

## Hunched back and posture

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The hunched back, i.e. thoracic hyperkyphosis, is not just something typical of the old age. This postural alteration often appears during childhood because of various reasons: an introverted personality, a sense of inferiority or inappropriateness, the adoption of wrong postures for years, practicing competitive sports unsuitable for children's age, such as tennis, artistic gymnastics, etc. It consists in an increase of the physiological thoracic kyphosis from the first to the twelfth thoracic vertebra. In the past, this kind of condition was called "hunchback". If it appears in young age, it is referred to as Scheuermann's kyphosis, which is the most typical form of kyphosis affecting 1-8% of the population.

Over time, everybody naturally tends to stiffen and hunch as an effect to the muscular tensions acting on the joints modifying their connections. The main cause has to be found in our lifestyle and culture that does not consider acting in advance against pollution, wrong diets, etc.



Fig.1 X-ray of a hunched back. It appears clear the increase of the thoracic kyphosis and the depth of the two lordosis, cervical and lumbar.

***By modifying just one postural parameter, inevitably other parts of the body change, too.***

Although the body is still seen as a combination of different parts, it works as a whole and that is how it should be considered. Being connected from head to feet by muscular, connective, fascial and neurological chains, the body is able to trigger modifications and adaptive phenomena in any of its parts.

**The theory of chaos: "Is it possible that the wingbeat of a butterfly somewhere can trigger a tornado in the other side of the world?"**

When the back is hunched, it is inevitable that shoulders move forward and close, too. This happens because scapulas develop from thorax and adapt to its shape. Thorax, in the same way, adapt to the

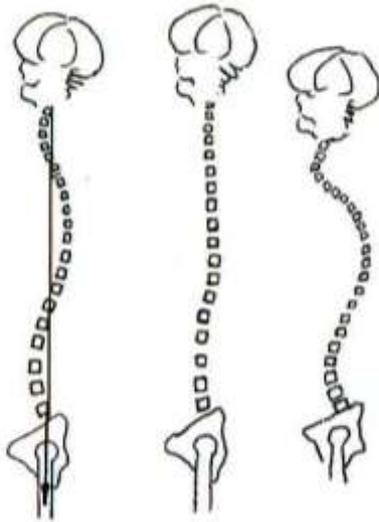


Figure 2 Vertebral column with physiological curvatures (a); rectified curvatures (b); hyperkyphotic curvatures due to its two hyperlordosis (c).

column structure, by closing and so compromising “lungs mobility”. Ventilation will result a lot reduced compared to the ideal standard and less efficient. Apart from these effects, there will be other consequences. This structural modification will involve the diaphragm and the inner organs, too. Since they cannot move anymore in their physiological way, diaphragm and ribs will execute limited movements inadequate to their needs. The inner organs, both those directly connected to diaphragm and thorax and the others, will suffer from compressions, limits in movement and functionality. Diaphragm is an example: when it moves properly, it “massages” continuously stomach, liver, intestine, heart, to which they are all linked through ligaments, improving its activities. Also the filling and emptying of the cisterna chyli (an anatomical structure for the collection of the

lymph coming from the trunk and the inferior limbs) is supported by a proper functionality of the diaphragm. The lack of such a “service” will make any function harder or insufficient. Apart from a hunched back and forward-rotated shoulders, the head is forward-oriented, too. According to Lowen’s bioenergetics, forward-oriented neck and head express an old trauma, consisting in the baby trying and failing to have a correct relationship with his/her mother and so with maternal bosom.

**“...Posture is strictly connected to emotional life to such an extent that it becomes expression of the external world, not just through facial and gestural expression, but through the whole body structure” (Gagey P.M. ; Weber B. 2000)**

If this kind of attitudes continues over the years, these postures become fixed and last for a whole life, unless the problem is face from both physical and emotional point of view.

**“...Posture is the expression of an inherited past, a personal past, of cultural formation and deformation, memories coming from physical and emotional traumas (the so called emotional cysts), the kind of life, sport, work and stress we live; posture is the way we breath, the way we stand, move and interact with ourselves and with others. Our posture is the expression of our history.” (D. Raggi, 1998)**

In the case of hunched back, the muscles supporting with difficulty neck and badly managing the shoulders are never flexible nor relaxed, but tight and hypertonic, instead. They have to carry weights, fears, failures, the pains of life. That is why it is difficult to modify these postures and it results useless and superficial keeping saying to the kids to keep their shoulders straight: the effort is too much and these muscles are too stiff. For all these reasons, those muscles have become “weak”, they are not able to keep back and shoulders straight with their effort for more than a couple of minutes. They soon get tired and bring people back to their tensions.

**Any stiff muscle, over time, will tend to lose its flexibility and strength.**

An accurate and scrupulous postural examination will show that in case of hunched back, closed shoulders, blocked thorax and forward-oriented head, the cranium underwent modifications, too. The modifications will inevitably concern the temporomandibular joint, swallowing, occlusion, sight and balance.

