Sensomotorische Körpertherapie
nach Dr. Pohl®

Helga Pohl:

Neck pain

Do you know this?

- In the morning you wake up with a stiff, painful neck. It is only after you have exercised a bit and taken a warm shower that it gets more bearable.
- When you stand up after sitting at a desk for a lengthy period you rub your sore neck.
- The more stress you had during the day at the office, the worse your neck feels, often together with the musculature in the shoulder area.
- Somehow you used to be better at parking your car backwards. You were able to do it without a mirror, whereas now you can't turn your head that far anymore.
- Sitting in a car for long periods seems to do your neck anything but good.
- Suddenly, as if out of the blue, you have a totally stiff neck; every head movement is impossible. If you try to move your head anyway, you suffer hellish pain.
- Your neck has become so sensitive to cold that you had best always have a warm scarf around it; also in bed at night, because every draft of air could provoke devilish pain.

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- You feel depressed and lack initiative and have to force yourself to do things. At the same time, your head feels dull and your neck does not feel good.
- Sometimes you feel a stab of pain like a knife in the back of your neck.
- You feel fearful, distrustful, and withdrawn. You are bent forward, hardly breathing, and your head is bent backwards into your – often painful – neck.
- For a long time already, you have no longer been able to lie flat on your back. Without a couple of pillows under your head, your neck is unbearable.
- The neck pain often extends up to your head and causes a head ache.
- Dizziness, sleeping disorders, concentration problems, and memory disorders also accompany you frequently.

Neck pain, together with back and head pain, is among the most frequent pains in the western world. There is hardly anyone who hasn't had it at some time. Even children sometimes already complain of neck pain, often in connection with head aches.

The usual explanations

Usually, we first consult an orthopedist for our neck pain and stiff neck. There, we normally first have an X-ray and then are told that the pain comes from the cervical spine. Equating neck pain with the cervical spine has gone so far among laymen that many people do not even speak of neck pain, rather say that they have problems with their cervical spine. In such cases, orthopedists often diagnose a cervical syndrome or a cervical spine syndrome. A cervical syndrome means nothing more than that one's neck hurts; a cervical spine syndrome means that the cervical spine is held responsible for the pain. It gives no precise information about the origin of the pain.

People with neck pain can indeed be frequently observed on X-rays to have a more or less curved (usually more) cervical spine than normal. But one does not see what has caused this curvature of the cervical spine. It is also not clear why this curvature

is painful. A healthy person can intentionally move his cervical spine into the exact position seen on the X-ray without it being painful. What then is hurting?
Is it the protusions of the intervertebral discs in the cervical spine which one observes on X-rays or computer tomograms of some people with neck pain? Or is it even disc prolapses in the cervical spine which occur in some of these patients?
Intervertebral discs are flat, round cartilage parts which act as a buffer between the individual vertebrae. In protusions, certain discs have been displaced to such an extent that in one spot they protrude between two vertebrae. In disc prolapses, the outer sheath of this cartilage has broken apart and the gelatinous nucleus has emerged.

However, the neck pain can not be directly caused by these injured or crushed discs, because intervertebral discs consist of insensitive cartilage material. Cartilage has no sensory cells and thus cannot hurt. Therefore, most disc protusions and prolapses are completely harmless and do not come into consideration as causes of pain. Only in rare cases is pain indirectly derived from one or several disc prolapses, namely when the prolapse is situated so unfortunately that it presses on a nerve root where it emerges from the spinal cord. In these rare cases, the disc prolapses do in fact cause pain; however usually not in the neck, but in one of the arms. One recognizes the true cause of such arm pain from the fact that it is dependent on movement of the head. Most disc prolapses and protusions fortunately occur at completely different spots than where nerves emerge and are entirely harmless. The question remains: where does the neck pain come from? How has the damage to the discs happened? Does it have a connection with the curvature of the cervical spine, and if yes, what connection?

If one sees neither a disc protusion nor a prolapse on the X-ray or computer tomogram, yet the patient complains of severe neck pain, the explanation remains that it is a blockage of one or more cervical vertebrae. This is plausible to the common sense of the patient, because, after all, he himself has noticed that he cannot move his head well; something there seems in fact to be blocked. But

questions again remain: What precisely about this blockage is supposed to be painful? How has the blockage developed and how is it maintained? Compared to a car or any other mechanical object, how has something like a piston seizure developed? What can suddenly squeeze vertebrae together so hard that the joint between them can no longer be moved? Can the joints become tangled up with one another? If so, by what?

Finally, the explanation of classical medicine remains: It is an arthrosis, i.e., on the X-ray an abrasion of the articular surfaces of the vertebrae's cartilage can be detected. It is said that this is attrition, a degenerative illness, and the cause of the neck pain. Indubitably, such arthrotic changes in the X-ray can be detected in some people with neck pain; one can see that the articular surfaces are no longer smooth but seem to be rough. However, questions still remain open:
First, why should these arthrotic changes cause pain? They affect cartilage material which is insensitive to pain, such as that surrounds all articular surfaces including those of the cervical spine. Therefore, e.g., standing on our head is not painful to us, although the cervical spine is naturally enormously loaded with weight.
Where then does the pain in arthrosis come from?
How do such degenerative phenomena in the cervical spine develop? They can often already be found in young people.
Also, old people: what are they supposed to have done to cause abrasion to their cervical spine? We do know of such abrasion effects which develop through many years of use alone, in technical apparatus, for example in cars.
But how is it with human beings?
Can it be that here normal daily movement leads to abrasive effects?
Why do people who exercise a good deal tend more seldom to have neck pain?
Should not Indian women, who very often carry weights on their heads, which really would have to be conducive to abrasion of the cervical spine, suffer the most from arthrosis of the cervical spine? This is not all the case! As one sees, we cannot get far with classical medicine's explanation of neck pain.
What then is the cause of neck pain?

An alternative explanation

If we examine someone with neck pain more closely and later also touch him, we come closer to the problem. In observing someone more closely who for example has difficulties to park backwards, one notes that he cannot turn his head properly; on the one hand, because his neck is obviously stiffer than normal, on the other hand, because the region below the back of the neck doesn't move right when he attempts to turn it. Examining this person more precisely, one can see that his head is not sitting at the place actually meant for it. Instead, it is extended forward with the chin and bent into the back of the neck.

If you, dear reader, imitate this, thus extending your head forward and bending it into the back of your neck, you will notice two things: One is that your head and neck (i.e. the cervical spine) are now also somewhat more immobile. The second thing is that due to the head maneuver you now have a slight hump-back which is also stiffer than before and harder to turn. However, you can still reverse this condition – hopefully – anytime and bring your head painlessly back to its mobile initial position.

A head is only then freely mobile when it sits exactly straight on top of the spinal column. Then, its weight is borne by the bones while the muscles are free for movement.

In reverse conclusion: if someone cannot move his head freely, the head is not sitting at the right place and is being held there by contracted muscles. Every wrong posture is a stiffening. The correct head posture can be recognized by the fact that – seen from the side – the ear is located vertically over the middle of the shoulder. Seen from the front, one ear is exactly the same distance from the shoulder as the other. As soon as the head is further forward, further to the right, further to the left, or further backward, it comes out of line; we have to hold the neck muscles in continual contraction, otherwise the head would from gravity completely fall over forward, sideways, or backward.

