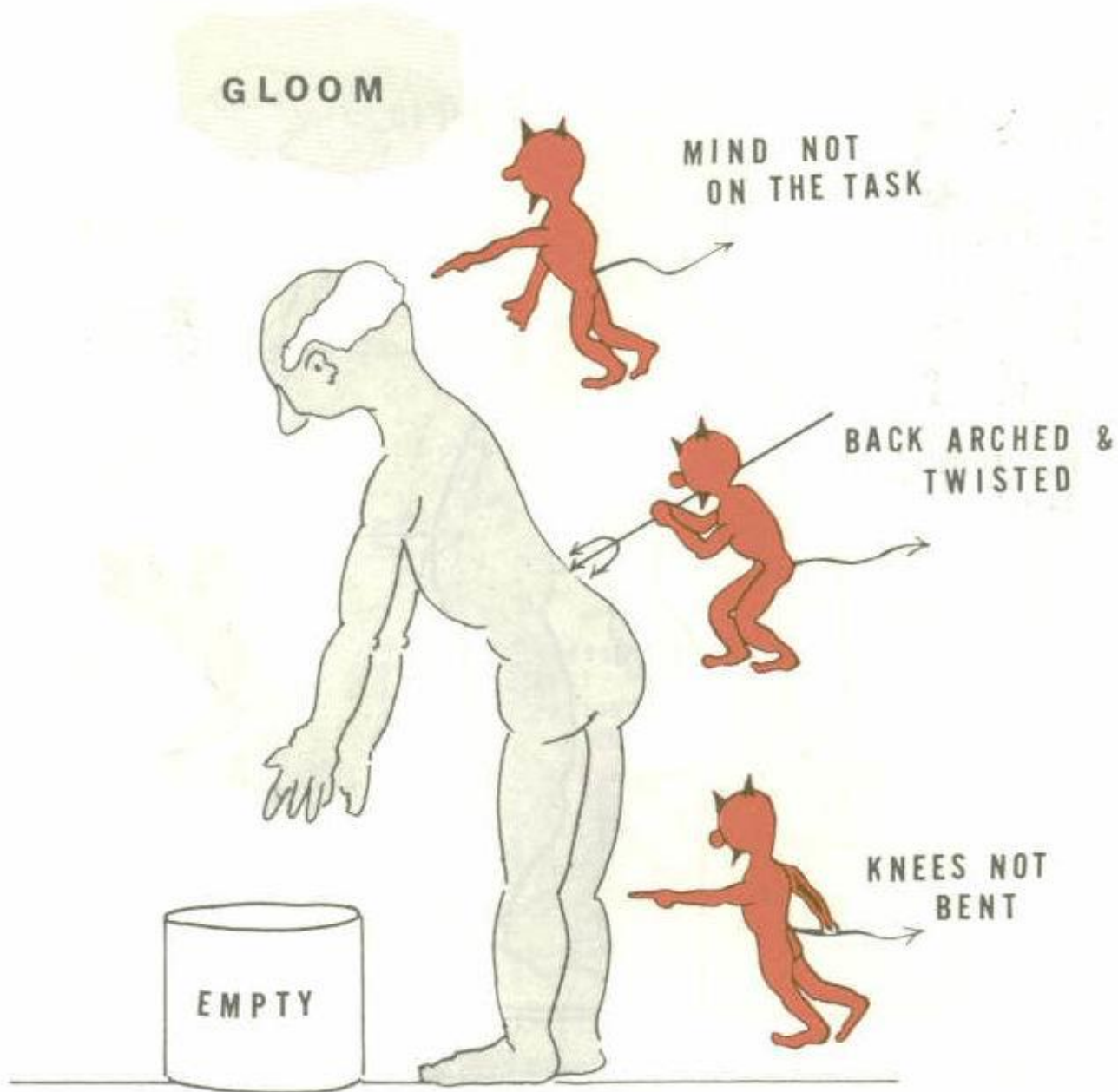


FIGURE 48. Distraction that causes faulty bending and lifting, causing low back pain.

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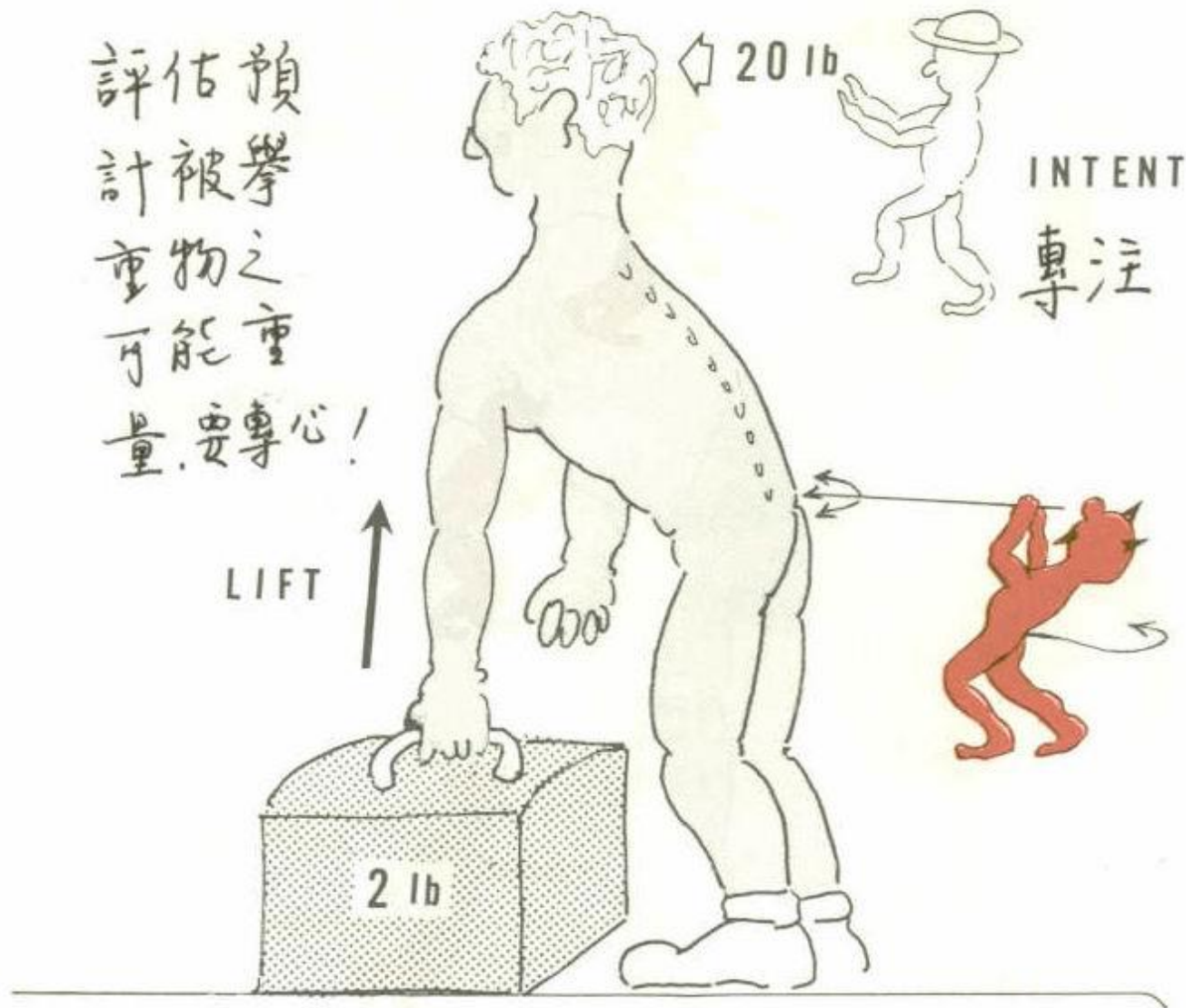


FIGURE 49. Miscalculation of lifting effort. If the person intends to lift an object considered to weigh 20 lb that weighs only 2 lb, the person *overlifts* and thus can injure the back. The opposite, an *intended* lift of 2 lb that is actually 20 lb, can equally cause a low back *underlift* injury.

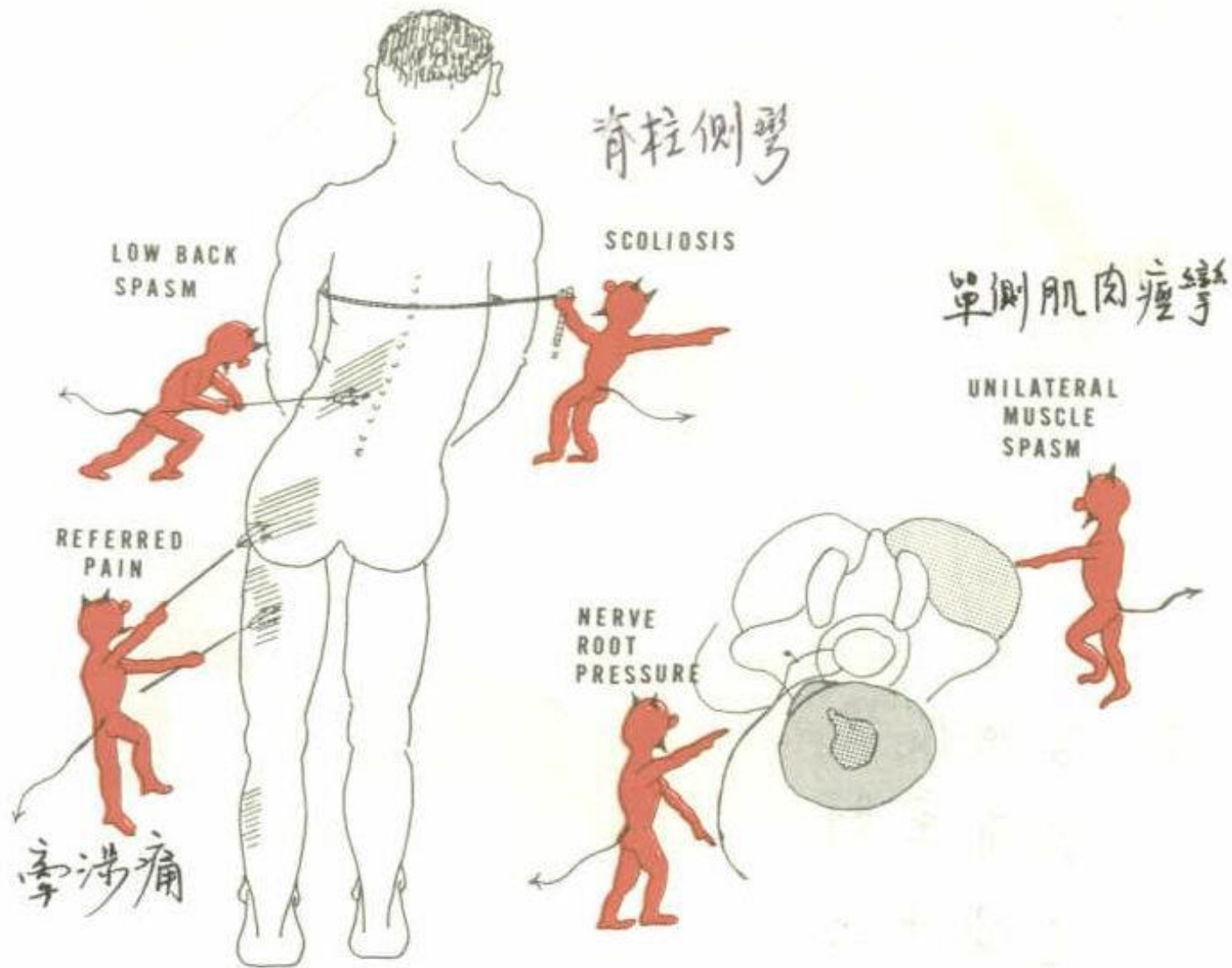


FIGURE 50. Acute scoliosis: due to low back muscle spasm. On one side (shown in small figure to right), the back is pulled (twisted) to one side of midline. This is called functional scoliosis. Spine becomes straight when spasm ceases.

