



THE WELL-BEING OF THE SPINAL COLUMN

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Introduction

Back pain is one of the most common ailments and affects a large part of the population at various stages of life.

It often occurs suddenly without any apparent reason and limits simple everyday activities and interferes with night-time rest. Unfortunately it is difficult to establish the cause with certainty and therefore it is advisable to contact a health professional for proper management of the problem.

The spinal column is unique and irreplaceable and you must learn to take care of it both at work and in your free time: this is your responsibility.

The most common cause of musculoskeletal disorders is postural stress. **Any posture, even the best, if prolonged over time is harmful; the best position is the change of position.**

Don't lead a too sedentary life! It is advisable to do at least 30 minutes of moderate physical activity a day, both walks and physical exercise.

In this booklet you will find tips and exercises that you can perform independently even in the absence of pain in order to preserve well-being of your spine.

ATTENTION!!!

If you already suffer from back
pain, contact your doctor

**NB: This booklet is not to be considered a substitute for
a rehabilitation treatment for spinal pathologies**

Precautions in the management of daily life activities and work activity

Proper lifting of heavy loads

- approach the load with your feet, distant from each other and firmly planted on the ground
- straighten your back
- bend your knees to reach the load while keeping your back straight
- firmly grasp the load as close as possible
- straighten the knees while keeping the trunk erect. The lift must take place when you straighten your legs and avoid using your back as a crane
- the handling must be progressive and not jerky
- move your feet to turn around avoiding twisting with the trunk
- use the same technique in reverse when placing heavy loads on the ground

ATTENTION!

Heavy loads should never be handled or stored beyond chest height and below knee height so as not to overload the spine and upper limbs



Correct lifting of a light weight

- To lift or place a light object on the ground, the balance gesture can be used as an alternative technique.



- This posture can be accompanied by the support of the upper limb opposite the foot loaded on a shelf, allowing for easier maintenance of balance and a further discharge of weight

Correct techniques in the management of daily activity

- To make the bed it is advisable to always bend the knees and bend at the level of the hips.
- It is advisable to kneel down to lift the mattress and put on the sheets.



NB: The kneeling position can also be useful in other activities:

- ✓ open a lower drawer
- ✓ gardening
- ✓ load the dishwasher or washing machine
- ✓ insert the trays in the oven

When using the broom and vacuum cleaner or cleaning the floor, the front lunge technique will be useful in which the effort will be well distributed between the lower limbs and allows you to keep your back well aligned. The broom handle should be long enough.



- To iron without tiring your back, you need to adjust the board to a suitable height and occasionally place a foot on a raised part, it is not advisable to iron for long periods but to alternate it with other activities.

Maintaining a correct position at the desk

To maintain the correct position it is necessary to adjust the seat:

- Feet flat on the ground
- Knees bent almost 90°

- Sitting on the ischial area (the pelvis must be in relative anteversion)
- Adjust the backrest to support the lower back and sit deep not on the tip of the chair
- Keep your elbows and forearms resting on the table top or chair arms
- Keeping your shoulders relaxed and your head aligned, bring your sternum towards the monitor
- The height of the monitor should be sufficient for you not to tilt your head forward and to look over the top edge of the screen without extending your head.



How to get up from a chair correctly



To understand the correct sequence of movements when getting up from a chair it will be useful:

- to place a stick behind the back holding it with one hand at the level of the sacrum and one at the level of the neck
- to get up from the seat without losing contact at any point with the stick
- to return to sitting position and repeat 5 times

Maintaining a correct position in bed

To maintain a correct position in bed both in supine and lateral decubitus position it is important:

- to use a pillow under the head high enough to keep it in line with the spine

In lateral decubitus it will be useful:

- to keep your knees and hip flexed so you don't create a twist of the trunk.



Technique for lying down in bed and getting out of bed

The next sequence of images describes the recommended technique for lying down in bed and getting out of bed.

Starting from the supine position in bed you will:

- bend the lower limbs
- rotate to the side
- the legs sag out of bed
- stand up with the help of the upper limbs without causing the spine to rotate or bend
- relax, use the reverse procedure

Use the reverse procedure to lie down in bed.



Rules always valid during the execution of the exercises

- always stay below the pain threshold (pain is an alarm bell)
- always associate natural breathing
- perform the exercises very slowly and without straining
- “better a little but constant rather than a lot but occasional”

Antero-retroversion of the pelvis in the supine position



- when the air enters, let the abdominal muscles relax and the abdomen swell: the pelvis is dragged in the anteversion and the lumbar vertebrae detach from the support surface forming the lordosis
- when the air comes out, the abdominal muscles contract and the abdomen retracts: the pelvis is pulled into retroversion and the lumbar vertebrae adhere to the supporting surface, reducing lordosis

Transversus abdominis activation exercise

The transversus abdominis is a deep stabilizing muscle of the lumbar spine; its activation is synergistic with that of the pelvic floor.