Naturally, we can and should move our head in all directions, and naturally we must contract muscles for this; in movement, however, contraction is immediately followed

by relaxation. If we continually hold our head in a certain position through the strength of our muscles, the muscles can no longer move the head freely, as they must hold the head in this spot against gravity. In time, due to the continual holding work the muscles, as well as the connective tissue, become so contracted that we can no longer release them voluntarily, and even when lying down they stay in the same contraction. Then, for example lying on our back, we need one or several pillows to compensate the tension in the neck musculature, otherwise it becomes unpleasant.

A continual contraction of the neck muscles and/or of the connective tissue on them causes not only neck pain and stiffening, but also a deformation of the spinal column, disc protusions and prolapses, blockages, and arthoses. Contracted musculature squeezes the individual vertebrae so hard that cartilage abrasion of the articular surfaces can occur (arthrosis) and discs can be squeezed out and crushed (protusion and prolapse). If the muscles vary in their contraction, certain vertebrae can be pulled out of line and blockage of the vertebrae's mobility can occur. This is all due to the musculature; the cervical spine itself cannot produce such deviations and blockages. There is no conceivable way the cervical spine could itself become active in order to bend itself or contract and produce such damage. The spinal column consists of bones which cannot move of their own accord. The movement of the head occurs via the joints of the cervical spine, but it must – like every other movement – be executed by the musculature. The movement of the cervical and thoracic vertebrae and thus of the head is constricted if the corresponding musculature or the connective tissue on these muscles is contracted. The muscles are palpably hard and short; the connective tissue forms an overly tight sheath around the muscles and also feels hard. Contracted musculature hurts, just as contracted connective tissue does, especially when one pulls on the contracted muscles.

The wonderwork neck musculature

Head movements are primarily executed by muscles which are located in the back of the neck; furthermore, by two muscles which lead from the collar-bone in front to the back of the head behind the ears (sternocleidomastoideus muscles), and by two

lateral neck muscles (the scaleni muscles, of which there are three on each side). The muscles directly in front at the throat are used for movement of the larynx, for breathing, speaking, and swallowing.
The most important muscles for moving and holding the head are the neck muscles. They exist in varying length and direction. This means:

- There are very short muscles in the neck which only extend over the top two vertebrae and move the head from there. You apply these short neck muscles for example in nodding when you bend your head into the back of your neck without moving the neck itself. One uses them to precisely balance out the head movement (also for turning).

- Short muscles also connect the rest of the individual vertebrae among each other. They ensure that you can move the whole spinal column not only en bloc but also each vertebra individually.

- Then, there are somewhat longer muscles which cover the whole back of the neck. You apply these muscles when you move your head including the back of the neck, e.g. when you bend your head all the way back into the neck. Some people do this for example when reflecting.

- A part of these muscles, namely the upper trapezius muscles, connects the shoulders via the back of the neck with the head. You apply these muscles e.g. when you bend your head into the back of the neck and pull your shoulders up; this is a gesture of self-protection in threatening situations which almost all of us often unconsciously use.

- The next longer neck muscles stem from the thoracic spine and can move the head. You use these muscles when straightening up from the thoracic spine or turning the head. Thus, the head is directly connected via muscles not only with the cervical spine but also with the thoracic spine.

- The longest neck muscles, finally, begin at the sacrum and run as part of the back extension musculature over the whole back along the spinal column up to the head. We need them to move the head with the whole body, e.g. when bending backward to observe airplanes. This also means that our head movement and position is also dependent upon the posture and movement of the entire body, e.g. also upon the position of the pelvis.

In the back of the neck itself all these muscles are located in up to four layers. Almost all of them insert at the bottom of the back of the head. They can all move the head, but from various points. As they extend in varying angles from their origin to their insertion at the head (from completely straight to completely oblique), they can move the head in manifold ways in many varying directions and hold it there. Finally, the abdominal muscles can pull the head including the torso forward, which due to gravity also causes the neck muscles to react. As long as the whole thing functions unhindered, the neck is a true wonderwork.
If it doesn't function, due to the varying insertions of the individual participating muscles, the neck pain often extends to the back of the head, the thoracic spine, the upper and rear part of the shoulders, even to the sacrum and the abdomen.

The function of the neck
With the help of all the above described muscles, our head is normally constantly in movement in daily life, which we hardly register either in ourselves or in others. Only if someone holds his head completely stiff, we notice that something is not right, that the person has a stiff neck. The constant slight movement of the head depends on the following factors:

- The uppermost two vertebrae (atlas and axis) are particularly easy to move. When all the muscles are freely movable, the head is loosely balanced with the help of the atlas on the pin of the axis. Only very small muscle contractions are needed for this. The head immediately reacts to the smallest impulse of the neck muscles.

- There is a reflex connection of head and telereceptors. Telereceptors are the sensory organs which we use for further distant stimuli, i.e. the eyes, nose, and ears. We involuntarily always direct our head so that the sensory organ is turned toward the source of the stimulus. This means, one automatically moves one's head and subsequently one's body in the direction where one thinks one sees, hears, or smells something, and one adjusts the head direction so that one can perceive more precisely with the respective sensory organ. That is our ubiquitous orientation reaction, which we execute all day long, usually without noticing it. As we humans primarily use our eyes (and less our ears or our nose) for orientation, the head movement is to a great extent dependent on the eye movement.

- Vice versa, there is also a dependency of the eye movement on the head movement. If we let the movement originate, not from the eyes but from the head, our eyes are automatically directed so that they look forward and to the horizon. If we lower our head, the eyes wander upward, if we bend our head into the back of the neck, the eyes move downward, etc.

- We communicate all our intentions and feelings via face and head movements. For example, we withdraw our head if something repels us, we bend our head into the back of our neck with astonishment, we thrust it forward in anger, incline it to the side in doubt, nod agreement with our head, straighten it up as soon as we are alarmed by something, etc. As in all these cases we move our head with the neck muscles, these movements and functions depend on the mobility of the muscles.

Dysfunction of the neck

Unfortunately, in our culture limitations of the head's mobility are ubiquitous. Even our mimic expression via head movement is often frozen, and neck pain is very widely spread. As during most of the day we are looking straight ahead (at the computer screen, the television, the teacher), an orientation reaction hardly takes place anymore. Head and eyes rigidify in a certain, usually false position.

The movement limitation becomes cemented in contracted musculature and contracted connective tissue on this musculature. If we move anyhow, we feel pain in the back of our neck. Often it is not only the neck itself that hurts, but also on top of the shoulders. This is due to the fact that the most frequently contracted muscles are the upper trapezius muscles. These muscles extend from the base of the skull to the outer part of the shoulders. They are very susceptible to stress. If they are contracted, one can feel them as hard bulges on the shoulders and on the outside of the back of the neck. One also often sees that the shoulders are pulled up due to the continual contraction of these muscles, and at the same time head-aches frequently occur. Due to the tensions in musculature and connective tissue the neck becomes hypersensitive. Often, a draft of air, stress, or a small jerky movement is sufficient to cause or aggravate neck pain. Therefore, many people plagued by neck pain instinctively bind a warm cloth around their neck.

