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THE POSTURE MANUAL

Use Your Body Well, Starting Now

A practical self-help guide to regain control of your body,
for everybody and every day.



VIDEO
INCLUDED



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HOW THE BODY WORKS

I'm glad you're still with me here: it means that you decided to embark on our beautiful journey despite the many warnings in the previous chapter. This is a great start!

Before discussing how the body functions, let's try and understand how it breaks down.

3.1 Accidents vs. overuse

Basically, there are only two ways to you hurt your back, neck or any other part of your body:

- accidents. The causes of the accident are not relevant to the treatment: if you slipped on an ice plate, no need to remove the ice for fixing your broken bones. The root cause analysis only aims at protecting others from a recurrence of the situation;
- cumulative disorders (or overuse, also called musculoskeletal disorders). In this case, the health issue is caused by a slow and discreet phenomenon, i.e. what you do with your body, 24/7. Consulting your "hands-on" therapist for your back pain does not remove your bad habits, as previously explained: your therapist will fix the symptoms, but the treatment will not be durable unless you fix the causes, i.e. what you do with your body. This is where I intervene: as a posture therapist, I'm a "hands-off" expert (this is why most of my patients are overseas: I treat them by cam, often without ever meeting them in person).

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THE THREE RULES OF THE HUMAN BODY

Let us dive into our core topic: biomechanics. Our body functions according to three rules, which you need to understand and master: this whole manual is built on them, until the final word. Thanks to this framework, I can offer a consistent posture and ergonomics training to different professions, from office workers to firefighters, and from industry workers to gardeners.

5.1 Rule #1: toxic vs. healthy back shapes

Before diving into unhealthy spinal postures, how can we define a healthy one? Basically, it is a posture that distributes the effort (your weight as well as the weight that you may be carrying) across the spinal tissues, so as to avoid overloading any: the goal is not to overload one and then the other tissue, but rather to keep at all time all tissues in their comfort zone.

5.1.1 Round and compressed

When the back is bent and compressed (i.e. slouched if we speak about the lower back, or slumped if we speak about the mid back), your weight is mainly born by the intervertebral discs. An excess of these postures therefore creates disc protrusion, disc hernias, bulging discs, etc. (Figure 9): the cushion between two vertebrae gets out of its chamber (and possibly cracks it), sometimes pressing against a nerve.

When your back is compressed, your head is pushed down towards your pelvis, such as on the two figures below. This is your posture when you slouch on a chair or a couch (Figure 8), or when you stand with the pelvis too far forward (Figure 7). Observe that the middle back is rounded, i.e. shifted backwards; as a result (i.e. to preserve the weight balance), the head and neck are pushed forward, thereby creating neck strain.



Figure 7



Figure 8



Figure 9

When we discuss relaxation, we will discover another bent back posture, shown on Figure 10. In this posture, the back is bent, but gravity pulls the head away from the pelvis, not *towards* it. As long as no compression occurs in the spine (e.g. when straightening up with the back muscles instead of the pelvis muscles, or when lifting weight in this posture), this posture is not hazardous; rather, it stretches the back muscles and decompresses the spine.



Figure 10

7.1.4 Working on a laptop computer

The hinge between the keyboard and the screen of a laptop creates an artificial link between hands and neck: if you have the computer at hands level, the screen is too low, but if you have it at eyes level you need to keep your hands elevated. Hence, a laptop is always less ergonomic than a desktop computer: you will have to take even greater care of your posture, take even more frequent breaks, and limit the total usage time.

As you see in Figure 65, the danger comes from an excessive neck flexion (more than 20°). The small screen size will also encourage you to push the head forward, which can create severe nerve compressions and subsequent arm and shoulder pain. To limit the postural risk, the only solution is to tilt the screen as much as possible so that it faces you.



Figure 65

Remember that a laptop is always less ergonomic than a desktop: as a rule of the thumb, consider that it triples the postural risk. At home, I therefore strongly advise that you invest in a split screen, keyboard and mouse to re-create a desktop environment (Figure 66). If you don't have a split screen yet, raise the laptop on a few books, and use it together with detached keyboard and mouse (Figure 67).

