

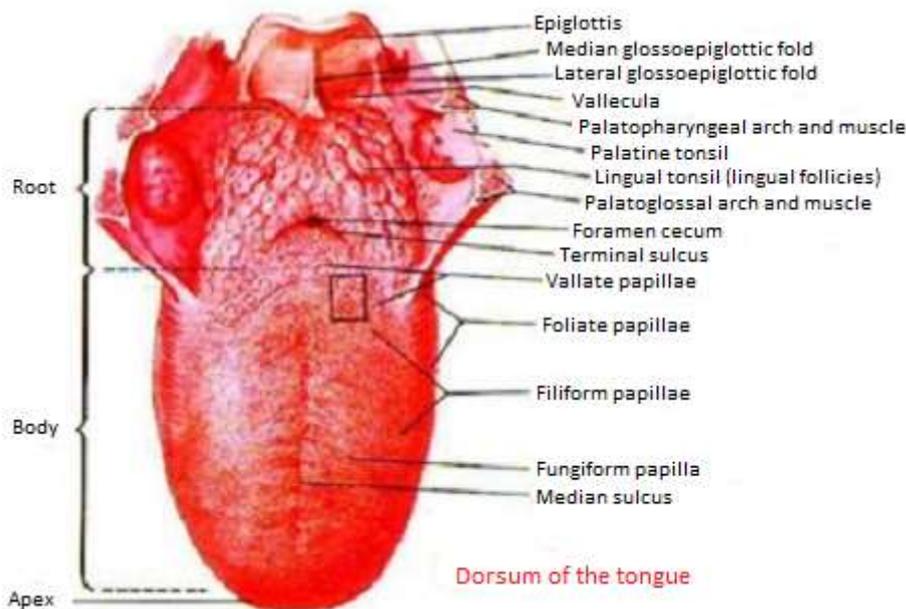
## Incorrect swallowing and pain

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### The patient: "Our tongue is connected to our shoulders? I would have never believed it!"

Chewing, swallowing and speaking are three functions for which it is essential to use our tongue: simple, automatic and daily gestures, but that can also cause great inconvenience. To better understand how such a small part of our body can so greatly influence the body posture, we will briefly see what it is made of and what are the links with the other elements and systems that combined define our posture. Our tongue is an organ made of several muscles that point to different directions (longitudinal, vertical, transverse): it is also supported by other muscles that connect it to surrounding structures such as the jaw and the hyoid bone.



Our tongue can do complex movements thanks to the contraction of muscles which it is made of and that are able to determine the fine mobility, indispensable for the "prehension" of foods, the bolus formation, its swallowing and the participation in the phonation. Many have surely experienced the unpleasant feeling of numbness of the tongue (for example caused by anaesthesia for dental surgery) and how hard it is to talk and eat when you do not have a complete mastery of such muscle. If we do not feel a part of our body, it is equivalent to not being able to manage it, which is why sometimes we bite our tongue. If this happens frequently, it means that there is something posturally altered dependent on the masticatory and/or lingual system. The close connection between tongue and

posture starts already during the thirteenth week of intrauterine life. Thumb sucking during this stage of pregnancy is responsible for shaping dental arches and developing the maxilla and the mandible. In addition, after birth, the baby should be breastfed: in this instance the baby learns the correct tongue movement that will be useful in the future to eat and to stimulate a particular and important area of the palate for its neurophysiological connections.

Unfortunately, today, there is a tendency to wean prematurely, not to respect the biological time, to give the pacifier to dampen hunger and crying or as soporific. The direct consequence is the establishment of a spoiled swallowing scheme that, if not corrected, lasts over a lifetime.

An atypical swallowing, that it is not compliant to the physiological one, can create aerophagia problems (constant ingestion of air and swollen belly), digestive problems (stomach heaviness and swelling), discomfort and pain of the cervical spine. This occurs because of repeated movements that the neck is forced to do instead of the tongue to make the bolus go down. This mechanism can slowly and progressively cause disk disease, protrusions or hernias. The swallowing movement must not be done by our neck but only by our tongue.