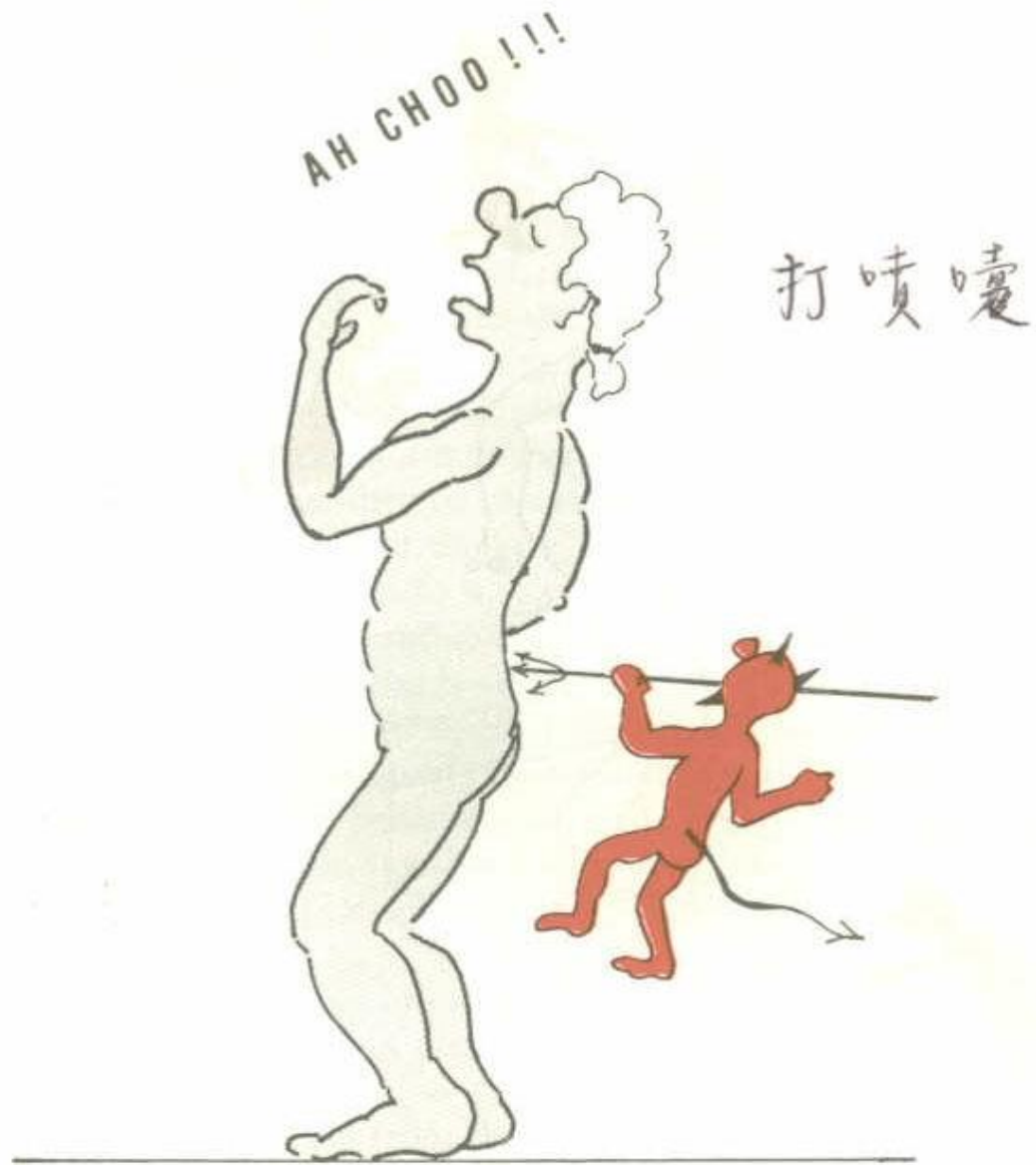
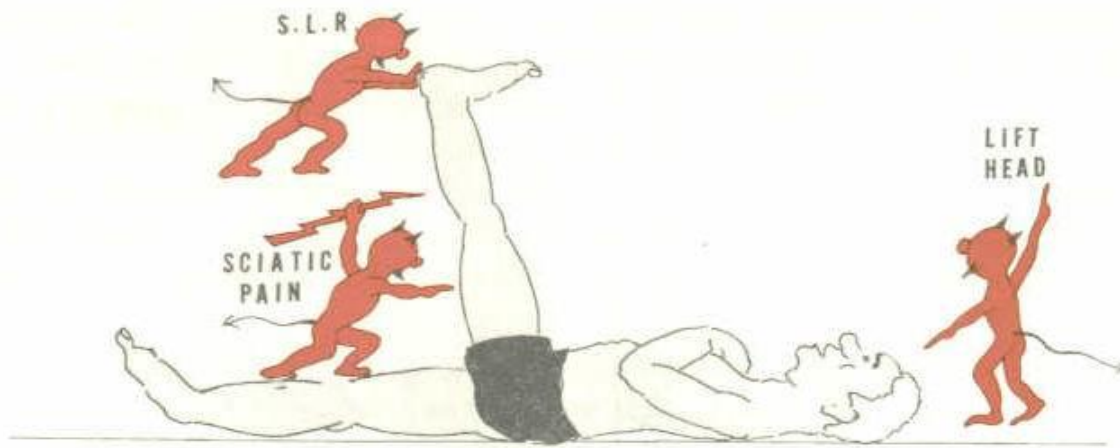


FIGURE 52. A sneeze may “catch the back unprepared for the stress” and cause low back strain.
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神經根拉緊
引起疼痛



FIGURE 60. Straight leg raising test (S.L.R.) is done lying or sitting. If pain is caused by lifting the straight leg and further aggravated by placing chin on the chest, the sciatic nerve roots are irritated.

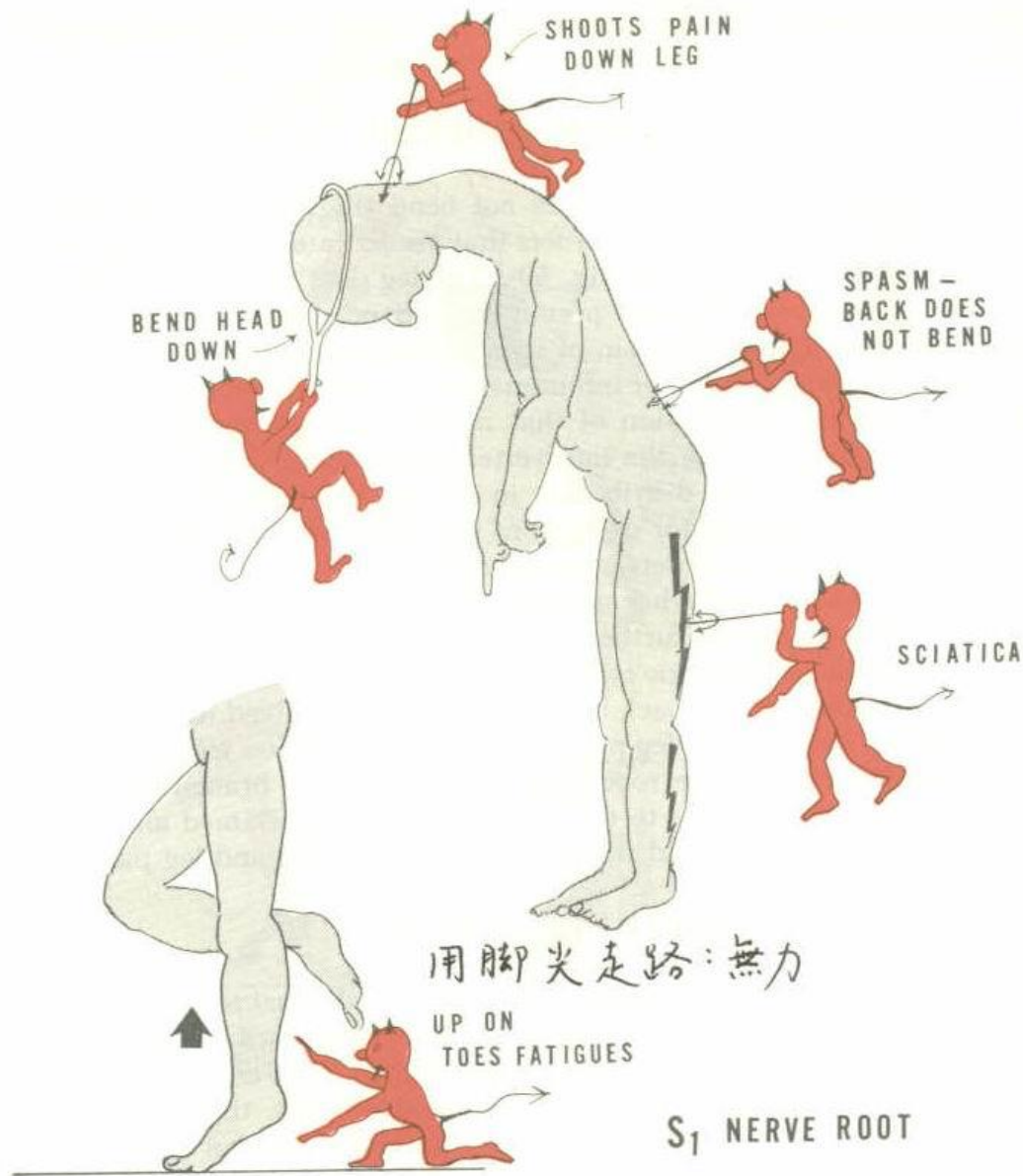
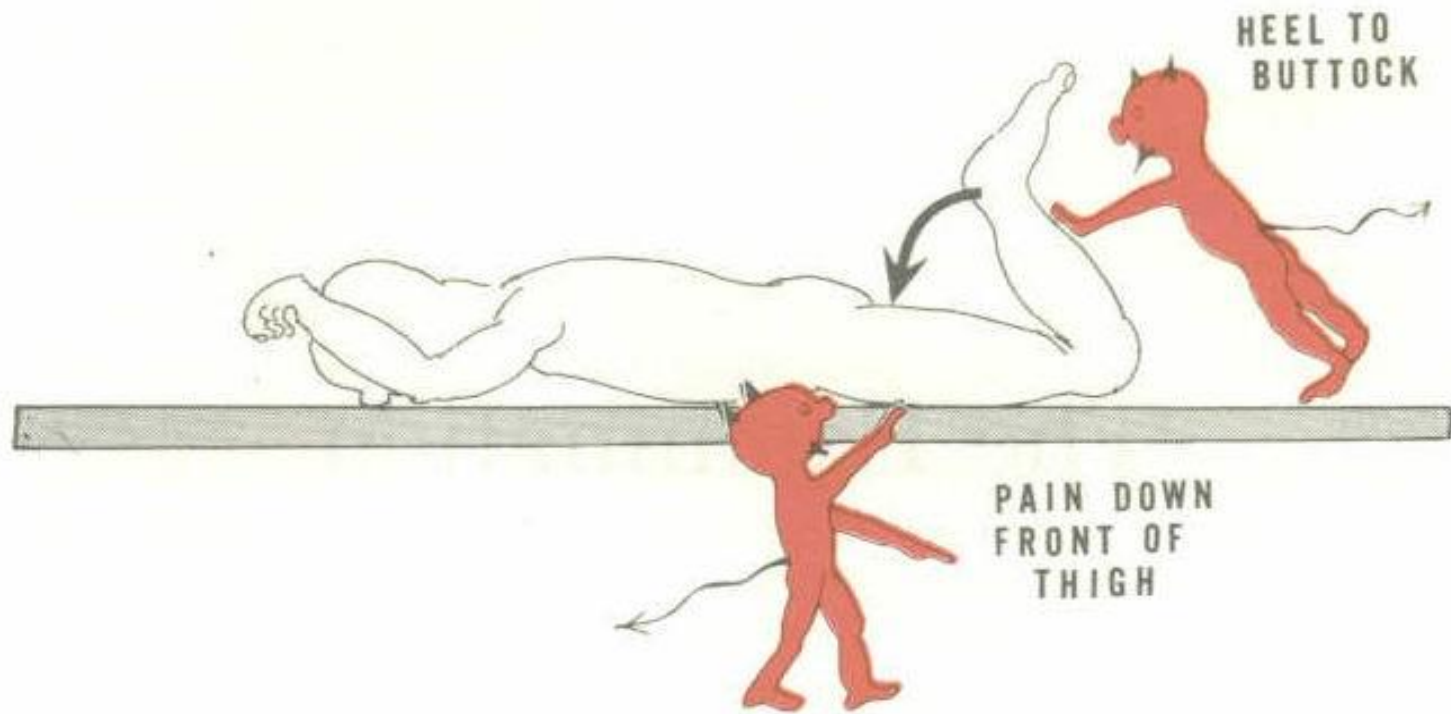


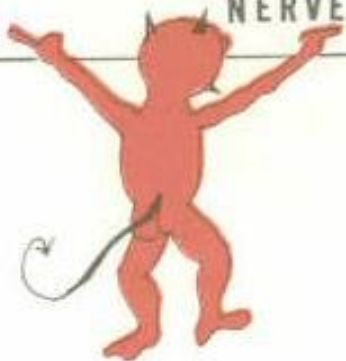
FIGURE 61. Limited flexibility and pain pattern in a ruptured disk. The low back is "rigid," does not bend, and is straight. There is pain in leg in attempting to bend forward, aggravated by bending neck. If the S₁ root is involved, there may be difficulty getting up and down on the toes.



HEEL TO BUTTOCK

PAIN DOWN FRONT OF THIGH

TESTS FEMORAL NERVE (L₂₋₃)
 LIKE S.L.R. TESTS SCIATIC NERVE (L₄₋₅)



股神經拉弓試驗
 檢測第二、三腰脊神經根壓迫。

FIGURE 62. Femoral nerve stretch test.

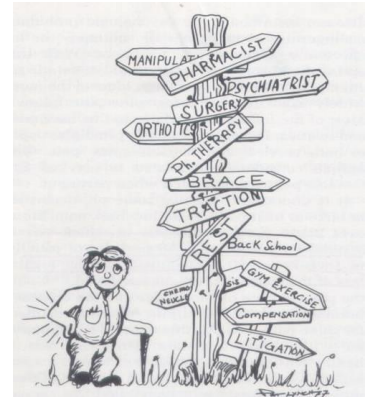
關節病變四大症狀

疼痛

關節變形、腫脹

晨起感覺僵硬，下床運動後症狀稍緩解

關節活動時會有聲音





如何舒緩



運動療法～觀念建立

- 廣義的運動～非一般或競技運動
- 專一性～運動器官、代謝症候群及身心症
- 處方具有針對性
- 靠自己永遠比靠別人重要!

毅力是關鍵!