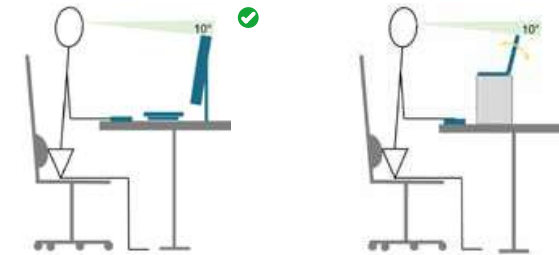


Figure 66

Figure 67

Obviously, using the computer on the couch is a very bad idea: a slouched posture due to a lack of pelvic support would only aggravate the issues that I just mentioned.

**IF THE LAPTOP IS YOUR MAIN COMPUTER,
INVEST IN SPLIT SCREEN, KEYBOARD AND MOUSE.**

7.1.5 Keyboard and mouse

Many alternative different keyboards and mice exist on the market. Describing the ever-changing offers is impossible in such a book, so I will limit myself to large families.

There are two types of alternative keyboards:

- compact keyboards, without numeric keypad. They keep the mouse closer to the body, and therefore limit the load on the shoulder and neck;
- curved keyboards, which are supposed to limit the wrist lateral flexion observed on a straight keyboard. However, many users tend to use them with their elbows spread apart, which causes the problem to be carried over to the shoulders and neck.

The wrist rest is a useful accessory to keep wrists straight. It can be included on the keyboard or separated. In any case, it must be flexible and padded, and no thicker than the keyboard itself. The wrists should be floating on it, but not pressing on it. There are several reasons for this:

- leaning could create pressure points on the soft tissues of the forearms inner side (including the carpal tunnel);
- when you lean on your forearms, you actually carry your weight on your neck, in violation of rule #2;

8.3 Shifting the pelvis

8.3.1 Pelvic horizontal position and spinal shape

This chapter's learning outcomes are crucial to a healthy standing posture. Many have understood from practicing sports (yoga, Pilates, etc.) that the pelvis should be rotated inwards to avoid a hollow back. This is true, but only partially: the outcome of the pelvic rotation depends on where it is. In other words:

- if the pelvis is behind the shoulder blades (Figure 118) the outcome of the pelvic rotation is the standing monkey posture, but
- if the pelvis is in front of the shoulder blades (Figure 119), the outcome is a forced, slouched posture (Figure 120).



In Figure 118, the pelvis is always the most backward point of your body: if you would rest on a wall, your pelvis would contact it, but neither your heels nor your shoulder blades would. On the contrary, in Figure 119, the shoulder blades would be against the wall.

Another way to describe this is to observe where your arms hang, when your neck, shoulders and arms are relaxed: in Figure 120, they will hang behind your hip joint, whilst in Figure 118 they will hang just in front of your body. Practically, this means that shifting your pelvis backwards brings your arms and hands closer to what you are doing (computer work, cooking, or anything else): it reduces the strain in your neck and shoulder area, because the muscles need to do less for reaching forward.

This is so crucial that mastering it is your only week's daily goal. The exercise for the week will pave the way for the pelvic rotation to be discussed next week.

THE PELVIS SHOULD ALWAYS BE THE MOST BACKWARD PART OF YOUR BODY.

8.3.2 Week 5: pelvis daily goal

Your daily goal for the week is to re-educate this tendency that you surely have, like many of us, to let your pelvis slide forward as in the posture in Figure 119.

The idea is the same every week: interrupt your activities a few times per day and observe your posture. Every time your pelvis is forward, your only goal for now is to act like you would if punched in the lower belly (i.e. under the belt). If you do not want to fall, the punch forces you to pull your pelvis backward (Figure 121).

Immediately check that the weight distribution under your feet: if it is not under the arches, spread 50/50 between left and right, re-balance it using your ankles.