The atypical swallowing can even trigger or produce unexpected phenomena: hearing problems (hearing loss and tinnitus) and the constant presence of mucus in the Eustachian tubes, i.e. those channels that connect the ear to the pharynx to adjust the pressure. The two tubes are connected to the eardrum and are stressed in their opening thanks to muscles only if there is a regular swallowing. Proof of this is the fact that those who go to the mountains or practice diving can feel ear discomfort or pain caused by pressure difference and, even yawning or swallowing, they cannot pop the ear (a phenomenon called compensation or Valsalva manoeuvre). This can cause severe pain or discomfort, until the hypothetical laceration of the eardrum. When this happens, it means that the Eustachian tubes are not completely open, do not open properly or there is mucus (justified condition if a person just had a bad cold). If this fact persists, it might be a lingual dysfunction.

Since our tongue learns what it is taught, it is important to emphasize that in order to learn tongue proper movement, the first six months of extrauterine life are crucial. Here the importance of breastfeeding and not through classic pacifiers that alter the normal swallowing act and lead to an incorrect swallowing.

There are other factors that can alter our swallowing: a missing tooth, an incorrect filling, malocclusion, an open bite, a deep bite, a cross bite: they can bother both our tongue and our posture.



In addition, as we will see shortly in the case of the patient who we will examine, also galvanic fields are to be included. Galvanic field, named after the discoverer (Galvani), means a current generated from different metals that propagates through a fluid (in our case saliva), behaving like a battery. The tongue is a very sensitive element, able to feel even the smallest current; if this current is sufficiently strong, our brain consciously encodes this stimulus (once you were out testing batteries to see if they were loaded by using your tongue) and develop a motor removal response of defence. Even if the intensity is lower, not consciously perceptible, our tongue and our brain will react however, only unconsciously.

Our tongue, experiencing discomfort, will try to escape by moving in the opposite direction from where the electrical phenomenon generates. If this phenomenon lasts long, our tongue, as a muscle, distorts and becomes permanently in torsion, in rotation, or just manages the bolus from one side only, etc.

Since our tongue is attached and supported by the jaw through muscles and ligaments, it has links to the neck, the throat and cervical vertebrae: muscle lingual tension, that generates to escape the current, will get to disturb the various support systems of the tongue.

Even always chewing only one side because of a discomfort, a pain, a missing tooth, gingivitis, etc. is a way to create lingual tensions, possibly responsible for tongue distortion and impaired functionality.

All this may not seem very real but it must be considered on the "long term": normally we make about 2,000 swallowing in 24 hours (if we don't count talking and chewing) and this number is multiplied by the weeks, the months, the years in which the scheme is continued. At the end it will be a huge number of incorrect gestures that our tongue proposes to the postural system.

If we want to make a real life example, we can imagine having to walk having a small stone under a foot that forces us to slightly limp to not feel pain. Imagine having to walk for at least 2,000 steps a day: we should not be surprised if after a while will warn soreness or pain in the other leg, knee or lower back in an attempt to take the foot raised to reduce the complaint caused by the stone. Regarding the tongue, phenomena of disorder can be discharged on the temporomandibular joint (in which subluxations may appear), on the cervical spine, on shoulders reaching at least the arms. According to some authors, there is a link that comes down to the foot thanks to a muscular chain called "lingual chain".

The posturologist must therefore investigate with appropriate tests to determine if the problem that the patient reports (neck pain, back pain, lumbago, epicondylitis, carpal tunnel, hiatus hernia, etc.) can be somehow linked to an atypical swallowing or other causes.

## AN INTERESTING CASE

Ms. Lara, 45 years, hairdresser for many years, turned at our centre of Posturology in Milan for an "unbearable tenderness" at her shoulders. Lara told us that her problem was not real pain but discomfort and a weight on his shoulders that consumed and altered even her mood.

To solve this problem she had tried different therapeutic techniques without finding a real solution, therefore she had decided to try with posturology.

She reported that the weight on her shoulders and the tenderness worsened during the day, especially when she had to wash, cut and dry her customers' hair. At night she suffered a little less.