實踐方式~運動療法

伸展操 / 游泳 / 自行車 (急性期暫緩)

作用/拮抗肌的強化

– 腹背 比例 30 : 45

主客觀條件的掌握

– 囑咐及主訴感受的拿捏

運動對軟骨的生理作用

運動增強軟骨海棉作用

- ~重量下壓，軟骨關節滑液擠出；腳上提，重量消失，關節滑液又回吸軟骨裡，形成一個動態平衡。
- 進出之際，營養即進入軟骨組織裡面，維持軟骨的生機。

關節滑液進出的作用

- 刺激分泌
- 提供營養
- 保持濕潤
- 強化關節周圍的肌腱
- 減少軟骨磨損的機率。

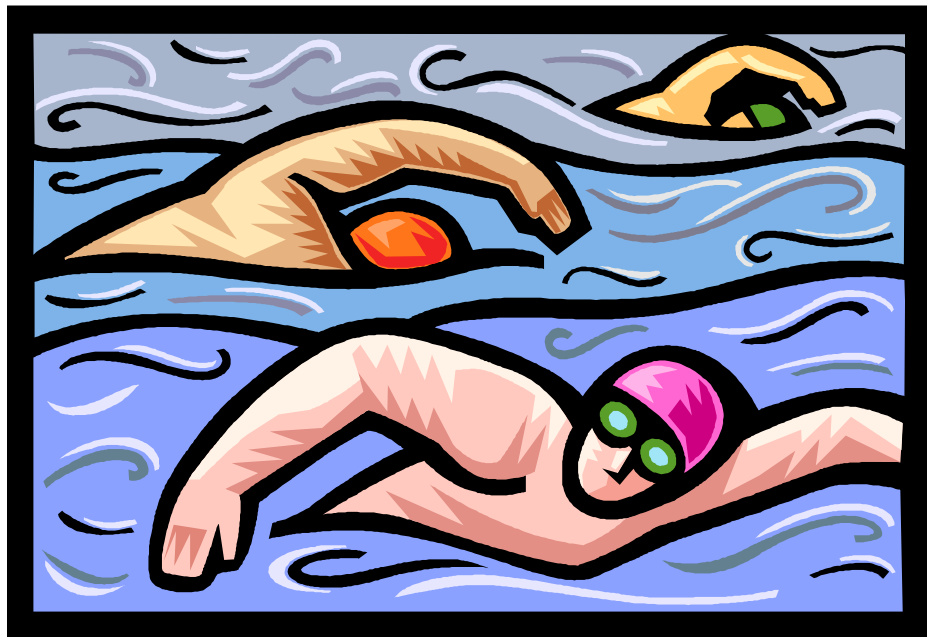
游泳對泛運動損傷的影響

游泳～動作

水療～本質

特徵

- －針對性
- －獨特性
- －廣泛性



水療的生理作用

—低溫效應

—壓力

—浮力

* 水阻力是空氣500倍

居家伸展

重要！

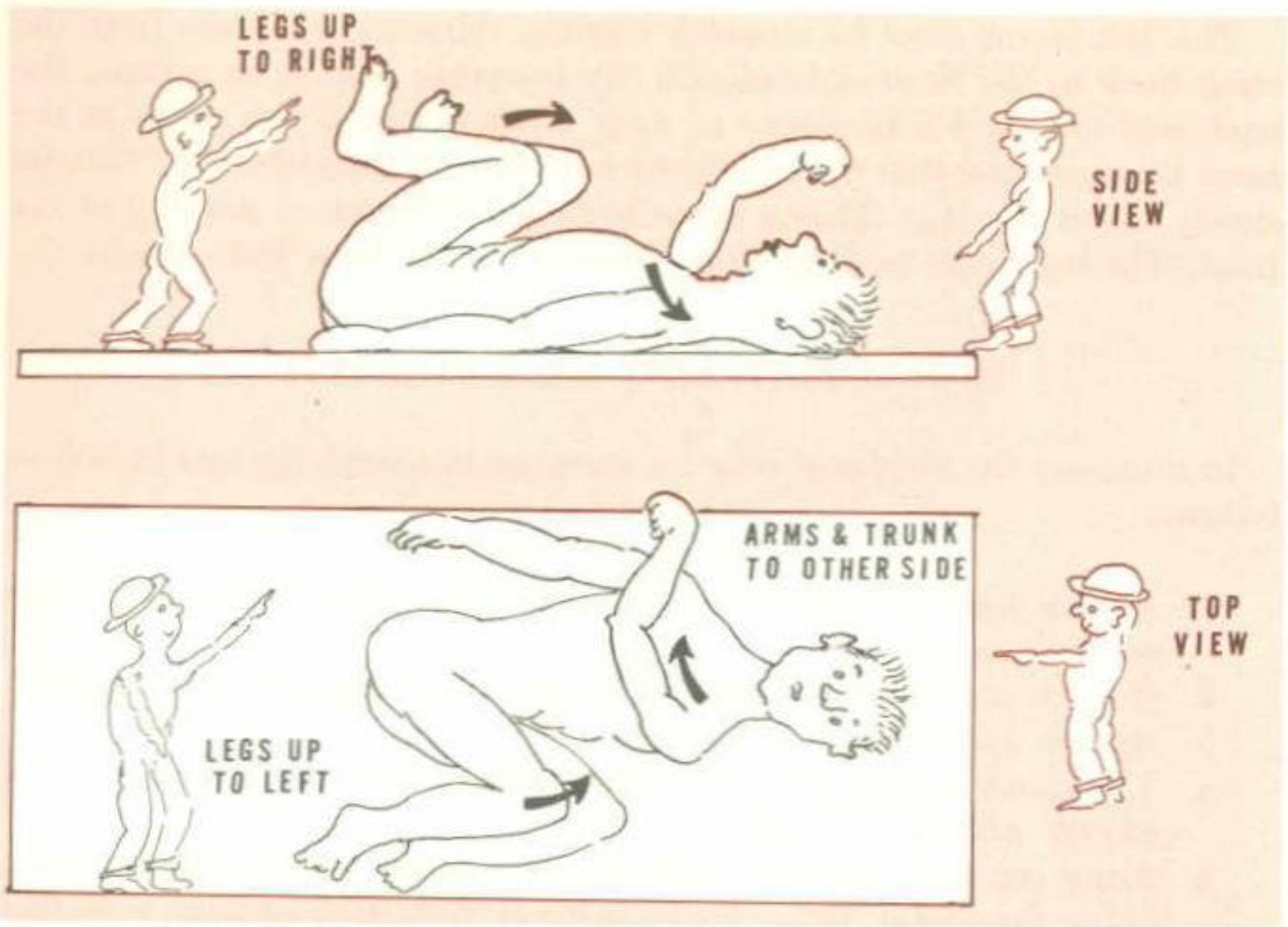


FIGURE 70. Rotatory trunk stretch. With knees flexed toward chest, the legs are slowly lowered to one side, then the other. Arms and upper trunk are rotated to the opposite side. To lower legs when exercise is over, lower one leg at a time.

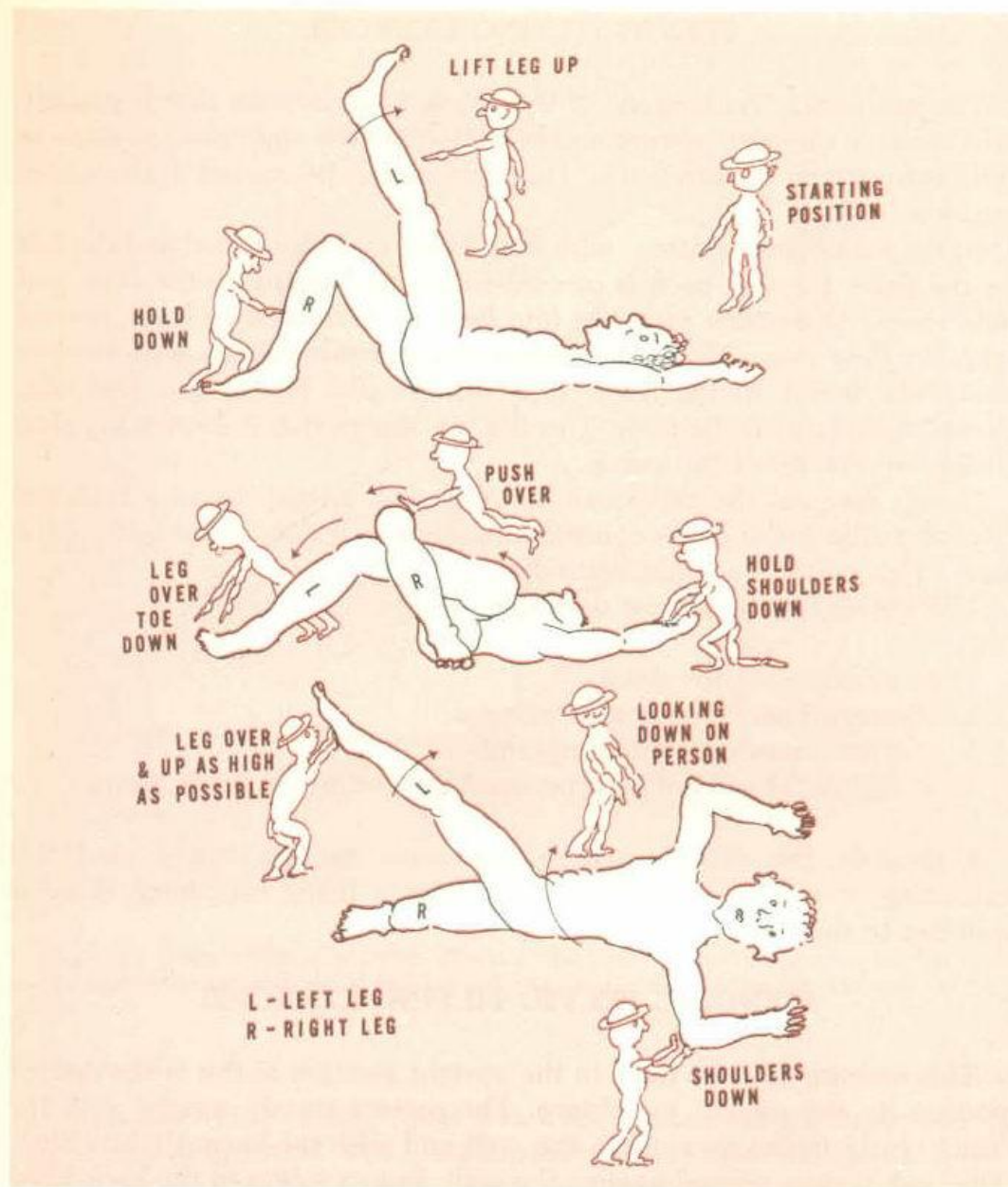


FIGURE 71. Trunk rotatory exercise. The upper picture is the start of the exercise. The middle picture visualizes patient from below, and the bottom picture looks down upon the person. In these pictures, it is the left leg that is raised. Ultimately, both legs are raised.

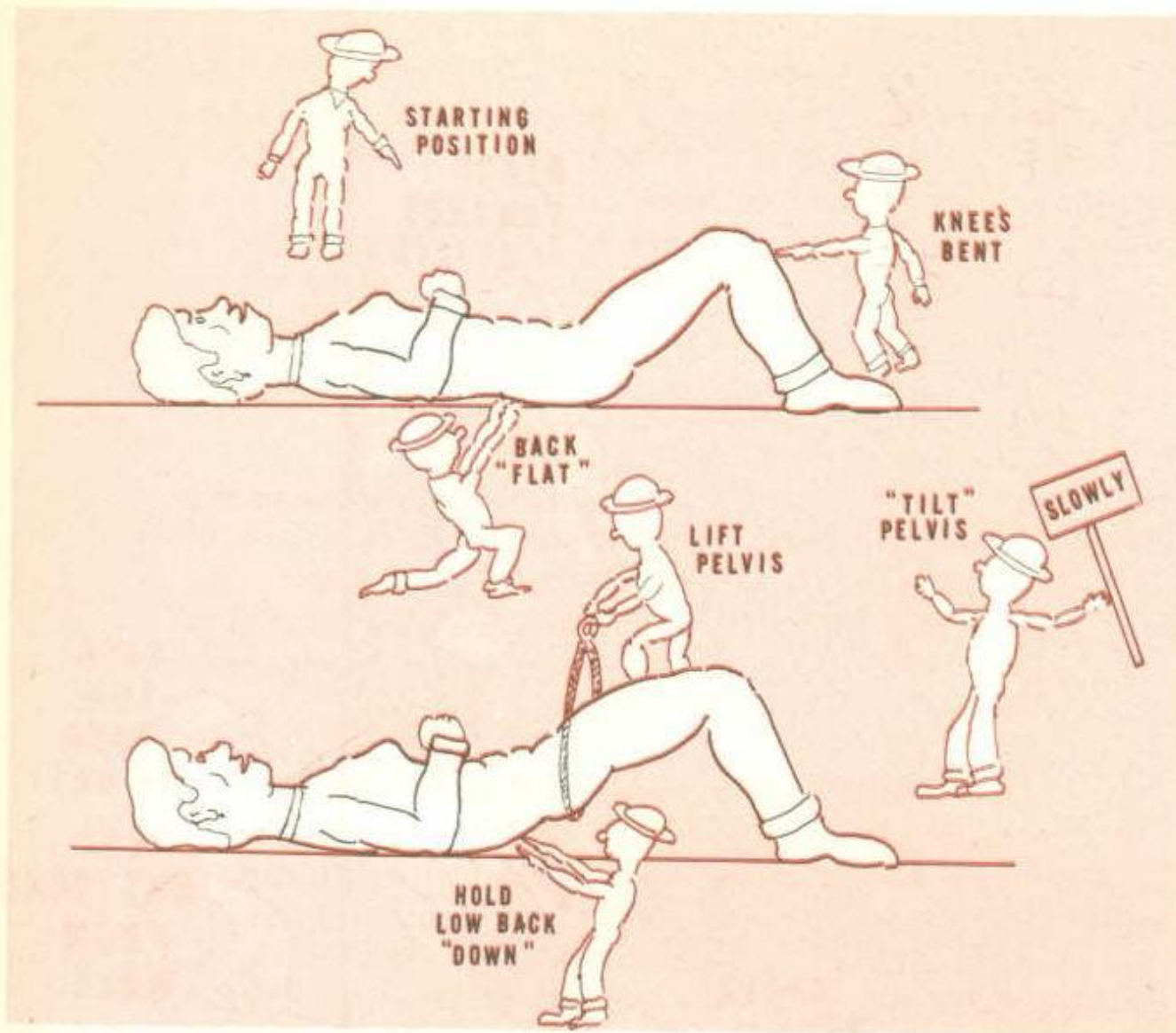


FIGURE 72. Pelvic "tilting" exercise. This is a "flat back" exercise to decrease lumbar lordosis and strengthen the abdominal and buttock muscles. It also teaches this "concept" to the patient.