These neck contractions do not generally occur alone, but are based on wrong postures, i.e. contractions which go through the whole body. In reality, much more is out of order than just the sore neck. However, the wrong posture which occurs long before the neck pain is usually not perceived by the affected persons. Also, the limitation of the head's mobility, especially the ability to turn, is generally not noticed for a long time by the affected persons. Most frequently, they finally notice it when backing their car into a parking space: when they can no longer do it without a mirror or only with great difficulty.

We can easily test the **limitation of the rotation ability of the neck** including its connection to the rest of the head by standing diagonally behind someone and asking him to turn around to us. If his posture is relaxed and upright, his movement will be unhindered and, beginning with his eyes and head, he will turn to us with his whole body. Hereby, we can observe how the rotation movement flows from the head through the whole spinal column, the hip joints, the knees, the ankles, and down to the feet. Almost all the muscles of the body participate. The movement looks very harmonious and also feels that way. If the person is somewhat more limited in movement, because, for example, his upper body is constantly inclined forward, he

will only with difficulty be able to partially turn his head toward us. If the head can no longer be moved at all, he will turn his upper body backwards from the waist, leaving his cervical and thoracic spine stiff and immobile. If the muscles in the waist are also stiff, he will only be able to turn via his hip joints. If his rotation ability is completely constricted, he will be able to turn neither head nor body, but will take steps backwards with his legs in a semicircle. We also find a limitation of the rotation ability, when someone holds himself rigidly upright or overly straight, e.g. like in military posture.
How well are you able to rotate your head backward? What do you feel then? Which parts of your body participate in the rotation?

The most frequent wrong posture of the neck and its causes

By far the **most frequent wrong posture** which causes neck pain and a stiff neck is the one with the head pulled forward and bent into the back of the neck, as it is characteristic of a forward bent posture. The neck hurts, because its muscles constantly have to hold the weight of the head against gravity. The upper body is in a kyphotic contraction, i.e. the upper back is rounder than it should be, the rib cage and the belly are pulled in, and the shoulders are pulled forward. As the shoulders are often also pulled up, in extreme cases the neck almost disappears and in the back the head seems to grow out of the trunk (example: Franz-Josef Strauss). Some people notice that their neck has become shorter and shorter in the course of time; others find themselves bull-necked. The head can no longer be sufficiently rotated and can no longer be moved forward toward the breastbone. This wrong posture is enormously wide-spread. In our culture, one can say: The older a person, the shorter the neck. It isn't a sign of old age, however, rather, the more years go by, the more occasion one has to acquire muscle contractions which cause this wrong posture.
Due to the wrong head posture with forward extended head, some people develop a so-called widow's hump, i.e. looking at these persons from the side one clearly sees a round bulge standing out at the bottom of the slanted back of the neck. Especially Women especially are very displeased about this, because there is not a nice line

from the head to the back. The widow's hump concerns the 7th cervical vertebra and a thickening of the connective tissue on it. It develops as a result of the weight of the head which is extended forward (and no longer carried by the spinal column) pulling on the seventh and lowest cervical vertebra, and causing it to become enlarged in the course of time (after the end of the growth period bones can no longer grow in length, only in width). Due to the immobility of the head position in this region, the connective tissue collects and consolidates here and reinforces the unsightly hump.

Factors leading to the development of this wrong posture

The wrong posture with round back and head chronically forward extended and bent into the back of the neck has developed due to the following factors:

1) **Negative experiences**

- If a person makes many or severely negative experiences, his abdominal and chest musculature will inevitably contract, and his head will automatically be pulled forward and into the back of his neck. It happens automatically, because this occurrence is controlled by involuntary, unconscious parts of the brain, not by the voluntary parts with which we control our conscious movements. These are blows to the neck which fate deals us and which we involuntarily dodge. Thus, the depressive posture develops (see for example the drawings of Käthe Kollwitz), as well as the "body pattern of fear" (Feldenkrais). Unfortunately, the habitual, chronic contraction of the muscles pertaining to this posture have the consequence that we experience things all the more negatively and face the future in fearful expectation, which again causes us to contract more – a vicious circle.

  These connections are known in the vernacular. The term "widow's hump" probably came about through observation of sad widows walking bent forward and developing the head posture which caused the widow's hump.

  We are all intuitively aware of these connections, for example when we encourage someone in a bad situation not to let his head hang.

2) Injuries

- An injury, an operation, a bruise, or a trauma will also cause a person to permanently contract forward and pull his head into the back of the neck. This includes, for example, abdominal operations, whiplash trauma in an accident, head injuries due to a fall, etc. Here, too, a hypersensitivity and an exaggerated reaction develop. The neck reacts to all other negative occurrences, even if it is only a cold draft, with a stronger contraction and more severe complaints. Correspondingly, the mood can also change to the negative, because to the body it makes no difference how it got into this wrong posture. Due to the fact that whiplash trauma patients suffer mood changes, one often does not take their physical complaints seriously and instead considers them psychological.

3) "Stupid habits"

- With "stupid habits" like **sitting day after day in forward bent posture in a car or at a desk,** we also program a wrong posture into our brain, muscles, and connective tissue, and we feel accordingly and are correspondingly stiff. Working at a computer in wrong posture nowadays is probably the most frequent cause of neck pain and movement limitations of the head.

We speak here of stupid habits, although of course it is clear that many people have no choice but to sit all day in a car or in front of a computer screen. However, that is not yet the "stupid habit". It rather consists in the way a person does it, namely sitting with a round back and forward bent upper body. In this manner of sitting, the head with the chin automatically extends forward and is bent into the back of the neck. Whoever sits like that all day – if you look around in offices, many people do so – will in the course of time inevitably suffer from neck pain; also head aches, chronic fatigue, depressions, and dizziness can be the consequence. If for most of your waking hours you have programmed this posture into your musculature and nervous system, it will also remain when you are no longer working. Many people continue this "training" at home on their couch in front of the television.

- **Being a neck specialist.** This “stupid habit” consists of, whatever one does, first extending one’s head forward and activating the neck, for example when sitting down and standing up, lying down and sitting up; or when walking, especially fast, hurried walking. These neck specialists seem to think that their head is always the leader of a movement. In fact, it is only poorly suited for this. Economically, the above mentioned movements originate in the muscles which move the large body masses, e.g. the back and abdominal muscles which move the pelvis. If in these cases one initiates the movement from the head, it is a great effort for the comparatively small neck muscles which are not made for this task. It is like the tail wagging the dog. Some day the overburdened neck muscles will take their revenge with pain and feelings of tension.
- **Wrong eye to hand coordination.** Many people do not bring the object they want to see, for example a book or a piece of handiwork, closer to their eyes. Instead, they bring their eyes closer to the book or the handiwork and extend their head, as it follows the telereceptors, forward and downward. If they frequently hold this position over a long period of time, they create all the prerequisites for neck tensions and neck pain.
- **Raised shoulders.** Many people raise their shoulders in whatever they do, especially when they do it with intense concentration. Before they begin the job, they pull their shoulders up and keep them in a raised position. Due to the muscular connection between shoulder and neck via the trapezius and levator scapulae muscles, this will sooner or later result in shoulder/neck pain.