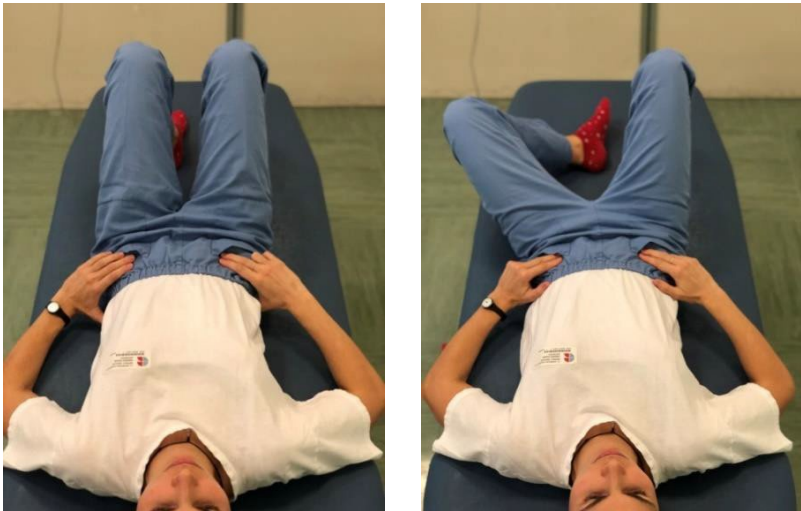
- Assume the neutral position of the lumbar spine, intermediate between the two previous ones (anteversion and retroversion).
- Perceive the muscle contraction by placing the index and middle fingers of the two hands approximately 2.5 cm below and 1 cm internally towards the midline of the body with respect to the SIAS (the anterior bony prominences of the pelvis).
- Contract the muscle by drawing the abdominal wall under the navel for two-three seconds and then relax. With training we will try to reach holding times of about 10 seconds for 10 repetitions a day

To perform the exercise correctly, avoid:

- swelling of the abdomen in its lower portion
- hollowing the abdomen in the upper portion

- moving the pelvis forward-retroversion
- depressing the rib cage
- holding your breath
- pulling the navel towards the lower body

Transversus abdominis activation exercise with thigh abduction



- Perform the contraction by maintaining it during the abduction of the thigh and its return, being careful not to perform the movement with the rotation of the trunk.
- The movement of the limb should be done slowly..

Contraction of the transversus abdominis while raising a lower limb



- Extend the knee by first stabilizing the lumbar region by contracting the transversus abdominis
- Return the foot to the table by relaxing the transversus muscle
- Repeat the exercise and alternate the limbs

Contraction of the transversus abdominis while lifting one or two lower limbs



- Maintain a lower limb at 90° of hip and knee flexion by contracting the transversus abdominis muscle to stabilize the lumbar spine, return the limb to the starting point. Repeat the exercise alternately.



- Lift one limb first and then the other, keep both lower limbs raised at 90° hip and knee flexion by contracting the transversus abdominis muscle for 5 seconds and alternately descend with the limbs.

Contraction of the transversus abdominis during movement of one or two upper limbs



- Starting from the supine position with both knees flexed and the upper limbs stretched towards the ceiling, maintain stabilization of the lumbar spine by contracting the transversus abdominis
- While inhaling, bring one upper limb outwards at a time
- While exhaling alternately return the upper limbs to the starting position
- You can perform the exercise simultaneously with both upper limbs.

Stretching exercises of the posterior muscle chain of the spine in supine position with knees to chest



- From the supine position, bring both knees towards the chest and keep them in position with the help of the upper limbs for about 30 seconds.
- Return one lower limb at a time to the starting position
- Repeat the sequence at least 5 times

Stretching exercise for the iliopsoas muscle



- Lie on your back with your pelvis near the edge of the couch (or on the side if it is not possible otherwise) with both knees towards your chest
- Lower one limb towards the floor keeping the contra lateral with the knee flexed towards the trunk
- Maintain the position for 30 seconds, return to the starting position and repeat the sequence 5 times

Stretching exercises of the trochanteric pelvis muscles



- Lying on the ground as in the photo with one foot resting on the wall with knee and hip flexed, bring the opposite foot to rest on the opposite knee, with the hand on the same side bring the knee outwards causing a slight tension of the pelvic trochanteric muscles
- Hold the position for 30 seconds and repeat 5 times

Posterior chain stretching exercises of the lower limb



- Starting from the supine position with legs extended, place the elastic band under one foot, flex the hip and knee keeping the foot in contact with the table
- Extend the knee by bringing the foot towards the ceiling while keeping the hip in the same degree of flexion
- Maintain the position for 30 seconds and repeat 5 times for each lower limb

Posterior chain stretching exercises of the lower limb



- Near a jamb, place yourself in a supine position with one lower limb stretched out
- Keeping the foot against the side resting on the wall with hip and knee flexed extend the knee keeping the foot "hammer"
- Maintain the position for 15 seconds and repeat 10 times for each lower limb

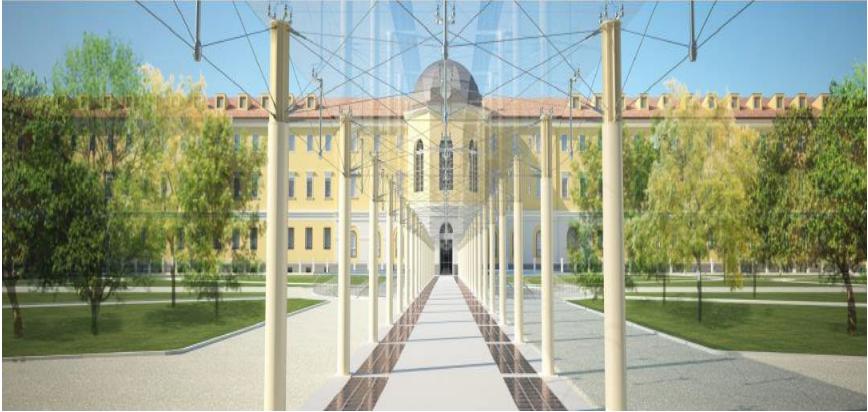
Wall squats



- Lean with your back against the wall
- Keep your feet about 1 foot away from the wall
- Slightly flex the hips and knees maintaining the contraction of the transversus abdominis to stabilize the lumbar area without detaching the pelvis from the wall
- Descend until the kneecaps are in line with the toes and no further
- Hold the position for 30 seconds and return to the starting position. Repeat 5 times

NOTICE

This booklet is accurate at the time of printing and is updated periodically. However, operational changes could occur between one edition and another, so the information provided here is not binding.



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