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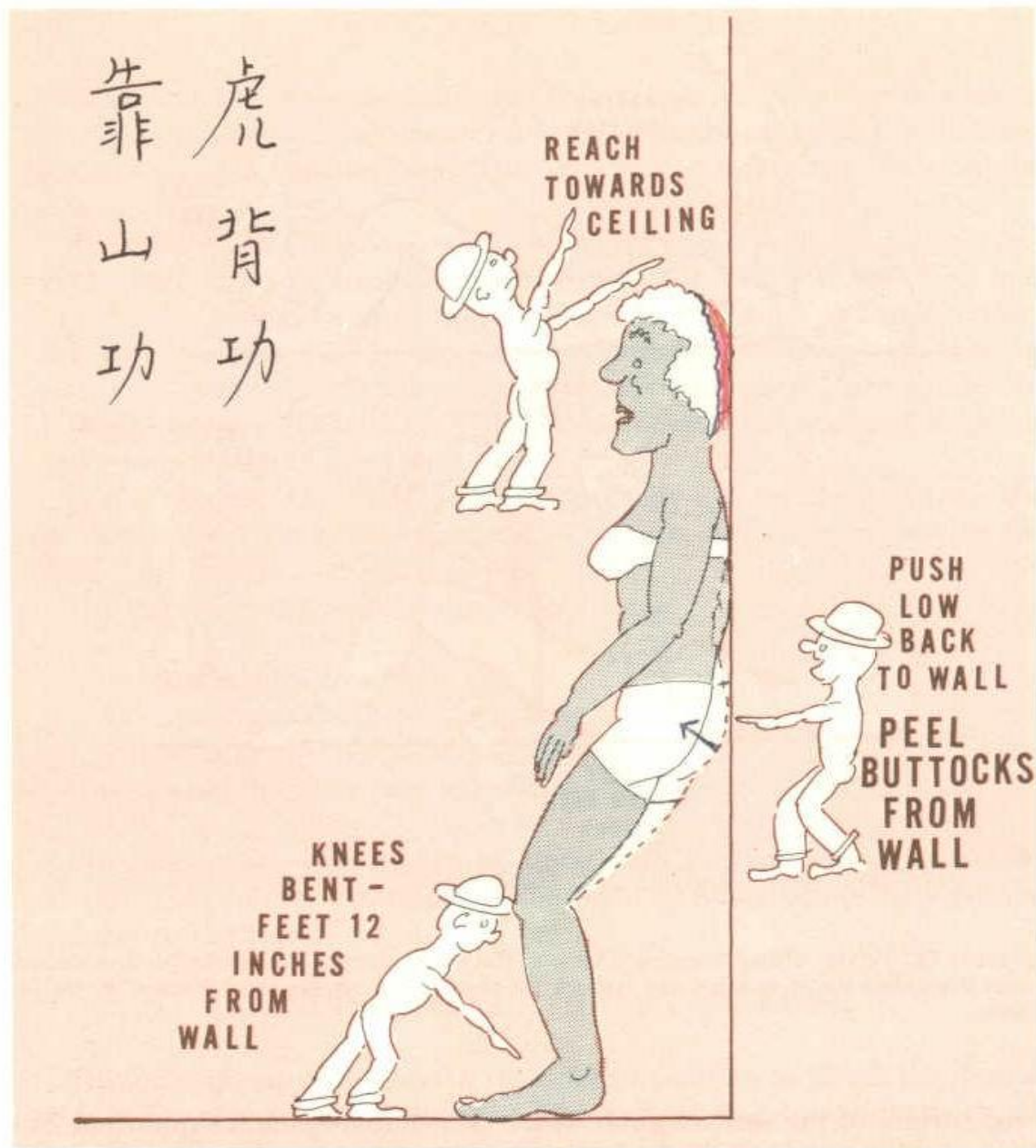


FIGURE 73. Pelvic tilting exercise in standing position teaches proper posture and decreases
 姚夫
 lumbar lordosis.

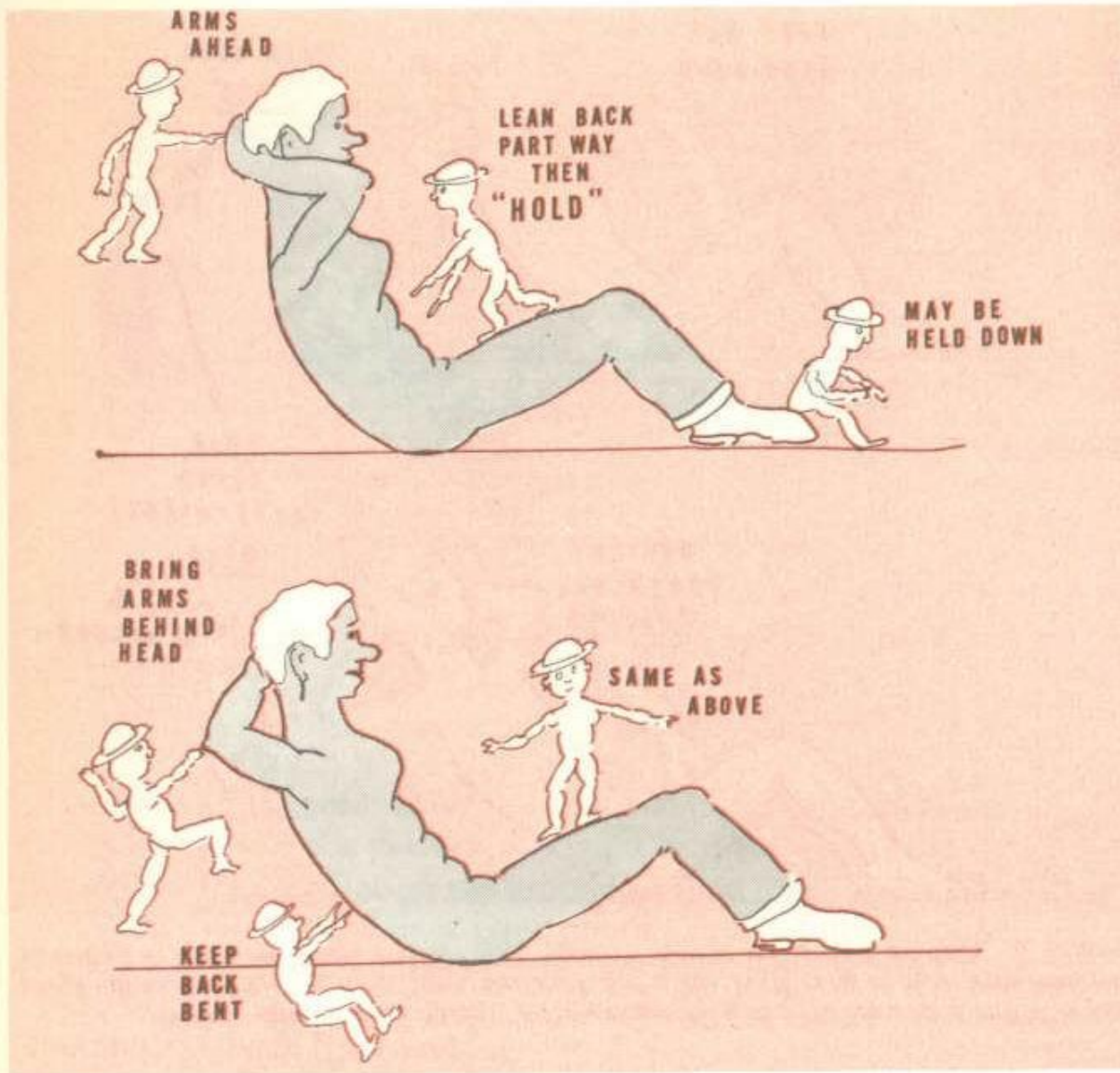


FIGURE 74. "Reverse isometric" abdominal exercises. Person "leans" back about 25 to 30 degrees, then "holds." This contracts abdominal muscles. At first, arms with hands behind head are held in front of body. Gradually, arms are brought "behind" the head. This increases the demand on the abdominal muscles. Hold briefly at first, then longer, to tolerance.

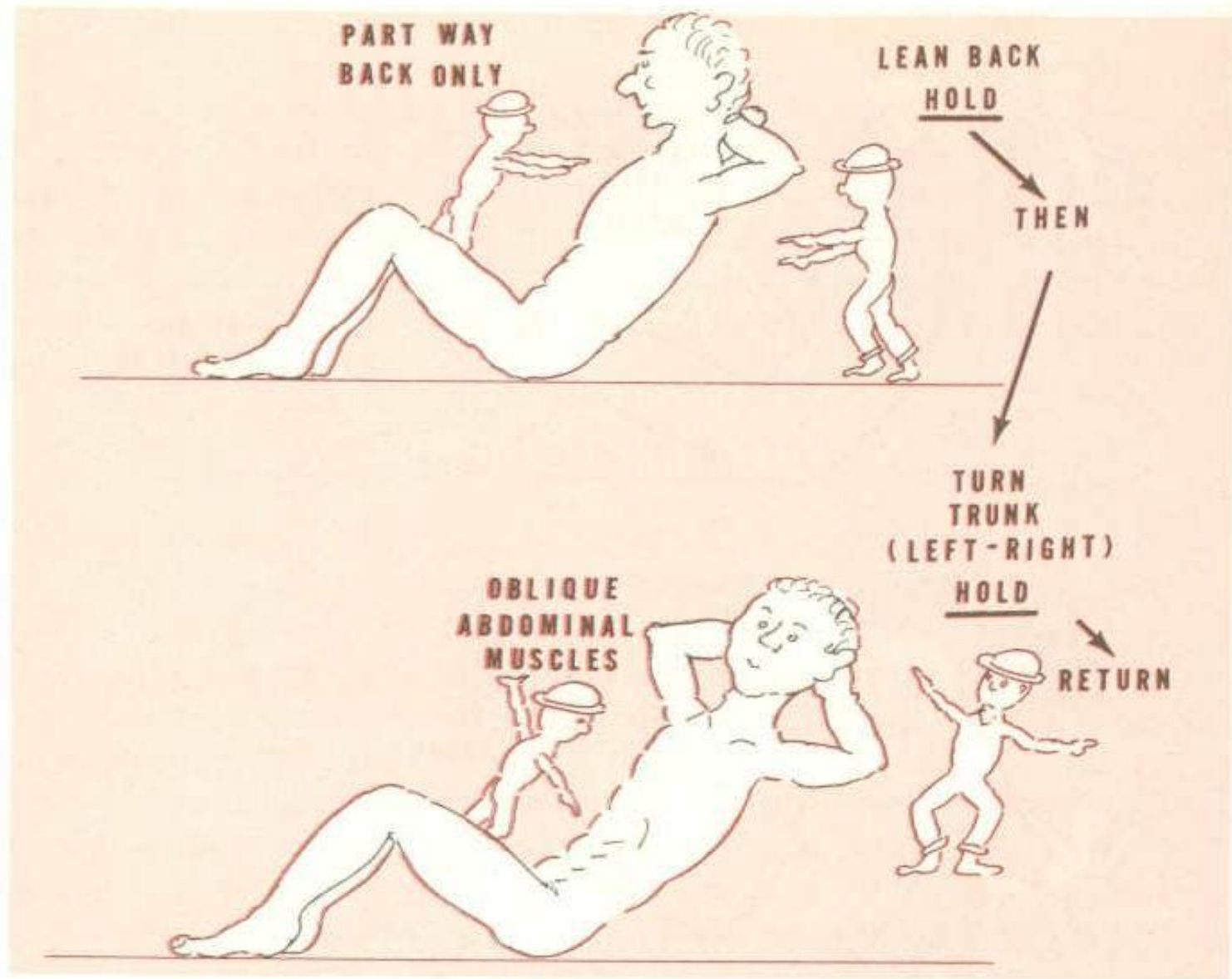


FIGURE 75. Oblique abdominal muscle exercise. This exercise begins as noted in Figure 74, but once held at 25 to 30 degrees, the trunk is rotated, held, then returned to straight ahead. The one arm comes forward and the other behind. Trunk must remain "flexed."