External factors often contribute to the “stupid habits”:

4) External factors

External factors which can cause the head to be continually extended forward and bent into the back of the neck are, for example

Shortsightedness, which is not corrected by glasses or contact lenses. Shortsightedness naturally leads to a forward extended head, as one involuntarily brings the eyes via the neck muscles closer to what one wants to see.

- **Glasses with progressive lenses and bifocal lenses.** If one looks through the lower part of the glasses one automatically bends the head into the back of the neck (should allow all the joints (ankles, knees, hips) to form right angles. If the seating furniture is too low, the joints bend at acute angles and the pelvis tilts forward at the lowest part (the ischium) and backward at the upper edge. This tilting of the pelvis leads to a round back and this again causes the person to bend his head into the back of his neck. If he constantly sits this way, neck complaints are pre-programmed.

- **Seats which are lower in back than in front, e.g. car seats**
  This kind of seat also forces people to have a round back and over long periods causes neck contraction. One can see many motorists sitting in their cars in totally crooked posture with the head extended forward and bent into the back of the neck. They frequently also have their shoulders raised and grip the steering wheel tightly. If one cannot change the seats, a wedge pillow which is higher in the back than in the front often helps.

- **Work surfaces too low**
  Many a housewife has acquired a humpback and neck pain, because of standing in the kitchen over a work surface which is too low. In previous decades kitchens were chronically too low for everybody. In the meantime kitchens have generally become higher. However, for tall persons they are often still too low. This also goes for restaurant kitchens. A patient of ours, a restaurant owner and cook, suffered from chronic neck pain, because he was standing bent forward all day in the kitchen. As his kitchen employees were also all tall young men, besides the treatment here, only the replacement of the entire kitchen furniture granted the patient and his employees consistent

freedom from neck pain. Only a short fellow was allowed to keep his former workplace arrangement. With the new furniture he probably would have been affected by neck pain.

- **Avoiding a double chin**

  There are people who are so vain that, as soon as they notice the trace of a double chin, they bend their head into the back of the neck, whereby the double chin becomes flatter and less visible. However, seen from the side this head posture does not look good, and it is at the price of neck tension which in time will lead to neck pain.

- **Body height**

  Many tall people have a bent forward posture and accordingly a wrong head posture. Some have acquired this posture by consciously making themselves smaller. Women especially who are now elderly did this in their youth, when it was considered extremely unlovely for a girl to be somewhat taller and – in their mothers' opinion – diminished their marriage chances. Often added to this was the fact that in puberty the girls wanted to hide their growing breasts, which was easiest to do with a bent forward posture that made them appear smaller. This posture unfortunately became so ingrained that they kept it for the rest of their lives. Nowadays, fortunately, another beauty ideal is prevalent: Girls who are 1.80 meters tall walk along confidently and sometimes even wear platform soles.

  Other tall persons have involuntarily made themselves smaller, simply because the material and social environment influenced them toward this habit. They often do not fit through doors without bending, and seats which are too small cause them to have a round back. Many objects (like tables, desks and kitchen work surfaces, public telephones, etc.) are designed too low for them and force them to constantly adopt a bent posture. Even conversation with smaller persons demands a bent posture from them, as in speaking one

usually regards the other person on the same level (looking over the top of the opposite person would be considered arrogant). Thus, nearly every conversation for these persons entails bending down. All this can lead to neck tension and neck pain.

- **Some sports (breaststroke swimming, bicycle riding)**
  Sports are healthy, but unfortunately not in every form. Especially types of sport in which one holds the head bent into the back of the neck are damaging for the neck. Many people do this with the breaststroke. It would help to regularly submerge the head or at least the face instead of holding the head up rigidly and bent into the back of the neck. After bicycle riding as well some people complain of neck problems. Or they may have neck pain and it becomes evident that while bicycling they continually hold their neck in a bent position. A remedy for this is to set the handle bars so high that no weight rests on the arms. One then sits completely upright on the bicycle; the head again rests on the spinal column and must no longer be supported by the continually contracted neck muscles. Perhaps one becomes a few seconds slower due to the upright sitting position than if one sits on the saddle streamlined and bent like an egg with the head extended forward; but for us non-racers the sacrifice of a couple of seconds will be well worth the prevention of neck pain.

What almost <u>never</u> is the cause

As many people (not all) who are plagued by neck pain wake up in the morning with a particularly stiff and painful neck, they think it is due to their sleeping position in connection with the mattress and pillow. Most of them begin to change their **pillow and mattress**, unfortunately with little success, even with special pillows and mattresses which cost a lot of money. In fact, the worsening of the complaints in the morning is due to the following circumstance: at night our musculature and connective tissue contract by about 7% in the whole body. This is due to the relative

lack of movement during the night. That is why every cat stretches upon waking up. Human children also stretch their limbs after waking up. This is a completely normal, natural process. However, if someone has one or several spots in his body where the muscles are continually contracted, for example in the neck, the 7% shortening during the night has a disastrous effect. The muscles concerned are so contracted that they hurt in the smallest movement against the contraction. The pain diminishes only after having exercised a bit and after having taken a warm shower.

Also catching a **chill** by day or night or a **draft** are usually only the triggers but not the cause of neck pain. The cause is again the contracted musculature which reacts oversensitively, i.e. with even stronger contraction, to all sorts of stimuli (for example cold or stress).

In our culture there are unfortunately many people who have several of these “stupid habits”, which lead to neck problems, simultaneously. If one looks around in the city one can search for a long time before finding the healthy, normal head posture. However, most people are usually not at all aware of their wrong posture and their habits; instead, they think they are burdened with a difficult, fragile cervical spine. In other cultures, especially those where the people transport a good deal on their heads, and in peoples living in a natural state, the upright head posture is normal and neck pain is practically unknown. One cannot transport anything on a head which is extended forward or bent into the back of the neck; it immediately falls down. Vice versa, carrying or balancing loads on the head automatically makes the whole body upright (see photos from India).

Rarer wrong postures of the neck

Besides the head extended forward and bent into the back of the neck, which is so widespread, there are mainly the following wrong postures of the head:

1) **head extended forward with straight neck**

   The second most frequent wrong posture is the head extended forward with straight, i.e. only slightly bent neck. These people walk along with a bowed head looking downward. The contracted neck muscles are painful especially because

they are continually being pulled on and they must resist being pulled forward (nobody simply lets his head hang).

This kind of wrong posture of the head especially develops when the person has an **insecure gait** or if there is another reason to constantly look at the ground. Here again, the head goes with the telereceptors. Normally, we don't look at our feet while walking; what we feel suffices to control the movement of our feet, and due to the constant shifting of weight we feel a great deal. While walking, we normally look straight ahead. As our eyes are not directed completely straight but about 5 degrees downward, we see enough of the ground in front of us in order not to stumble. But if the feet are shaky, numb, insensitive, immobile, we can no longer depend on our body feeling, the somatic sensory system; we assist with our eyes in controlling our feet while walking and ensuring that we do not fall. Thereby, the forward lowered head develops, usually connected with a round back in the area of the mid-thoracic spine and with feet which no longer roll from heel to toe.

If the head is lowered and looking upward, this is usually due to **computer work**. Those people who lean back in their desk seat but hold their head stretched forward get a forward extended head with straight neck. This is also frequently observed and causes neck pain.