Figure 121

For now, do not worry too much about the shape of your back when your pelvis is pulled back: it might get a bit hollow, but we will work on this from next week.

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HOW TO BEND DOWN

The previous chapter was describing techniques for bending forward without moving your feet: their range of motion is rather limited. Furthermore, bent back techniques are useful to relax, but not to carry loads:

- you cannot reasonably carry any load when looking backwards;
- loading the back while it is bent would be a violation of rule #1.

Hence, we now need to activate the legs, for progressively introducing manual handling over the next chapters. There are three leg techniques to bending down, which I describe here with their pros and cons.

In this chapter, you will discover why the back hurts when the feet are lazy. You will also discover why common expressions such as “bend your knees” are extremely hazardous and can cause serious damage (exactly like “stand up straight”...).

The general consideration underlying the movements described next is: take an inflatable balloon and compress it. When you force it to take less vertical space, it takes more horizontal space. Furthermore, the horizontal extension should happen symmetrically between front and back to preserve its balance. Guess what: the very same goes for your body, so we will now discuss counter-weights.

12.1 Technique #1: lift a foot

This is the simplest technique, which you can use on a non-slippery surface

- to pick up light loads from the ground, or
- to reach forward beyond an obstacle (e.g. to clean a large table) or to reach high (e.g. to pick up an object from a high shelf).

The movement is quite intuitive for most of us: one foot tends to automatically raise from the ground when reaching forward, leg straight. Both knees remain relaxed. How much you lift the foot should be proportional to how low you want to bend forward: if you lift it too high, your back hollows (Figure 203; conversely, your back bends if you do not raise it enough).



Figure 200

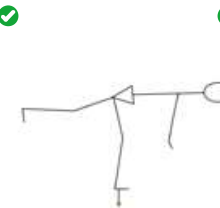


Figure 201



Figure 202

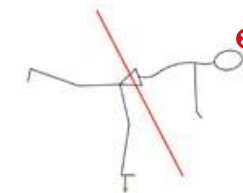


Figure 203

As you'll end up on one foot only, you're obviously less stable than on two. To compensate, you should stabilize your weight with one hand, preferably on the side of the leg that you will lift: hold on a table, sink or any other stable piece of furniture. The force exerted by the stabilizing hand and arm is, however, minimal.

Observe that when you lift the right foot, your body tends to turn to the right. Hence, if you need to pick up an object on your left, raise your left foot.

TO PICK UP LIGHT LOADS, JUST LIFT A FOOT.



Figure 264



Figure 265



Figure 266

14.4.2 From the ground

The most useful technique to lift your child from the ground is technique #2, as the front knee can be used as a resting point for him. During the lifting sequence below

- bend down bringing one foot backwards, in such a way that your belly button is close to the child;
- lift the child and sit him on your front knee (Figure 268), his back and pelvis against your torso to avoid carrying him at a distance (which would ultimately hurt your lower back);
- bend your neck and your upper torso forward to lighten your rear leg, and push on your rear toes to straighten up in the forward direction (Figure 269).

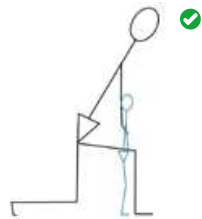


Figure 267



Figure 268



Figure 269

In the sequence below, the child is slid on the right thigh and brought to the belly button. Only then are the knees opened, before one is brought forward, so as to stand up using technique #2.



Figure 270

The same logic applies when you take a child out of a low hammock. In Figure 271, observe that the right forearm rests on the knee: using this technique allows you to transfer the weight directly to the lower leg and the ground, which relieves the upper body.



Figure 271

14.4.3 To cuddle

Young children often need to be held in your arms, making “manual handling” a (too) frequent activity, especially when you need to carry out other tasks: as a cold-hearted ergonomist, I would advise that you raise your child in a loving way, but without making them dependent on you, taking them in your arms every time there is a problem (or something to celebrate).

This being said, most parents tend to carry their child on their hip, which twists (and often hollows) their back (Figure 272).