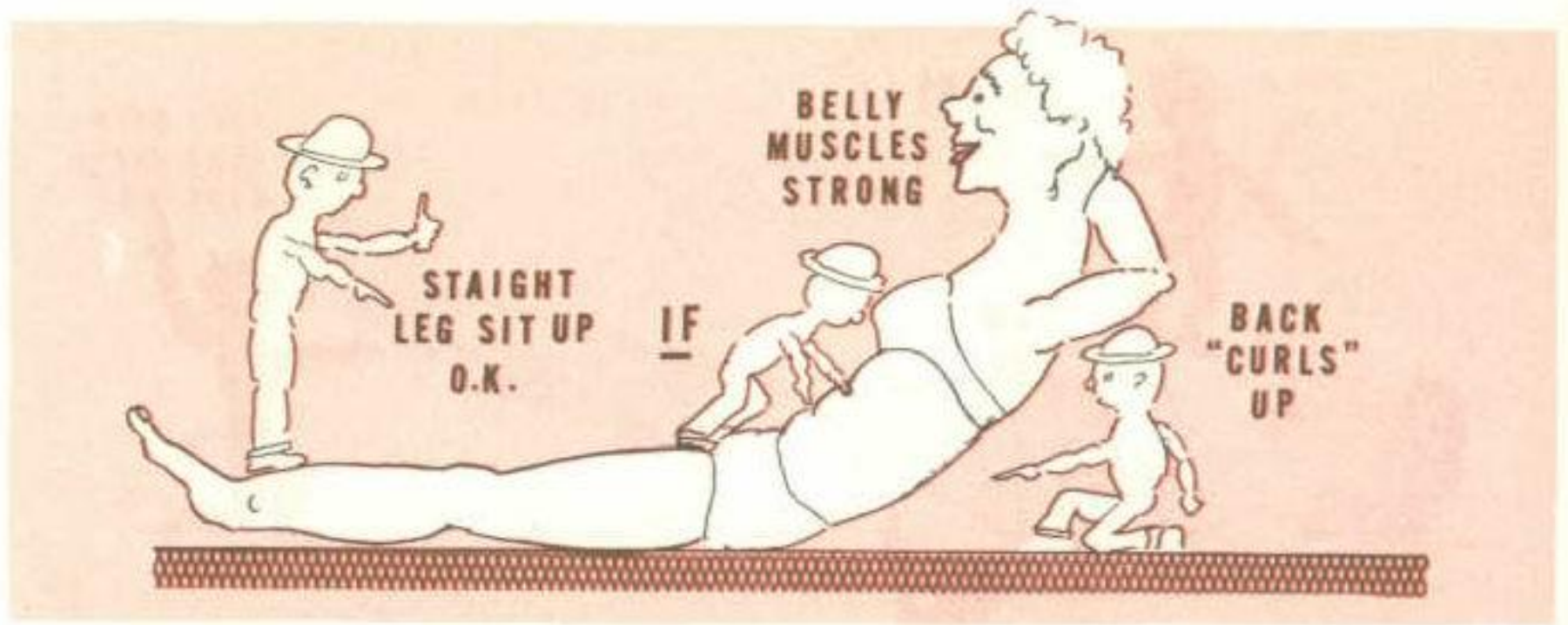


FIGURE 78. Situp with legs straight. This is permitted *only* if abdominal muscles are strong enough to permit patient to *curl* up and back and *not* arch low back.

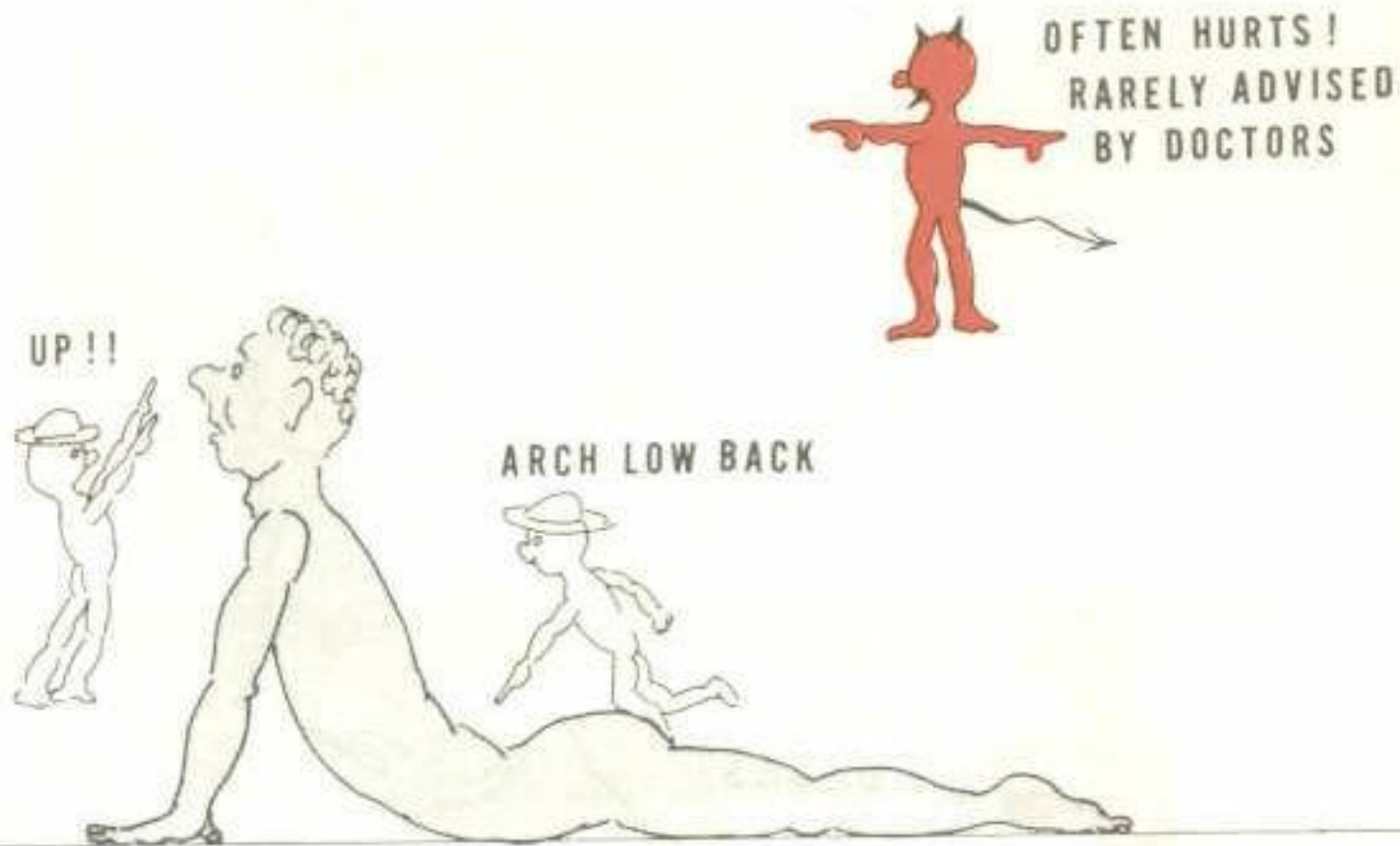


FIGURE 80. Position to "relax" low back that has been held too long in a bent-over position.

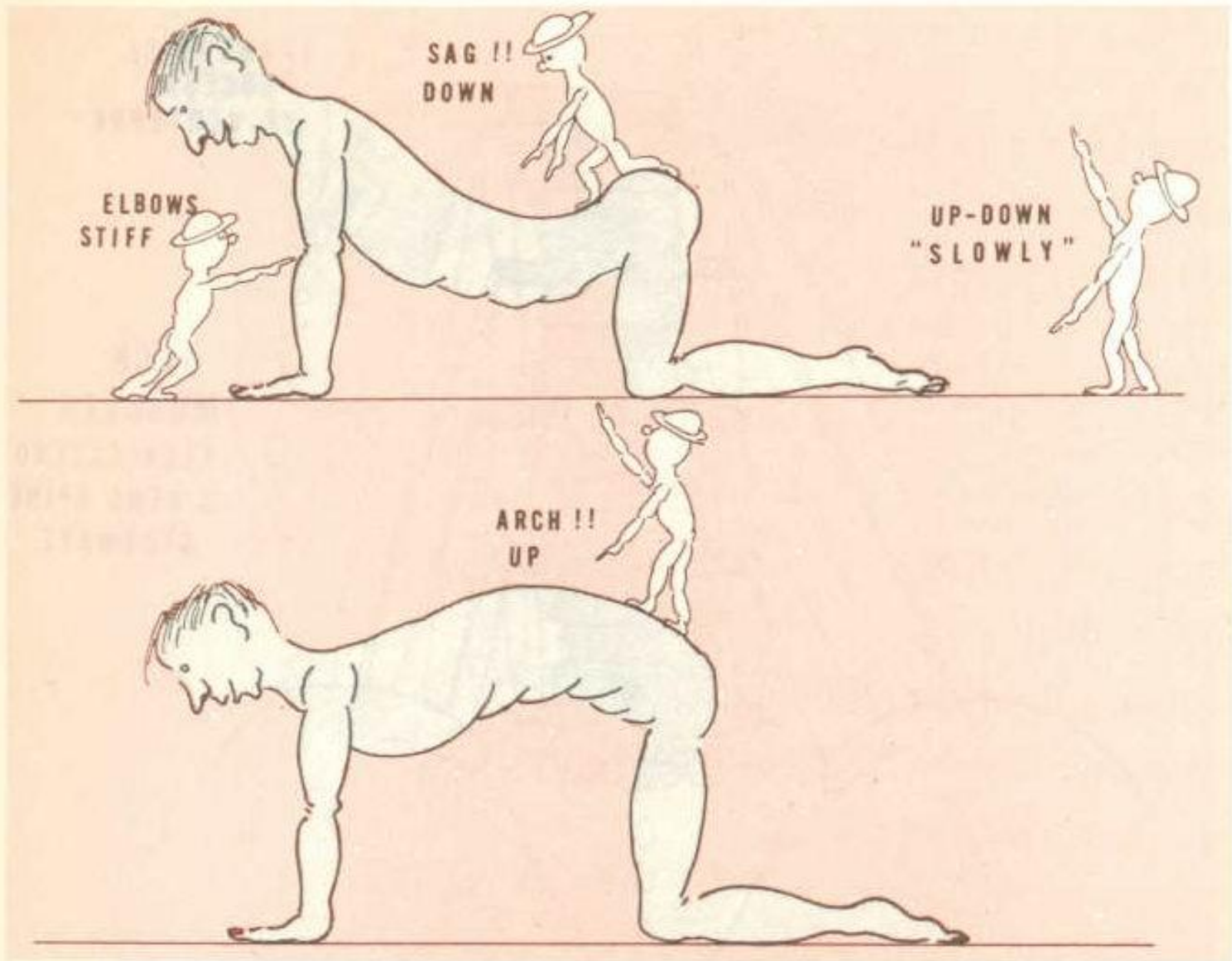


FIGURE 81. In the upper picture, the patient "arches" the low back. In the lower picture, he flexes the back, strengthening abdominal and buttock muscles.

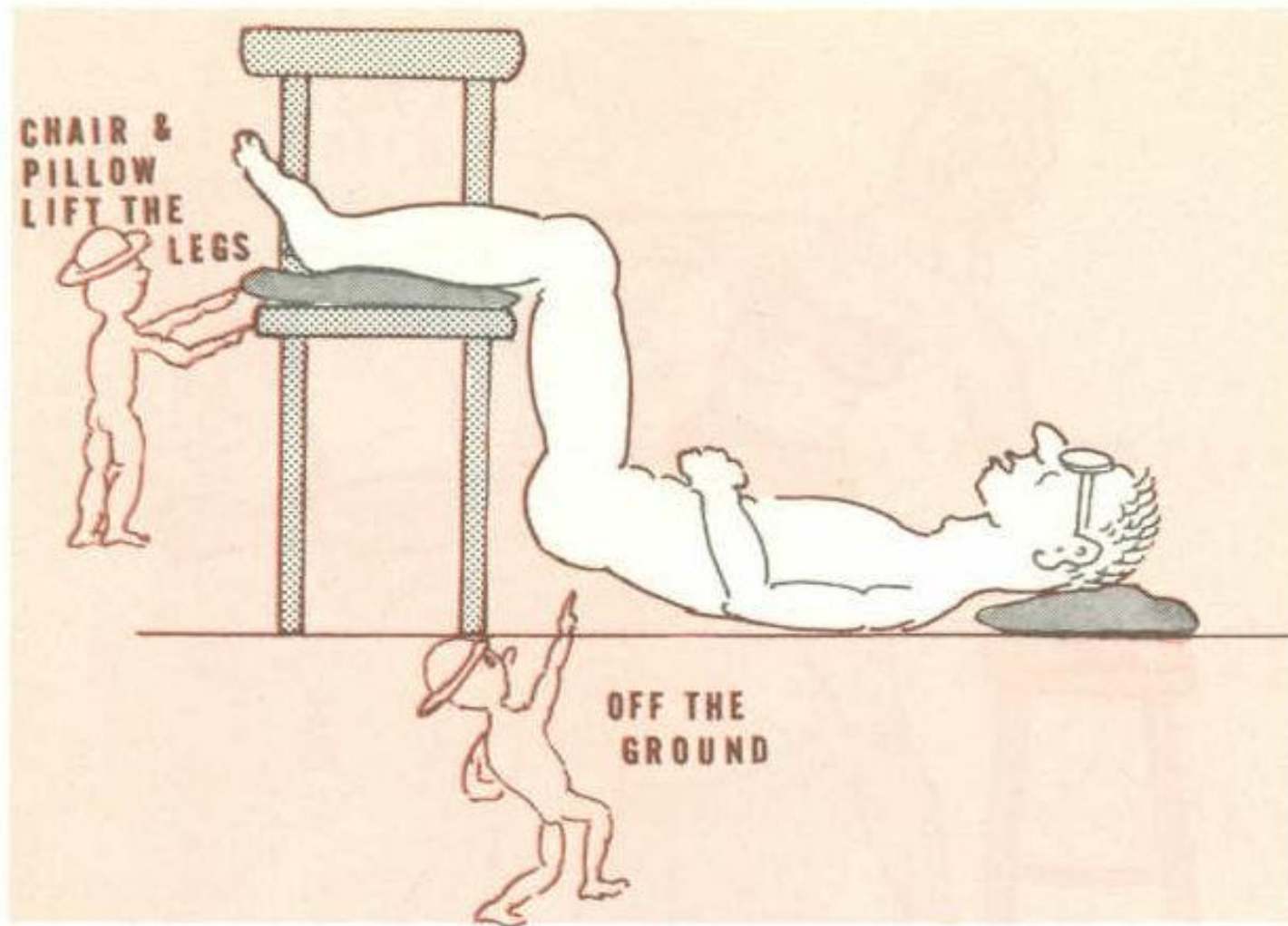


FIGURE 86. Pelvic traction. By placing legs on chair and sufficient pillows, the body is lifted from the floor. This flexes and stretches the low back. Remain in this position as long as possible.