2) The rotated head

Chronically rotated heads occur especially when a person sees or hears poorly on one side, because here, too, the head goes with the telereceptors. In these cases this means one holds the head so that the "good" eye or ear is brought in the direction of the stimulus, generally forward. If, for example, someone is hard of hearing in the left ear, he will always hold the head rotated in a way that he turns the right ear to his conversation partner. In time, this leads to a chronically rotated head and to neck pain due to the rotation.

There are also people, however, who have arranged their professional environment in such a way that they are always sitting with rotated head (and upper body), e.g. psychoanalysts behind the couch. Here, too, the rule is valid: the head goes with the telereceptors. If I am constantly listening to someone lying diagonally to the right beneath me, at some point in everyday life my head will be slightly rotated to the right and forward.

Logically, the same holds true for persons who have their computer screen diagonally in front of them.

If the whole upper body is habitually rotated, the head is usually rotated to the opposite side. This is usually not noticeable, as in this way the head, although rotated, again is situated in the middle. The neck musculature, however, is in continual contraction and at some point begins to hurt.

3) The sideways inclined head

Chronically sideways inclined heads are often found when the whole body is in a general crooked posture. The head can be inclined in the same direction as the body or in the opposite direction. The spinal column then is altogether twisted, which is called a scoliosis. The wrong head posture is practically the continuation of the lateral spinal column twist; this usually occurs together with a slanted pelvis and apparently shortened legs. The scoliosis, too, has a muscular cause. This means, it is the continually contracted muscles which in these cases hold the spinal column twisted. This kind of wrong posture, which includes the head posture, is frequently due to accidents and injuries, for example to an arm or a leg.

But also without such causes there are chronically sideways inclined heads which have come about through bad habits. Most widespread is tucking the telephone receiver between head and shoulder in order to have both hands free. Especially frequent callers like to do this. Also violin players, particularly those who do not use a chin support, are inclined to crooked heads.

4) Wryneck or Torticollis spasticus

Spastic wryneck or torticollis is described in medicine and psychology as an independent illness. It is an extreme case of head rotation or head inclination. The affected persons have their head constantly rotated and/or inclined to one side and are unable to release it from this posture. Sometimes they succeed for a short time in holding the head a few degrees straighter, by a great effort of will and by pulling against it with the other muscles. As soon as they let go of this superhuman effort, the head slides back into the old crooked posture. It is a chronic event, i.e. the wryneck accompanies the affected persons for years and sometimes for their whole life.

Regarding wryneck (torticollis), neurological and psychological interpretations predominate (e.g. someone does not want to see something, wants to turn away etc.). Unfortunately, the wryneck does not become straighter through such interpretations. The fact is that in this illness the lateral neck muscles (sternocleidomastoideus muscles and scalenus muscles) as well as part of the neck muscles are in such strong continual contraction that an extremely twisted posture results which the affected persons cannot or can hardly influence. One can see the muscle contraction of torticollis in the neck clearly from outside. If one touches the affected muscles, one can also clearly feel the contraction: the muscles are as hard as boards. Due to the twisted posture (rotation or inclination or a combination of both) naturally at the same time the entire mobility of the head is restricted. Through the influence of gravity (a head is heavy), in a child or adult with torticollis the whole side to which the head inclines is restricted in movement and the muscles and/or connective tissue on this side are shortened. Frequently, the affected persons acquire an opposing crookedness in their body and/or eyes, in order to still be able to converse half-way normally with other people. In this case the scoliosis is secondary.

A torticollis sometimes already develops during the birth process or in the mother's womb, otherwise often through an accident, an operation, or some other trauma, e.g. a whiplash trauma. Sometimes no triggering trauma can be found. In these cases, one assumes that a crooked posture of the head has existed for a

lengthy time and some small movement, a fright, a small injury, or a strain ultimately led to the sudden muscle cramp.

Sometimes there are also patients with an acute torticollis. These are patients who already previously had a common neck contraction and then due to some stupid, unusual movement have suffered something like lumbago in their neck. As a result, they can no longer move their head nor release it from the crooked position.

5) The too straight neck

In our latitudes the too straight neck occurs rarely; here, the head with the chin is pressed to the throat and a double chin develops even in the slimmest persons. Up to now, I have mostly seen this as the result of wrong or wrongly understood body therapy and physiotherapy. It also occurs with a backward inclined body posture. This posture is wrong, because on the one hand the uprightness was exaggerated; and on the other hand a movement restriction is also connected with this posture. In this posture, also, the head is hard to rotate. Moreover, the head can only with great difficulty be bent forward. It altogether generates the impression of pride, unyieldingness, inaccessibility, obstinacy.

Possibilities of treatment

Futile efforts

How does one get rid of the pain and especially the various “stupid habits”? Very simply, you will think, by stopping the stupid habits. Thus, one brings the head back to the right spot and sits and stands straight again. The advice had always been: “Stand straight!” Generations of mothers and fathers passed (and pass) this motto to their children – but always in vain.

The habits are literally so ingrained that one cannot simply decide to stop them. Try it. You will notice that it is extremely hard or impossible. We have already seen above

that involuntarily, habitually contracted muscles can voluntarily be neither relaxed nor moved.
Let us observe what happens when a person voluntarily holds himself straight. In trying to stand straight, someone who is inclined forward and has his head bent into the back of his neck retracts his shoulders, adopts a swayed back, and bends his head even more into the back of his neck. That seems upright to him. But if we examine him more precisely, we notice that he or she is not at all upright, it only looks somewhat similar.

The contraction in the muscles at the front of the shoulders does not disappear if we retract the shoulders; it remains exactly as before. By retracting the shoulders we have only opposed a contraction in back to the continual contraction in front. The head posture and the twisting of the thoracic spine are not changed by this. The neck remains uninfluenced. The retraction of the shoulders stays as long as one thinks of it. Then the shoulders revert forward. If someone makes a new bad habit of retracting his shoulders, he will soon also have continual contractions in the rear shoulder muscles and often additional pain.

The tension in the lower back keeps the upper body crooked; it only brings it backward as a whole, whereby a swayback develops. The crooked upper body
is bent backward, the neck contraction remains as it was. If one makes this posture a bad habit, in time one will usually acquire lower back pain in addition. The contraction in the abdominal muscles, which pulls the upper spine into a round back, will not disappear. What someone with a continually forward inclined posture cannot do is to move the thoracic spine. All hunchbacks are stiff. A “sensory motor amnesia” (Hanna) has developed, due to which he can no longer feel nor move the appertaining muscles. One cannot induce anyone to simply let go of his hunchback. He won’t even understand what is meant.

By bending his head more into the back of his neck and bringing his eyes further upward, a person only thinks he is more upright and taller. We see, however, that in

fact he has worsened his posture which causes the complaints. By supposedly straightening up, he contracts his neck muscles even more. If this becomes a constant posture, the neck pain will increase.

This is tricky. As one sees, one can no longer control the situation on one's own.