Fig.3 Detail of a posture which allows working simultaneously on each part of the muscular, fascial and connective chains in order to set free short muscles from head to toe. This method uses breathing techniques to support posture modification. Traction, proper acupressure and gentle maneuvers in the thoracic region allow to restore the freedom of vertebral joints, to set nervous roots free from compressions and to reestablish a functional painless posture.



### **HOW DO MODIFICATIONS TAKE PLACE?**

Let's do a simple postural-occlusive test together to evaluate the modifications that can be provoked to our occlusion: stand up, head straight and eyes forward-oriented; try to close your mouth very slowly and gently so that you can feel which teeth touch the others first and which ones never touch the others. (Remember that in normal conditions the four front teeth should never touch each other).

Once you found out which teeth touch the others first, try to recreate the altered posture made of hunched back and forward-oriented head. Now repeat the test in order to clearly perceive which teeth touch the others first. The contacts will almost definitely change, meaning that it is enough to change one postural parameter to change all the others. Moreover, if neck and head are forward-oriented due

to the hunched back, also the laryngeal and pharyngeal cavities (i.e. the throat) will modify, changing the way people swallow and the timbre of their voice.

Tensions in extraocular muscles can undergo modifications as well, due to tensions of the nape muscles, with which they have a strict neurological connection. The vestibular system deserves some observations, too. It is located in the internal part of the ear and it is responsible for balance. Whenever it has a wrong incline, caused by hunched back or other non-physiological alterations which modified neck and head posture, it inevitably modifies its information towards the Tonic Postural System trying to restore balance. That explains how components such as cervical vertebrae, teeth, tongue, eyes, vestibular system can be modified by hunched back and vice versa.

The inferior part of the body will be unavoidably involved in these alterations, too. It can develop a lumbar hyperlordosis, a probable genu recurvatum and/or a knee valgus condition, affecting even the extremities with flat foot, claw-foot, hallux valgus and drop of metatarsal heads.

It is not surprising, since even a visceral problem can cause postural problems or pain in the vertebral column.

In the postural sphere is therefore necessary to know how to read postural alterations through various tests and computerized tools, recognizing any cause and effect in order to operate for a real and long-lasting postural rebalance.

### **CAN HUNCHED BACK CONDITION BE IMPROVED?**

Yes, it can, provided that you use adequate methods, such as Mézières Method, RPG Method and our own method, founded on Mézières Method and taking into consideration any aspect of posture.

The involved and responsible muscles for hunched back condition have to be treated, rebalanced in their tensions, stretched and re-educated. The shape of the column has to be modelled as well through skillful maneuvers and guided postures that will be maintained over time thanks to a respiratory re-education.

The aim is to bring to light the old hidden cause the patient had forgot in the course of his/her life. It is then important to help the patient go through the painful condition the body had hidden over the years by creating any sort of antalgic compensation or postural alteration. After an adequate posturology-based intervention, these muscles won't need to make any effort to keep head and column straight: flexor and extensor muscles (agonist and antagonist muscles) will have the right balance of strengths and tensions without one of them standing out.

Vertebral column will be free to express a correct postural attitude, not due to the muscles strength itself, but to the balance among all the muscles strengths, which will be now used with a minimum effort.

## WHAT IS VERTEBRAL COLUMN AND HOW DOES IT BEHAVE?

We ought to remember that vertebral column is a series of harmoniously-linked bones, whose aim is to keep us straight and let us execute various functions. All the vertebrae are kept together and articulated with one another thanks to articular facets; each vertebra is governed by muscles, which in turn are governed by the nervous system. This one is extremely sensitive to any emotional, traumatic and postural problem. It absorbs any stimulus and reacts sending the consequent reactions to the muscles, modifying in this way their tensions.

Continuous abnormal solicitations caused by pain, vitiating postures, scars, altered hearing, sight problems, altered breathing or swallowing etc., will induce the nervous system to fight against these conditions, by adapting to the compensations it has certainly created over time to survive. The consequences involve posture and health in general and are the cause of joint stiffness, inflammations, pain, chronic tiredness, myalgias, neuralgias, dorsal and lumbar region pain, cartilage lesions, arthrosis, discopathies, hernias, etc.

## WHICH SHAPE DOES VERTEBRAL COLUMN TAKE IN THE VARIOUS PHASES OF LIFE?

At birth, vertebral column goes from the total hyperkyphosis of the fetal position to a phase without curvatures which lasts from the first months of life to the crawling phase. It is in this phase when the first curvature, i.e. the cervical lordosis, is created, in order to let the head raise. Then thanks to continuous efforts to balance against the force of gravity in order to reach the erect position, the lumbar lordosis and consequently the thoracic kyphosis are formed. The thoracic kyphosis is the final product of the morphology of the primary curvatures.