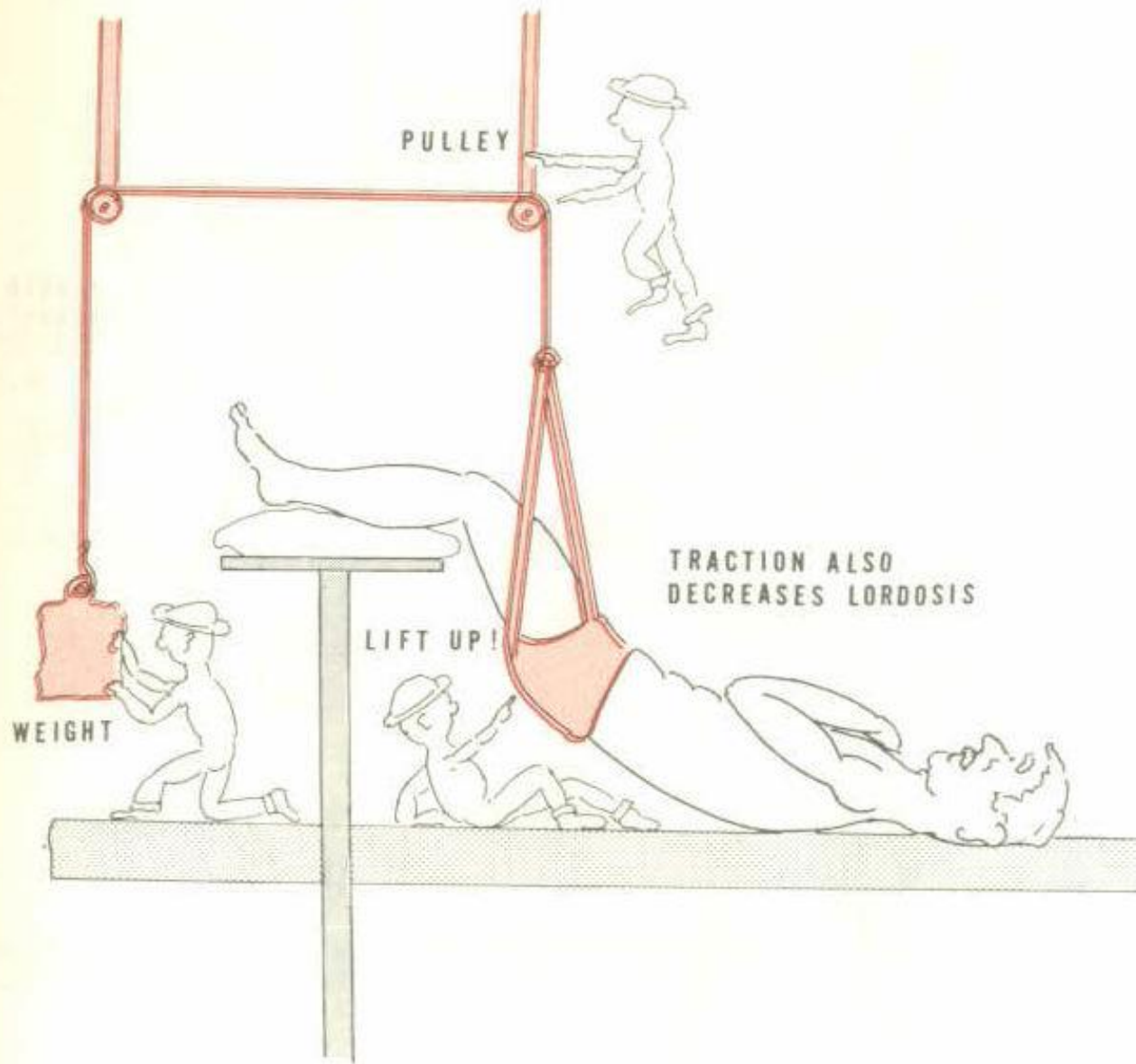


FIGURE 87. Hospital-type pelvic traction. Weight varies from 20 to 60 lb as tolerated by patient and indicated by patient's size and weight.

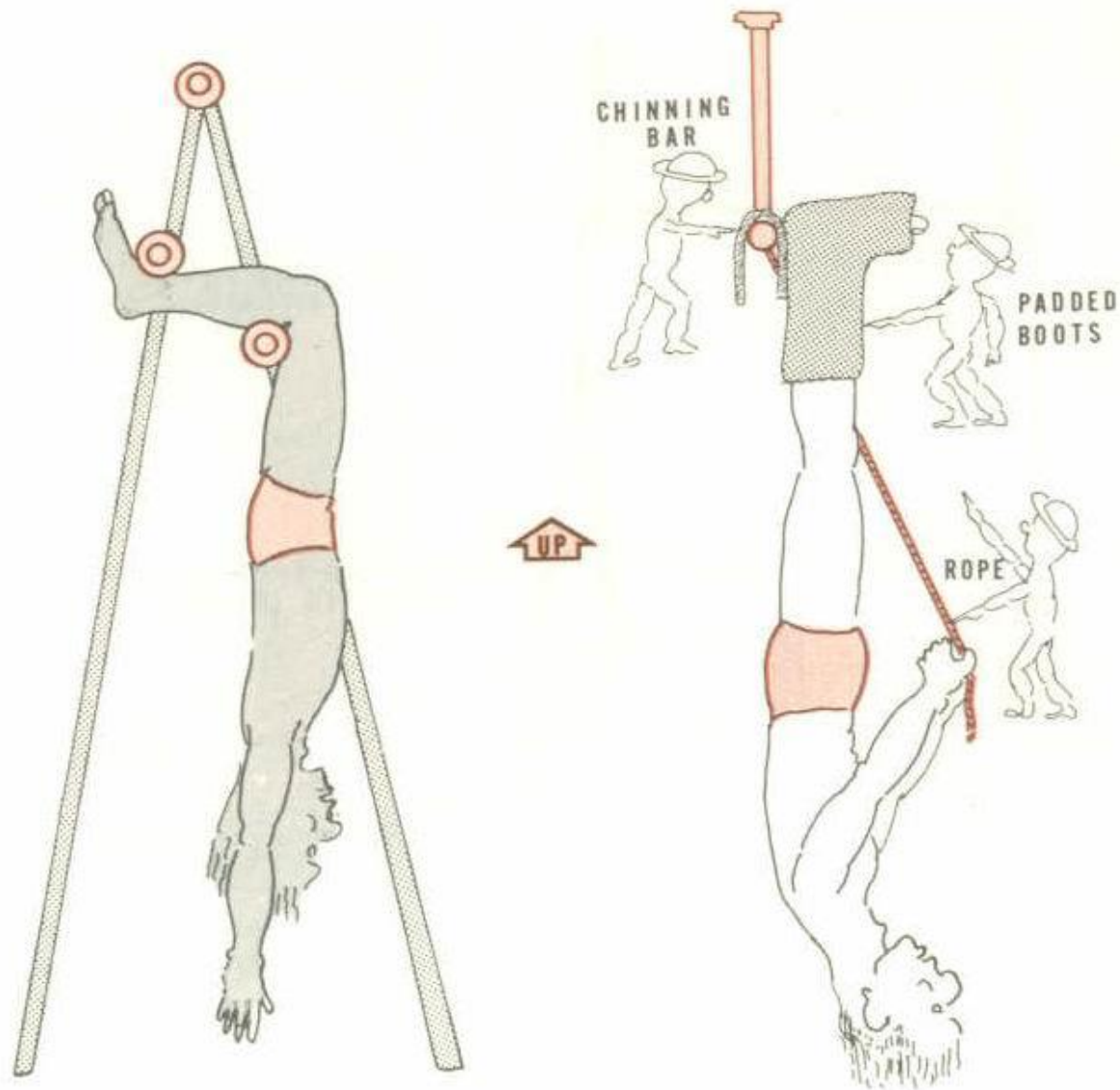


FIGURE 88. "Gravity" traction. There are numerous types of equipment for this traction—hanging from feet via boots or from the knees. The principle is that the weight of the upper body stretches *all* the tissues of the low back: the muscles, fascia, ligaments, and possibly the disks.

半个仰卧起坐.

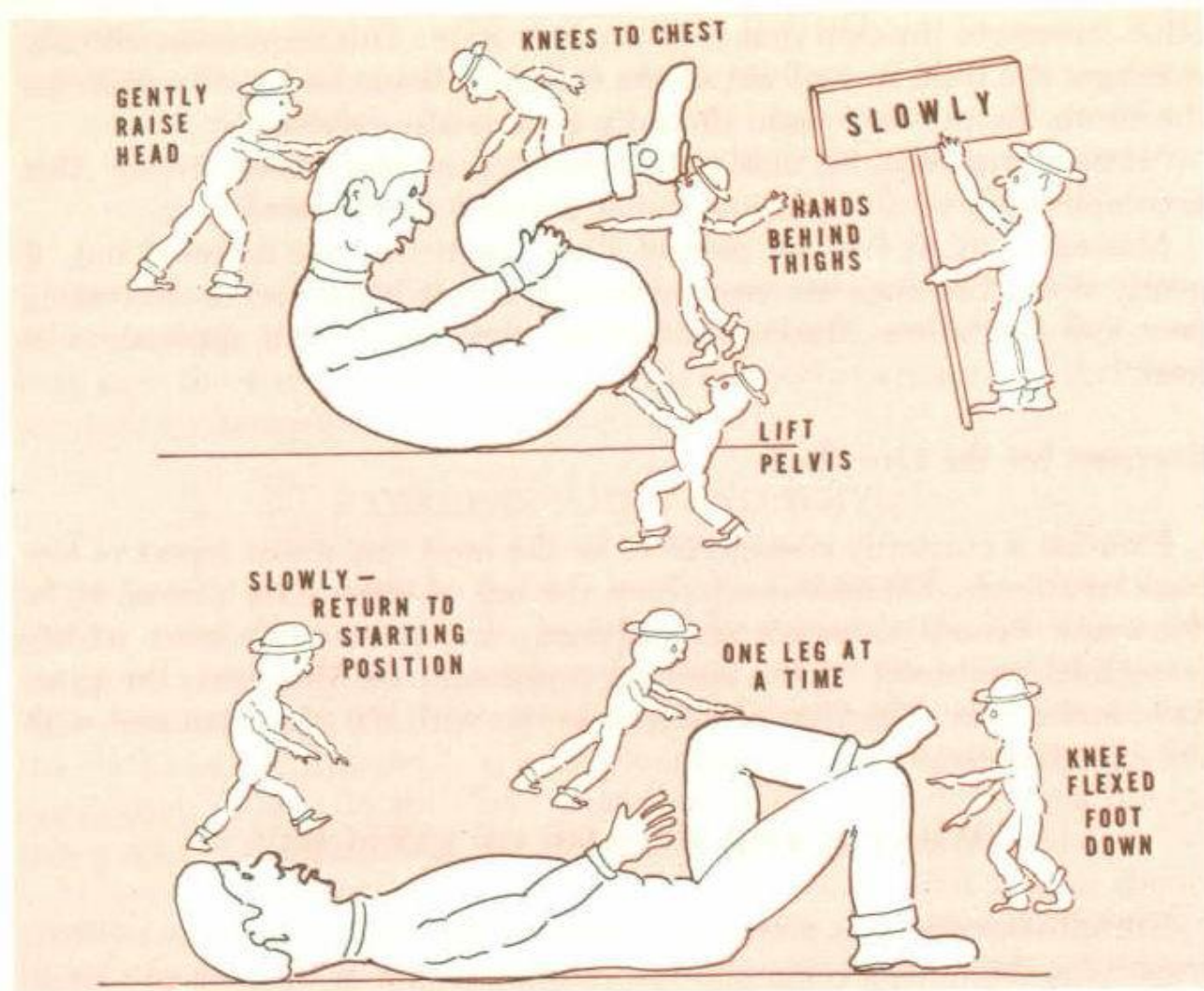


FIGURE 69. Low back stretch (flexibility) exercise. The sequence of this exercise is usually (1) one knee to chest at a time, then (2) both knees. (3) Knees are held to chest for count of five, during which head is raised then lowered. (4) Legs are returned to table *one* at a time.