Furthermore, to straighten up after a long time feels very strenuous; it is hardly possible to keep it up all day. The back often hurts when one tries this. Such complaints hint at the fact that many contractions are opposed to the efforts at uprightness. It is therefore easiest to give in to the ingrained contraction pattern and fall back into one's old wrong posture.
Due to these and other reasons, the appeals for uprightness have been condemned to fail for centuries. In every generation, one has devised some cunning **aids or coercive measures**. For example, the upright posture was trained with a walking stick held in the back. There were even so called orthopedic "straight holders", a kind of tight undershirt which one can fasten around the torso (see illustrations). Against scoliosis, the lateral bending and twisting of the spinal column, patients were and today in part still are, forced into a corset and at night into a plaster corset. There are also constructions for keeping the head straight.
No neck pain has ever disappeared due to such constructions. Nobody has ever become straight through all these devices. The body cannot be trained. It is not a piece of chewing gum which one can pull and push in all possible directions and forms; it is a living system. Muscles and connective tissue are held in this tension by nerve impulses.

What remains is the **strengthening theory**. Its supporters, who are widespread in lay and medical circles, maintain that the head hangs forward, because the neck muscles are too weak; or it hangs to the left, for example, because the muscles on the right of the neck are too weak. For this reason, neck longuettes (a type of stiff collar) are prescribed to support the cervical spine and heavy exercises are recommended to strengthen the neck musculature. However, the collars only give

relief inasmuch as the movement of the cervical spine is restricted; the pain only eases momentarily and worsens over time. With severe neck pain, the exercises can often not even be carried out. As, furthermore, the muscles are not lacking in strength, the exercises help little despite all efforts. The only good thing about them is that at least the rigid neck musculature is somehow moved again. However, the movement usually is limited to the neck and does not influence the rest of the wrong posture. Thereafter the old state and the old complaints soon reassert themselves. If the exercises consist of holding the musculature contracted for a long time, they reinforce the problem of continual contraction and thereby aggravate the neck pain.

Sensory Motor Body Therapy according to Dr. Pohl®

Sensory Motor Body Therapy according to Dr. Pohl® was developed in order to solve such problems and similar ones. Hereby we do the following. First, with manual techniques we release the physical substrate of the habits, however they have developed; this means the contractions in musculature and connective tissue. Then, we carry out a body awareness training and somatic exercises with the following techniques:

1. **Pandiculations** according to Thomas Hanna. Involuntarily contracted musculature is voluntarily contracted more intensely. With help of feedback from the therapist, the patient goes through all the degrees of contraction and relaxation up to complete relaxation. Nobody can, with their voluntarily controlled brain regions, directly relax muscles which are held in continual contraction by involuntary brain regions; but one can voluntarily contract the involuntarily contracted muscles more, and then voluntarily release this contraction, especially when, due to a counter-pressure, one clearly feels what one is doing.

2. **Treatment of myogeloses:** the (painful) treatment of pressure-sensitive, hard spots in the musculature, which is thereby also released from continual contractions. This treatment of myogeloses or trigger points is applied when pandiculations alone are not enough, which is often the case.

3. **Treatment of connective tissue:** Here one works on the connective tissue at affected spots with rolling movements between the fingers, often millimeter by millimeter (which is also painful in these spots). This leads directly to softer, more flexible connective tissue and indirectly to softer muscles with better capability to react.

4. **Body awareness training:** Here we assist the patients to feel, how and what they involuntarily keep contracted in their daily lives, and how they can let go of such contractions or avoid them altogether.

5. **Somatic exercises:** These exercises, which the patient does at home, are also carried out very consciously, and help to maintain the flexibility and awareness of the patient.

Pandiculations, treatment of myogeloses and connective tissue against neck pain

When the head is extended forward and bent into the back of the neck as well as when the head is held downward, one treats the sternocleidomastoideus muscle on both sides and the entire neck musculature, including the levator-scapulae muscles. In the first case (the head bent into the back of the neck), one especially carefully treats the scalenus muscles, as these, besides the neck muscles, contribute the most to this wrong posture. A treatment of the connective tissue in the neck also often has a very relieving effect. Where the head is held downward, one should not forget the connective tissue in the front of the neck and below it. It is surely shortened, so that the head can no longer be straightened from the neck. Also, a treatment of the neck muscle insertions at the back of the head can work miracles regarding the mobility of the head.

The cramp condition of acute torticollis looks dramatic, but with the manual methods of Sensory Motor Body Therapy according to Dr. Pohl® it can quickly be made to disappear. The treatment of chronic torticollis takes longer.

We have seen that the musculature and connective tissue around the upper thoracic spine is also involved in the movement limitation; therefore, in Sensory Motor Body Therapy according to Dr. Pohl® we also treat these areas with manual procedures.
As the next step, we treat muscle areas which cause the individual wrong posture. Thus, in forward bent posture, the back muscles should not at all be strengthened; instead, the too short abdominal and chest muscles as well as the hip-joint flexors should be loosened, so that the front part becomes longer and allows the person to straighten up by himself. Even if the back feels so weak in some places, as though it could not hold the body upright, this is not due to weak back muscles; rather, it is due to the fact that the subcutaneous connective tissue on the muscles in the “weak” area is so contracted, that the muscles underneath it do not react. When the connective tissue is loosened, the apparent weakness disappears immediately. A training of the back muscles for the purpose of straightening up becomes superfluous.

Where the head is crooked and rotated, in Sensory Motor Body Therapy according to Dr. Pohl® usually the whole body rotation or crooked posture including the scoliosis is treated, because without changing the substructure the head cannot become straight.

If the wrong neck posture is due to an insecure gait, we first treat the feet and legs, so that the gait becomes more secure and eye control is no longer needed.

It is only after these steps have been taken that the patient can really straighten up effortlessly as he no longer has to work against an involuntary pull. Thereby, the natural everyday movement of the head is restored. One can observe this already immediately after the treatment. The patient is more upright, the neck is longer and more flexible; it can better be bent, extended and rotated, and the patient by himself again freely moves his head while speaking. Through these “physical” measures the mood also improves substantially. One sees the world more positively. The accompanying complaints of neck tension like head-aches, dizziness, concentration problems, and memory disorders also disappear.

Only when the muscles can be freely moved, through manual treatments, do we begin with body awareness training in Sensory Motor Body Therapy according to Dr. Pohl®. This is essentially a sensitivity training. Due to the mutual control of sensory and motor system, the patient can only begin to feel when the muscles are released. Here one sees very well the interlinking of the individual measures of treatment.

Body awareness training against neck pain

The body awareness training of Sensory Motor Body Therapy according to Dr. Pohl® helps the patient to become sensitized to what he involuntarily does in everyday life. In this way, it helps to prevent tensions from developing anew. For example, the best neck treatment is of little use, if the patient afterwards right away sits down in front of the computer with a wrong posture. He will wrongly program back into his body during 40 hours per week the contractions which we have released in an hour. Therefore, in body awareness training, we include the patient's everyday life and his daily habits.

Naturally, first one should do away with all the above listed external factors which favor a wrong posture: glasses with progressive lenses, too low seats or work surfaces, etc. It is important for the patient not only to act mechanically but to learn to feel by himself, how with these factors he automatically acquires a contraction of his neck musculature and the rest of his musculature. If he re-learns this sensitivity, he will be able to judge in the future, what is good for his neck and what not.