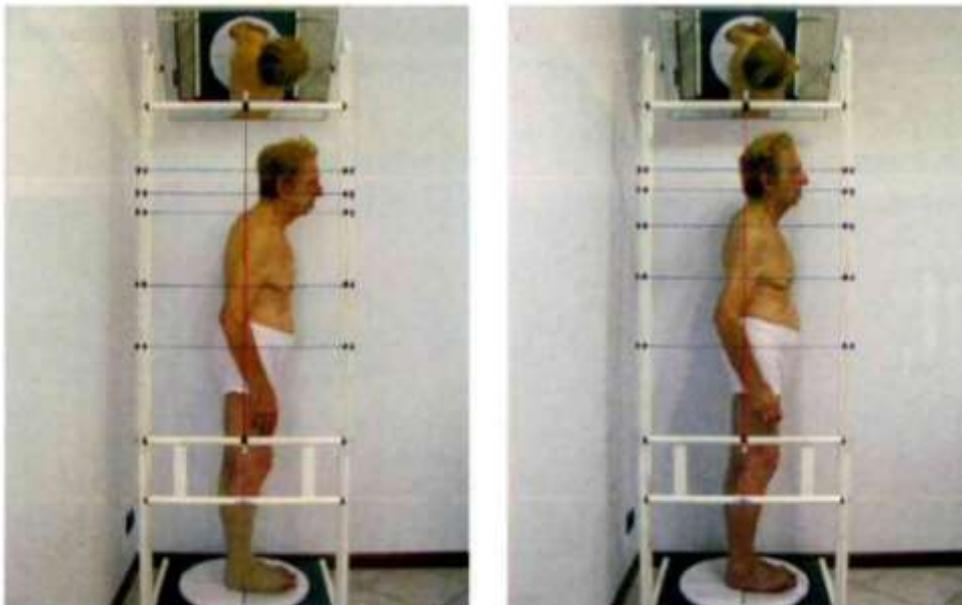


Fig.4-5 Postural lateral observation of our patient suffering from hunched back. He came to our studio because of a widespread joint stiffness and big difficulties in walking. In the first picture, the mirror shows the extent of the forward orientation of the head, highlighting the thoracic hyperkyphosis.

Comparing the pictures it is easy to see the postural modifications arisen after 8 sessions of postural rebalance. After the treatments, the vertical alignment (red line) results much more correct and balanced. Thoracic kyphosis and the forward orientation of head, neck and shoulders appears to be reduced. Also from the mirror you can see the improved position of head, shoulders and back. This result allowed our patient to go back to a condition of wellness and functionality he had completely forgotten. General balance together with the frequency and the extent of the steps, which were compromised also due to the old age, have decisively improved. The stepcounter and the stopwatch used by this brilliant man allowed us to confirm his improvements.

Figure 5 shows how the depth of the two lordosis determines the creation and the shape of the kyphosis, or hyperkyphosis in this case. In case of reduced lordosis, kyphosis will result less pronounced, i.e. there will be a hypolordosis (figure 4).

Unfortunately people until now have always been working on the effect instead of working on the cause: old schools of corrective-postural gymnastics have been fighting against hyperkyphosis, i.e. hunchback, for years instead of working on the reduction of hyperlordosis. When we run into a case of hyperkyphosis, we treat it with postural exercises, aimed at stretching the muscles responsible for the postural alteration.

Strengthening and boosting muscles that have been considered “weak” for years and therefore responsible for hyperkyphosis, will inevitably lead to a further shortening of muscular chains. The consequences will be joint reduction, compromised functions, inflammations, cartilage lesions, discopathies, arthrosis, pain, etc.

**“Life forms and deforms us.”** (D. Raggi)

This statement, which goes with us for all our life, should not frighten us. It is therefore possible to invert this tendency and reach old age in dignified and still functional conditions.

The same way body is “formed and deformed by time passing by”, using the global approach postural technique with Raggi Method®- Pancafit® we can model the body towards its original shape and functions. It is like going back in time and people can revert to walk, run, bending, climb the stairs, swim, jump, etc.

Here is the example of one of our patients, who accepted to be scientifically monitored. An 85-year old man who could not walk anymore, with notable stiffness and hyperkyphosis, and who got remarkable benefits from the postural sessions. Being a still brilliant engineer, he decided to monitor the motor skills he regained after each session and to clock the time he needed to do his usual walk around his house. The pictures of the man, before and after the treatment, prove that the effects of time can be reasonably shaped. The global approach postural technique Raggi Method®- Pancafit® never works on the effect. In this case, it does not work on the back, since it is just a probable consequence of a

problem which had happened before the back started to hunch. This is the reason why interesting and long-lasting results can be obtained.

*For more information on the Raggi Method®- Pancafit® please address to Posturalmed S.A.*

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