FIGURE 76. Straight leg raising is *not* advised. Straight leg raising tends to arch low back, which is a no-no.

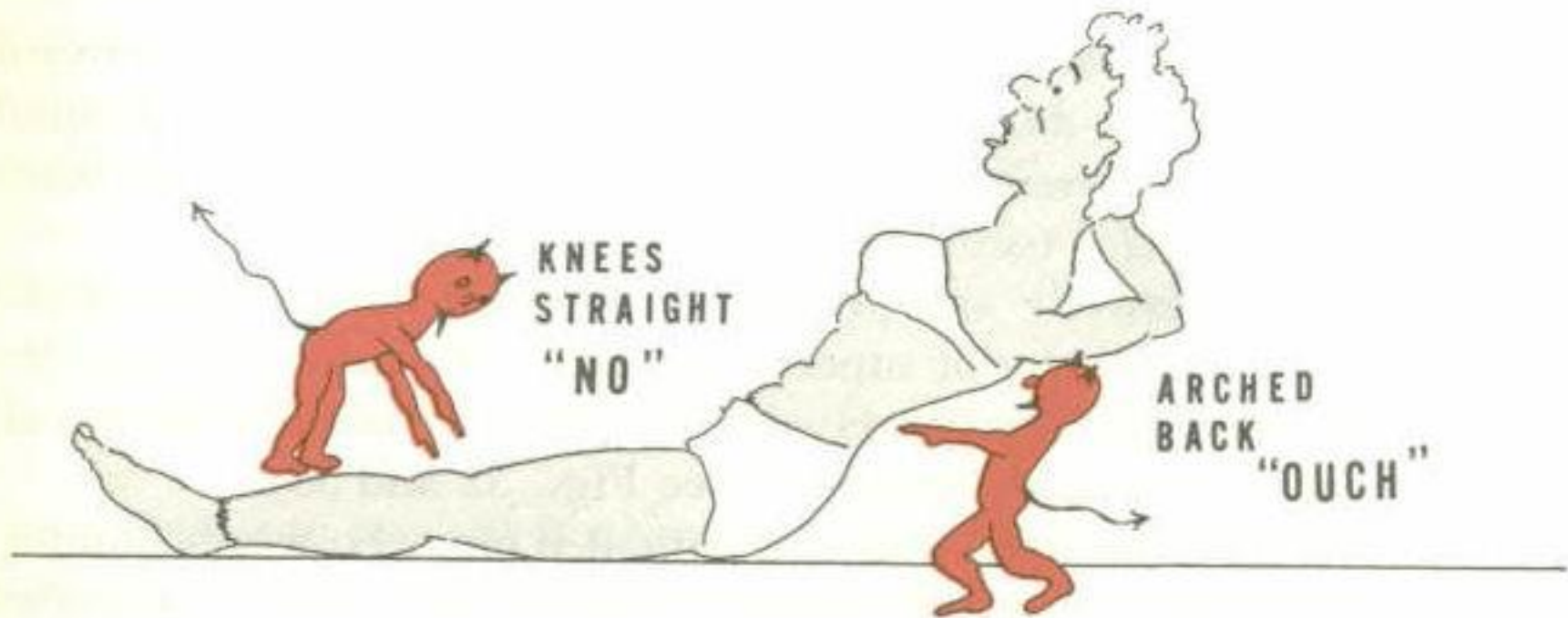


FIGURE 77. Wrong abdominal exercise. Situps with legs straight are a no-no. In this exercise, there is a tendency to arch the low back.

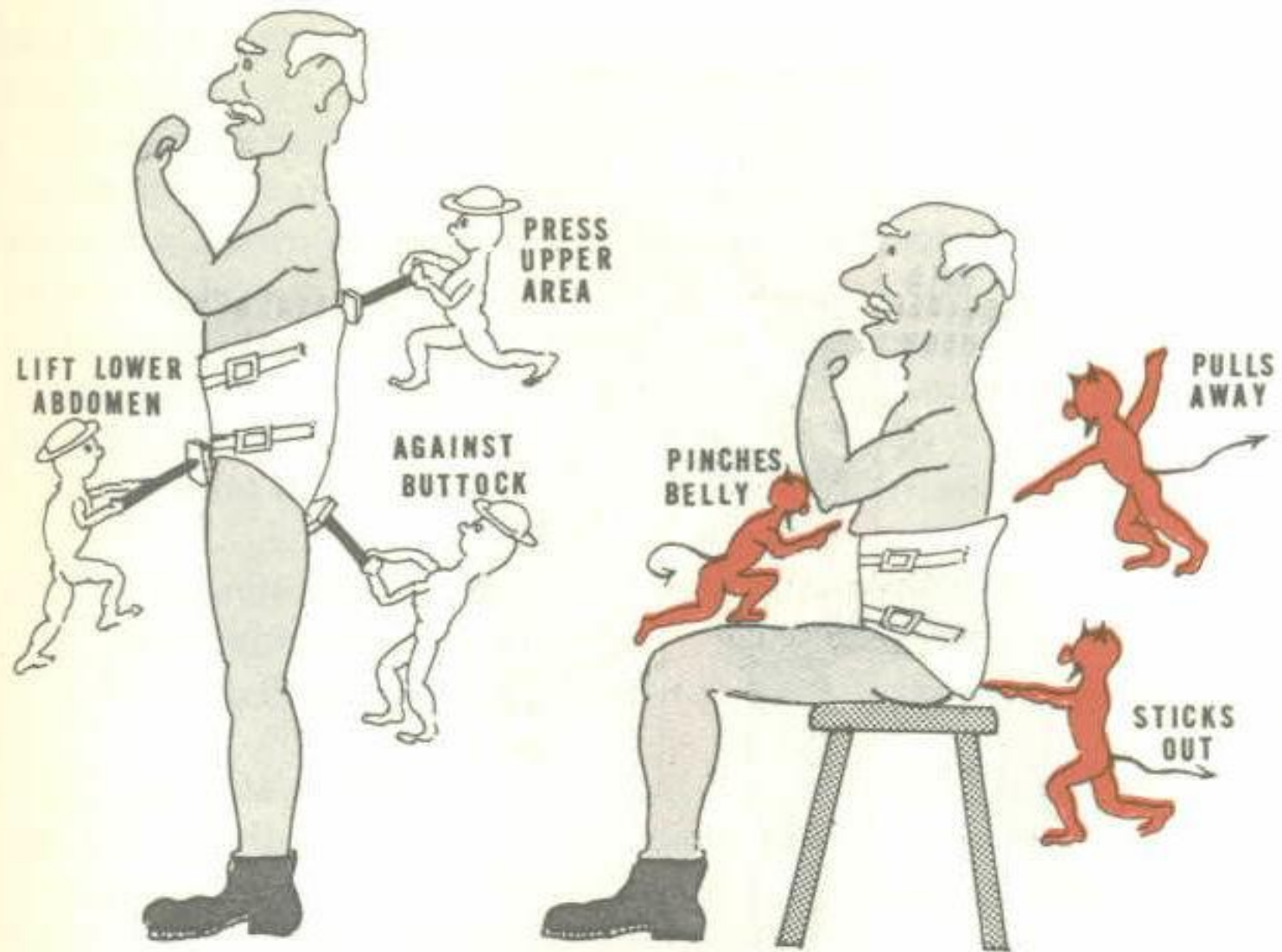


FIGURE 89. Lumbosacral corset. Figure at left shows desirable features of corset, but there are also undesirable (figure at right) features of most corsets.

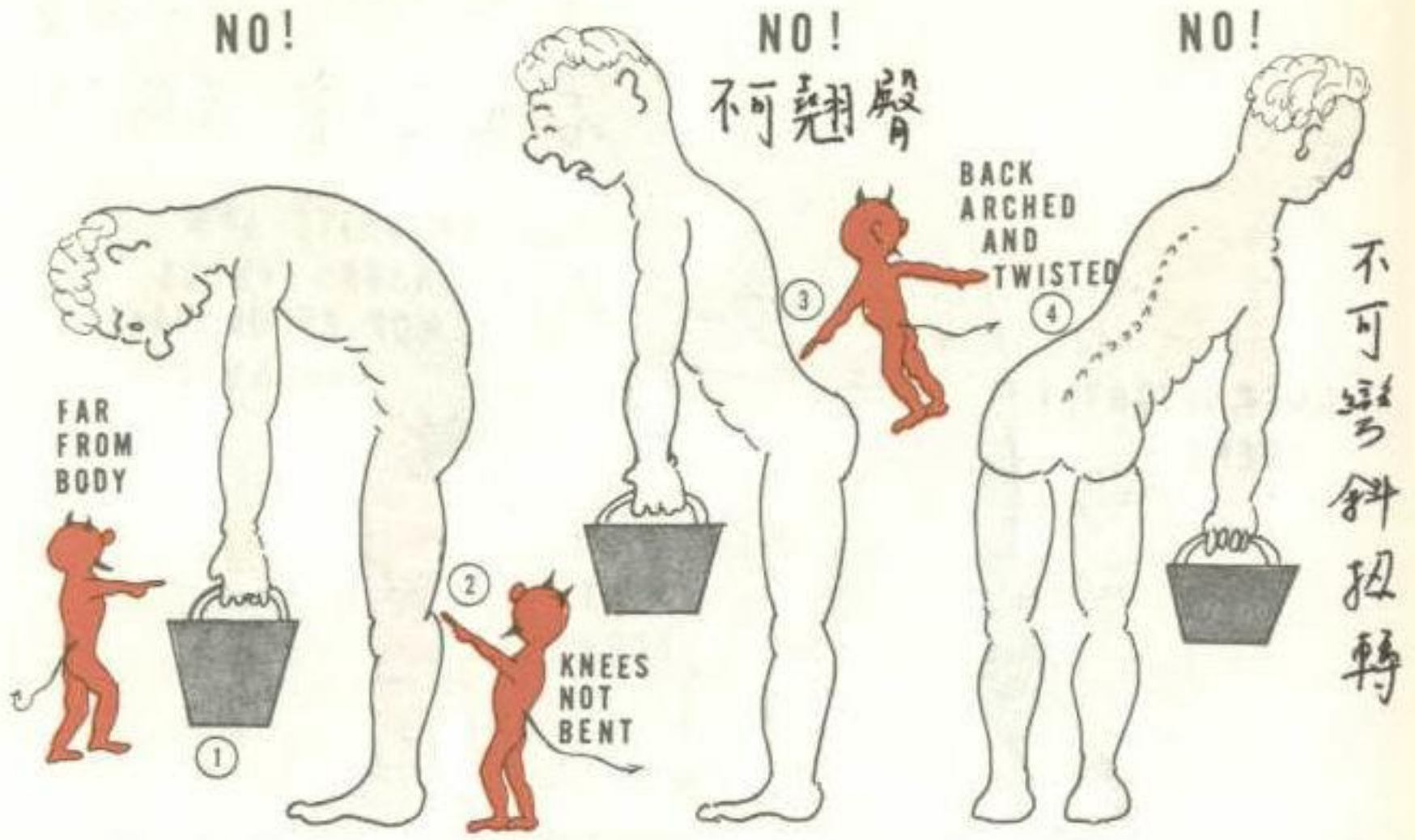


FIGURE 95. Improper aspects of lifting that can injure the low back: (1) Object lifted far from body; (2) lifting without bending knees; (3) regaining lordosis prematurely; (4) bending and twisting and returning to erect position improperly.