Often, it is necessary to rearrange the things at one's workplace. Usually, the computer screen is too low. It is very bad to constantly work at a laptop. As we have seen above, the head automatically follows the telereceptors. If the computer screen is too low, everyone will extend the head forward and bend it into the back of the neck in order to view the screen. The simplest thing one can do in the first case is to raise the screen (e.g. by laying books underneath it). The rule of thumb is that the upper edge of the screen should be at about eye level when sitting upright. It is the upper edge and not the middle of the screen, as our human eyes in resting position

are adjusted so that we are not looking straight ahead, but about five degrees downward. If one uses a laptop not only temporarily but as a regular work instrument, in order to attain the upright position of neck and body in front of it, one should either install a separate, lower placed keyboard or a separate, higher screen.

If the computer screen is too far way, e.g. because one is leaning back in the chair, one automatically extends the head forward with a straight neck. The simplest solution is to bring the screen nearer so that one doesn't have to half lie on the table to look into it; or to sit upright without leaning back so that one is closer to the screen.
With seats which are inclined backward, e.g. car seats, a wedge pillow helps, which one lays on the seat in such a way to create a surface that is horizontal or higher at the back.

If one is nearsighted, naturally, corresponding glasses help. All persons with neck problems should replace glasses with bifocal and progressive lenses by several individual sets of glasses or by a combination of contact lenses and glasses.
For people who do a lot of telephoning with the receiver tucked into their neck, it is advisable to switch to head phones.
Perhaps one has to change the height of the desk. In both cases, if it is too high or too low, one must bend the head into the back of the neck in order to see something.
In any case, the rule applies: the position of the furniture and things should be so that one can sit upright in front of them for a long time without extending the head forward, letting the head hang down, or bending it into the back of the neck.
Often, one has to change the positions of work chair, desk, and computer screen repeatedly until one has found the correct (and comfortable) arrangement, in which one can view the screen without a wrong neck posture.

Correspondingly, the above-mentioned naturally applies to all desk work. The same principles are also valid for kitchen work, manual work, handicrafts, sports, even for simply sitting there. All activities should take place in effortlessly upright body posture. It is only in effortlessly upright posture that the head is entirely supported by

the spinal column and freely movable in all directions and we do not have to bring any muscles into (at some point painful) continual contraction in order to hold the head against gravity.

If one holds the knitting too low; if one keeps the television set on the floor and watches it from the couch, or if the television is placed higher in a cabinet or shelf or diagonally in front of us on the table; if the kitchen work surface or the stove is too low or the standing desk is too high: it will always have a negative effect on the neck. Therefore, one should search one's whole everyday life for neck killers. The best way is to feel in one's own body what hinders the upright body posture and how this feels in the neck. One learns to not only feel the pain but already the unpleasant tense state which occurs before. Altogether, one should arrange things so that an effortlessly relaxed, upright posture is possible, in which one feels good. This means, for example, to adjust the handlebar on a bicycle high enough that one can sit upright on the bicycle. One notices the correct position by the fact that one no longer feels weight on the hands. In swimming, it means to either consistently put one's head under water when doing the breaststroke or to change to another swimming style.

In the sense of a body awareness training one should also show the patients **how one turns correctly**, i.e. with the whole body. Naturally, one should also make it very clear to the patient, how he is turning wrongly (only with his legs, only with his torso, only with his neck). One should also look for everyday situations with him and find out where he turns wrongly and what he could do differently in these situations; e.g. swiveling office chairs on which one turns the chair by pushing with one's legs while head and body remain immobile; or only using the rear view mirror when reversing a car instead of turning.

A person can also be made aware of a **neck preference** by body awareness exercises. One has him first intentionally make the mistakes and then practices feeling the healthier body organization in the movement. How does it feel, for example: first running around hurriedly with head extended forward, versus walking

from the pelvis and propelling one's self with the rear foot; or standing up by leading with the head, i.e. with a stiff neck, versus bending the upper body forward, shifting the weight onto the feet, and then stretching one's legs.

If, in Sensory Motor Body Therapy according to Dr. Pohl® one shows a patient the "correct" head posture, at the same time one has to show him **how the head posture is dependent on the alignment of the rest of the body and how the head posture influences the alignment of the rest of the body**. In this way, the patient can feel for himself that he will never get his head in the right spot and never be able to hold his neck muscles relaxed, as long as he is hunching his back. One must also make it clear to him that the "correct" head position is not a rigid posture, but that it is especially important in daily life to always keep the head in movement via the neck muscles and that for this the upright body posture is the best premise. In his own body, he can feel how the body loses scope of movement as soon as one holds it in another position; either by directly contracting the neck musculature or indirectly by holding the body bent forward, backward, or sideways. In the correct "posture" nothing at all is held; instead, in everyday movements one is constantly doing neck gymnastics in connection with movement of the whole body.

Due to the interdependency of head posture and **eye position** one often also has to treat the eyes. For caution's sake, after a neck treatment one should ask every patient whether their sight is now correct or not. Patients with their head bent into the back of their neck have their eyes fixed downward, so that they can see straight ahead despite the head posture; thus, after the neck treatment they will look downward instead of straight ahead. Vice versa, a person with a continually lowered head has his eyes fixed upward; after a successful neck treatment he will look too far upward. Therefore, one often also has to treat the outer eye muscles; in the first case the lower muscles, in the second case the upper muscles. In addition, one recommends certain eye exercises. Otherwise, the patient will relapse into his old wrong posture via his eyes.

Patients with their **head chronically held crooked** should acquire a new feeling for the vertical through body awareness training. When the patient can gradually hold his head straight thanks to the other treatments, he will naturally have the feeling that his head is now crooked on the other side. Without body awareness training, he will again tend to adjust it to a crooked position, i.e. straight for him. Here, too, one must pay attention to the eye position. For example, if the head was constantly inclined or rotated to the left, the eyes are shifted to the right or upward to the right. In both cases the sight is naturally also restricted. In these cases, one must treat the eye muscles on the right and do exercises for eye mobility. Furthermore, one must of course change everything in daily life which causes someone to hold his head crooked.

In treating the neck, particularly to facilitate rotation, it often occurs that the patients afterwards more frequently hear **sounds from their spinal column**. This stems from the fact that due to contraction the vertebrae lie too close together and too little synovial fluid bathes the joints. During rotation of the spine, sounds of friction of the individual bones upon one another occur. One hears these sounds so loudly, because the cervical spine is located so near to the ear and one can hear its movements via bone conduction. Other persons usually do not hear it at all. Prior to treatment the patients often do not hear these sounds or hear them less, for the simple reason that they could not move their neck so much. One can explain this matter to the patients and reassure them that the sounds are harmless and will go away by themselves.

Somatic exercises for the neck

The following exercises are actually meant as complements to the manual treatments and to the body awareness training. These treatments are the core of the Sensory Motor Body Therapy according to Dr. Pohl®. Especially in lighter cases, however, you will already be able to influence your neck pain favorably with these exercises and the external corrections.

As most neck problems are connected with a forward bent posture, this series of exercises contains exercises for the thoracic spine and the upper body.

Intentional round back while standing and sitting

One intentionally makes a round back and observes what happens with the head and neck. Then one becomes upright again, starting from the thoracic spine. One can imagine that someone is pulling the breastbone forward on an imaginary thread. Again, one observes the effect on head and neck.