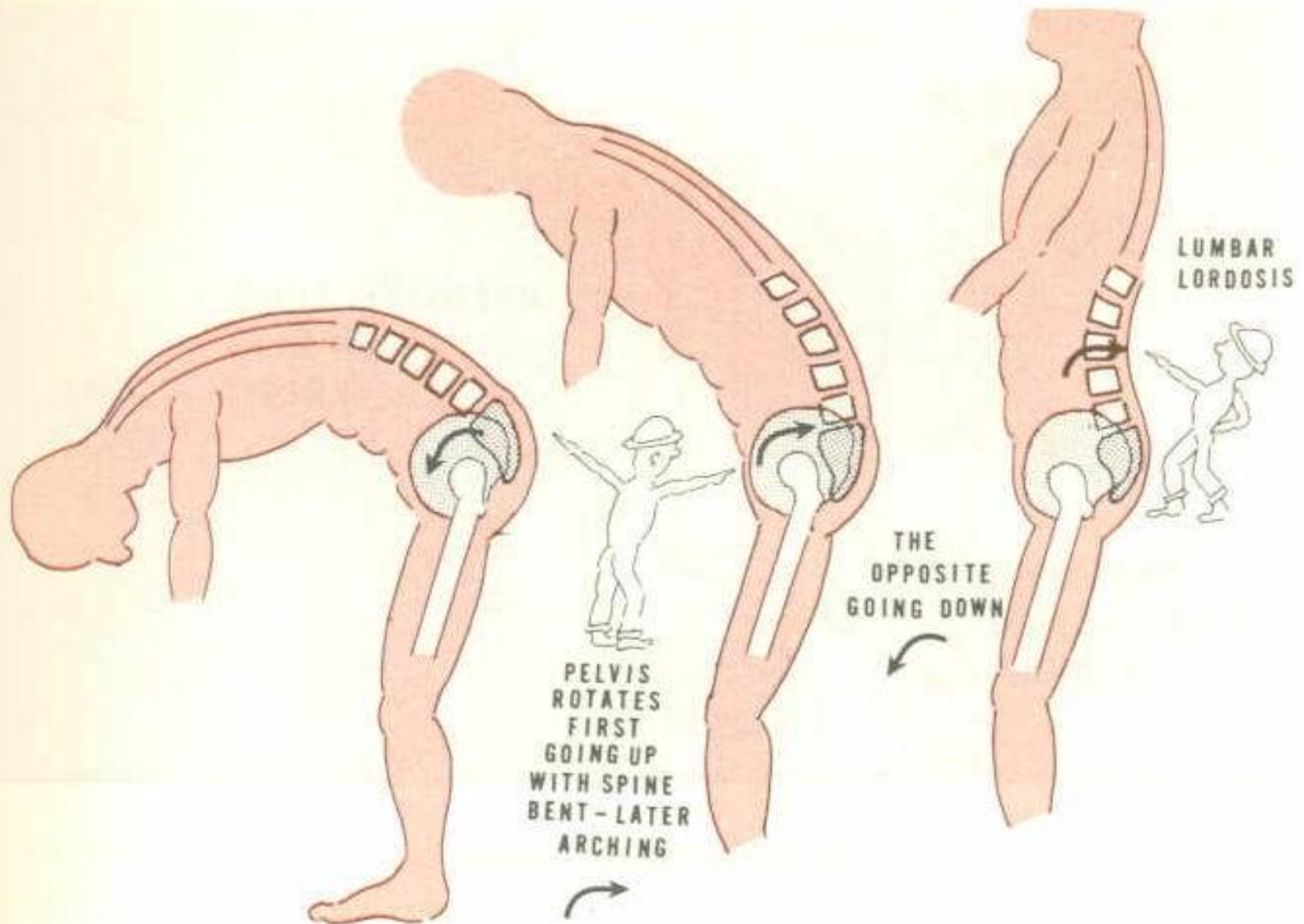


FIGURE 92. Stages of proper re-extension from bent-over posture to 45 degrees of re-extension. The lumbar spine remains flexed. Only the pelvis derotates. At 45 degrees, the lumbar spine regains its lordosis.

上班族的頸背酸痛

- 長時間維持在同一個姿勢太久
 - 肌肉過度疲勞
 - 保護脊椎的肌肉逐漸萎縮
 - 剩下的肌肉承受過多的負荷
 - 越來越僵硬
 - 血液循環減少
 - 乳酸增加堆積
 - 產生疼痛的開始

頸部按摩(一)

1. 雙手手掌放至耳上頭皮的兩側
2. 向內擠壓並微微上提，維持10秒鐘
3. 同時深呼吸

頸部按摩(二)

- 用雙手的大拇指在枕骨的下方(風池穴)
- 輕柔的畫圓按摩
- 順著頸部兩側，由上至下依序按摩



頸部按摩(三)

- 用對側手放至同側肩膀上
- 提捏肩部肌肉
- 同時將頭側至對側邊

頸部按摩(四)

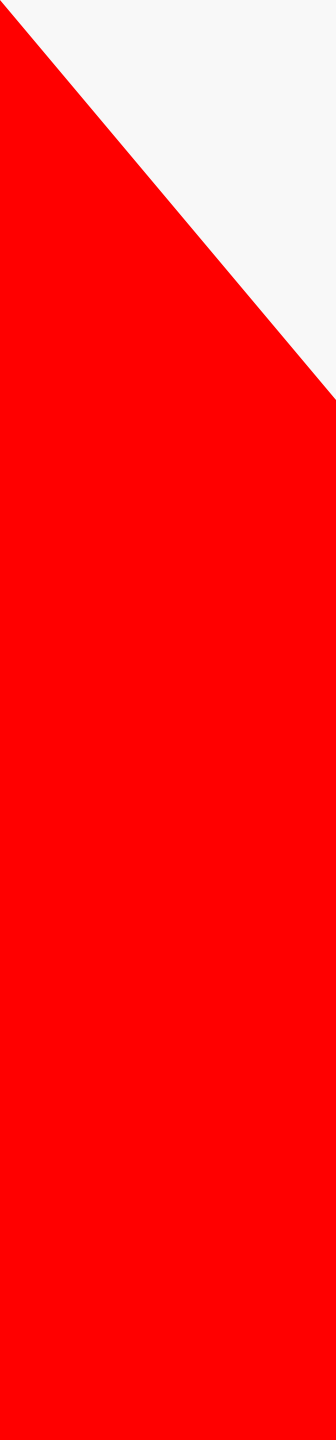
- 用對側手的中指、食指、無名指，按摩以下各部位
- 肩胛內側(膏肓穴)
- 腋下
- 肩胛骨與手臂的中點



頸部伸展牽拉運動

































操作注意事項

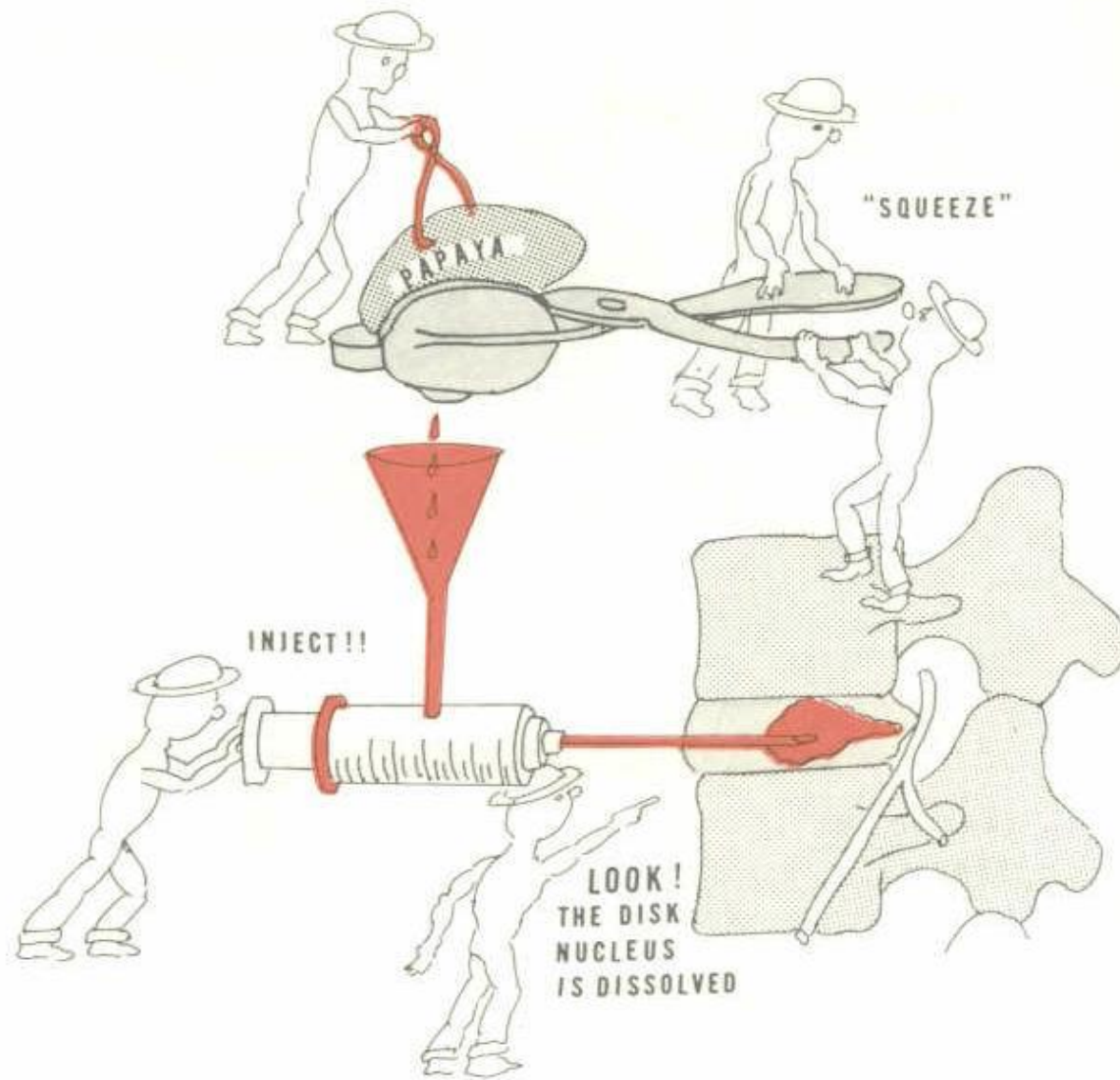
- 針對性～精選動作
- 對稱性
- 伸展方向/長度/時間～強度～
- 配合呼吸
- 注意患處之疼痛程度
- 劑量:一日數回；單一動作 2-4次

飲食/保健食品調理

- 目的:存骨本；減少疼痛

做法:

- 強化鈣的攝取
- 陽光活化維生素D為 D3，增加鈣質吸收效率
- 葡萄糖胺減少軟骨磨損



CHYMOPAPASE

FIGURE 98. Nucleotomy by injection of chymopapase.

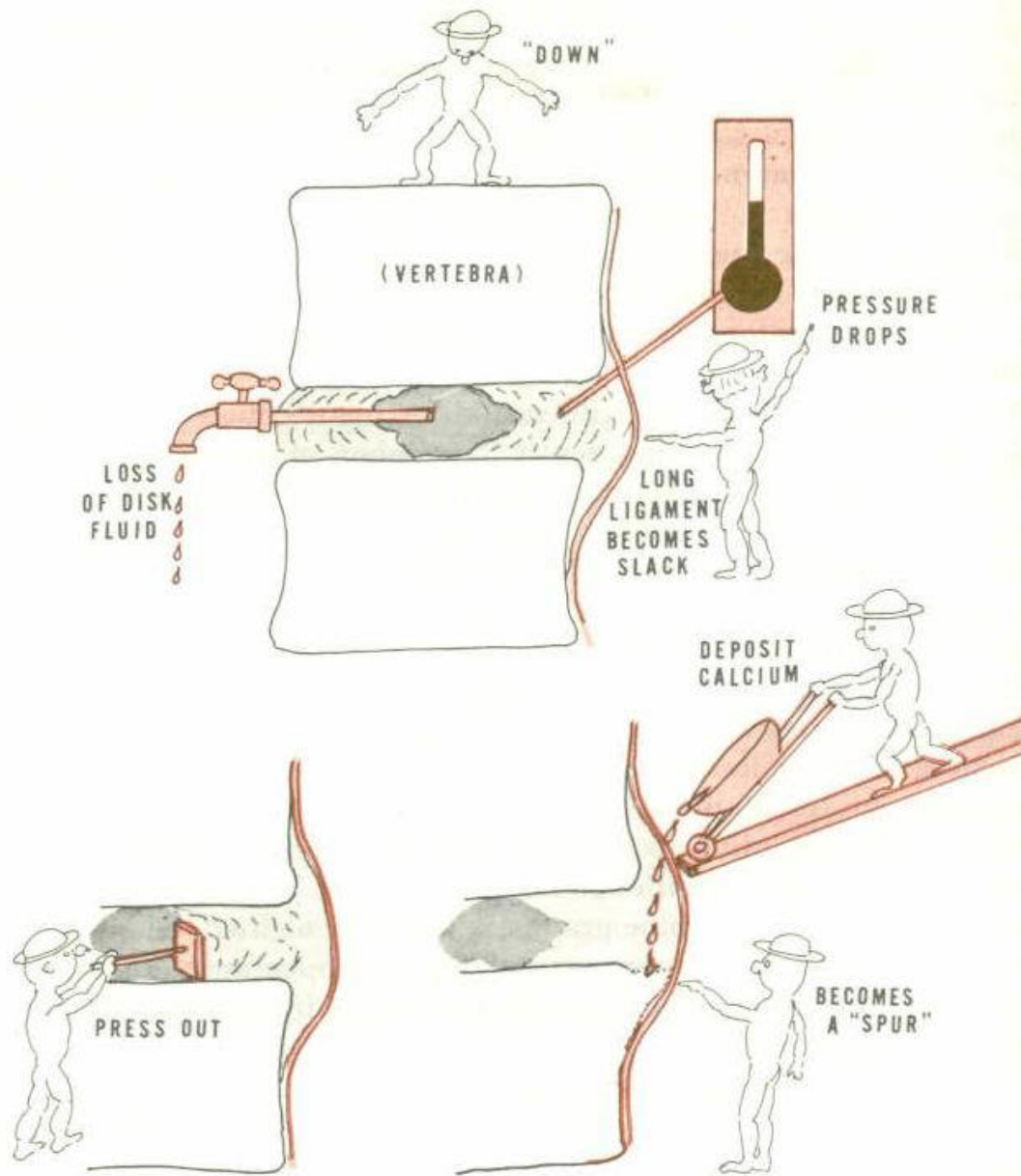


FIGURE 100. Formation of an "osteophyte:" degenerative arthritis.

急性腰痛的發展史

70% 3週內疼痛會完全消失

90% 2個月後不再疼痛

10% 疼痛期超過2個月

有一次發作經驗後，復發機
率高達90%

結語～關鍵

～態度

～運動素養

感謝聆聽

祝～度假愉快