In a second step, one can also make the neck upright, i.e. let it become straighter, and observe how at the same time this straightens the upper back. If you have a chronically bent posture, both versions will not be easy for you to do.

Probably, instead of producing a movement in the thoracic spine, you will try to solve the problem in your usual way, by pressing the head even further into the back of the neck, making a swayback and retracting the shoulders, while leaving the upper back as crooked and stiff as it is.

Intentionally wrong correction

In order to become aware of the difference, intentionally carry out this wrong solution, which does not really lead to a straightening but instead to an increase of the tension,. Bend your head further into the back of the neck, retract the shoulders, and lean into a swayback. Do this a couple of times, until it is clear to you that this changes nothing at all in your neck problems and even aggravates them.

The correct correction

Then, try again to carry out the desired correction (see above). Perhaps it is now clearer what is meant.

Thoracic spine while sitting

For this exercise one needs a folding chair.

While sitting, one slides to the rear edge of the chair and leans back; then one clasps one's hands behind the neck. (This is to ensure that during the exercise no

movement takes place in the cervical spine but that the thoracic spine is applied instead. Make sure that you truly place your hands on the back of the neck, not the back of the head.)

Then slowly turn back and forth, while always keeping the body with the spine on the back-rest. Thus, you only bend back and forth above the back-rest. Do it several times. Next, with forward-pointed elbows draw circles in the air and include the upper part of the upper body. (During the whole time, the upper body is kept leaning against the back-rest, so that the movement cannot also be executed from the lumbar spine. Make sure that you are really moving the upper body backward and forward. The whole movement takes place via the thoracic vertebra which is level with the upper edge of the back-rest.) The circles can go around to the left as well as the right.

As the next step, slide on the chair a little further forward, so that the upper edge of the back-rest is at the next higher vertebra; again bend forward and backward while holding your back pressed to the back-rest. Then again make circles with the upper body while still leaning back against the back-rest.

Piece by piece, vertebra by vertebra, slide continually forward, so that each time you reach the next higher vertebra with the movement on the back-rest, and carry out the same movements. Continue the exercise until you almost slide off the chair with your rear-end.

Afterwards, when you again sit or stand upright, you can check whether your thoracic spine is now more flexible and whether the above described straightening up from the thoracic spine is easier for you.

Self-pandiculation of the neck while sitting

This is a very effective, quick exercise directly against neck tension which can easily also be done in an office. First, one checks with the hands the softness or hardness of one's neck.

a) straight version: One sits – without leaning on the back-rest – on a chair and clasps one's hands on the back of the head (this time not on the back of the neck!). Then, one bends the head into the back of the neck and presses backward with the lower back part of the head against the hands, which give counter-pressure forward.

One gradually reduces the pressure with the head and reduces the pressure of the hands correspondingly, so that the head slowly moves forward a little.
Then, one increases the pressure of the head and the counter-pressure of the hands again, so that the head again moves backward, but not as far as at the beginning. With three or four such stops, increases, and reductions one lets the head move forward and down until it rests with the chin on the breastbone.

b) diagonal version: One places clasped hands on the lower right part of the back of the head and lets the head move in the same way as described under a) to the left forward and down.

c) The same from the left lower back to the right lower forward

After a) to c) one again checks the neck with one's hands. Usually, one will note that it feels much softer.

Self-treatment of the upper trapezius muscle while sitting

One sits upright and lets one arm hang down on the side. With the hand of the other side, one grasps the trapezius bulge firmly, i.e. the muscle on top of the shoulder from which the arm is hanging down.
Then, one moves the shoulder with the trapezius thus gripped up and down. This may be somewhat painful. One can change the gripping point a couple of times, grasping further inward or further outward. The movement is always the same.
After a couple of times, one can compare the two shoulders. Other people often already see from afar which the treated shoulder is: it is lower. One can feel for one's self that one shoulder is now lighter, more relaxed, broader, and lower.

Repetition on the other side.

Neck-clock in lying position

Lie on your back, with knees up. Feel the back of your neck and feel how you are lying on the floor.

Imagine that you have a clock dial in front of your face, to which you can point with the tip of your nose.

Bend your head into the back of your neck. We will call the spot, where the tip of your nose is now pointing to, 12 o'clock. Move your nose tip a couple to times to 12 and back to the middle, the starting point.

Then, go with your nose tip to 6 on the dial and back to the middle, and repeat it a couple of times.

Finally, go directly from 12 to 6 and back. During this, feel the movement in your neck and upper back.

Do the same for 11 (and 5), 10 (and 4), 1 (and 7), 2 (and 8).

It is important to first execute the movement to the number at which the neck is shortened, and only then to the number at which the neck straightens and lengthens itself. It also important to make sure, that one really is making small nodding movements backward and forward. Many people tend instead to turn their head slightly.

At the end, let the tip of your nose go around in a circle like the hand of a clock, from 1 to 2 to 3, etc., and also counter-clockwise.

Now feel your neck: how much of it touches the floor? How does it feel? It should gradually take on a consistency like butter.

Exercise for the eyes

A preliminary remark:

As the eyes and neck movement are directly connected with one another (the head goes with the telereceptors), one can also release the neck via the eyes.

Vice versa: every restriction of eye movement, e.g. due to computer or television, but also due to glasses and hard contact lenses, especially due to bifocal and progressive lenses, also restricts the movement of the neck and stiffens it. The eyes themselves deteriorate due to the forced restriction of their mobility, as well as due to the stiff neck which hinders blood circulation in the head.
Therefore, independent of eye exercises, in daily life one should look around as much as possible, best without glasses, and meanwhile naturally move the head.

"Stalk eyes"

Lie on your back, with knees up or stretched out.
Test: Slowly roll your head to the left and right; notice how far this goes and what one can see on each side.
Then close your eyes.
Slowly move your eyes to the left and back to the middle. With the left eye leading, go back and forth a couple of times. During the whole exercise, make sure to always move your eyes slowly and evenly; by themselves, the eyes tend to move fast and make jumps.
Move the eyes to the left again, with the left eye leading, but this time imagine that you want to look at the floor to the left of your head; and back to the middle. Repeat.
Move your eyes to the left again; and this time imagine that your eyes see a bit further to the left. Stalk eyes would land on the mat, a couple of centimeters away from your head.
Do the same again, further outward.
Continue until the imagined movement goes over the edge of the mat.
Test: Open your eyes; turn your head to the right and the left, compare how far you now get on each side and how easily it goes. It should now clearly go more easily and further to the left.

Change sides.

Freeing head and eyes from one another

In a sitting position, one tries to slowly move head and eyes in opposite directions. One moves the head slowly to the right and backward while moving the eyes forward, then the head forward and the eyes to the right; several times in sequence. Then do the same thing to the left. One can also move head and eyes up and down in opposite directions.

If the opposing movements do not work right off, one can first do preliminary exercises: a) Keep your eyes set straight ahead, only turn your head to one side and back. b) Keep you head set straight ahead, move your eyes to one side: c) and d) do the same upward and downward. After the preliminary exercises the opposing movements of head and eyes will be easier.

Afterwards you can probably note that head and body (now again together) can be rotated much more easily. You will be better able to park backward!

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