This latest information made me think, at first, that the cause could be linked to her job that she has done for many years, always with her arms raised, and the weight of the dryer.

After making the first session and having treated neck and shoulders, the patient reported a small improvement for the next two days but then everything returned as before.

I then assumed that the treatment was appropriate: the problem was not linked exclusively to a professional matter, otherwise the soreness would not have returned immediately as before.

Somewhere there must have been another factor that continued to fuel the unease.

By looking more closely, I noticed a strange thing: her tongue, by speaking, moved inside the mouth being always and only on one side, never in the centre as it should.

I asked her if anything had happened in the past with her mouth or teeth and the woman said to have cured god-roses dental caries with "simple" fillings.

Looking at the teeth, there were large and bulky amalgam (alloy of lead and mercury, etc.) on all molars and premolars. Performing a test on the tongue, it was discovered that it could move easily from only one side of the mouth but could not get to the opposite side. In fact, the patient confirmed that she could chew in one side only, right from the side in which her tongue was free to move.



Fig.1: Example of correct breathing in a basic posture of global non-compensated muscular stretching.

The pretension of the posterior chain that is created in this position allows making extremely effective diaphragmatic breathing, indicated by the arrows.

Given those factors, I suspected the presence of a strong galvanic field, i.e. all those metal amalgams could somehow constitute a real battery in the mouth. They can actually create an electric field to the point of forcing the tongue to take refuge in the direction where it feels less current. In fact, by measuring, I found that the tester (device that measure an electric field) marked a value of over 180 mmV, a very high value. For this reason her tongue would accuse the "inconvenience" of the current every time it approached, bridging between the teeth.

After this analysis, I started working to rebalance muscular tensions on the patient in decompensated posture. In this specific posture, muscular chain of neck, back, lower back, legs, is in delicate stretched tension. After explaining the release of the diaphragm breathing, I began to treat her tongue by running a real massage and stretching the tongue, a little annoying work but quite interesting. It was amazing to observe the difference in mobility of the tongue: on one side free to move properly, on the other absolutely rigid and braking, with so limited movement that it could not do even those elementary movements that anyone can do.

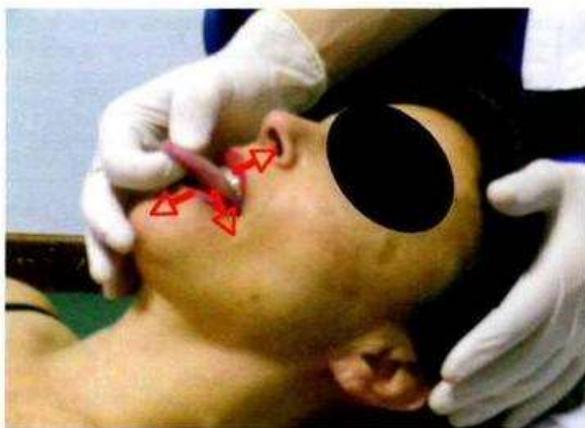


Fig. 2: Tongue testing and treatment played in global non-compensated muscular stretching posture. The arrows indicate the directions of stretching performed after having properly massaged the tongue. The neck and the column should be strictly in global decompensated posture and breathing has to be diaphragmatic.

I encouraged the patient that we had definitely found a way that could repay the sacrifice.

After about 10-15 minutes, we finished the exercise because her tongue had noticeably recovered its mobility and plasticity.

The patient, even though she had not had to work, was completely sweaty because of the "nervous" response of the body, i.e. the **Tonic Postural System** that was reliving all the trouble and fatigue that for years the tongue had to suffer to escape the hassle of electric current.

When the patient stood up, she was shocked: she couldn't believe her feeling, she began to laugh because of the inexplicable lightness she felt on her shoulders. I know that my words are not enough to describe that surprised, amazed and incredulous face of the patient in front of that feeling now forgotten for years. She felt reborn, light, happy. We had found the right way to solve her problem!

Obviously I advised the patient to consult her dentist and explain what we discovered to find the most suitable solution for her. It must be said, that not all people react to amalgam in the same way. There

are many factors that can make it offensive: intolerance to the different components of alloy, the acidity or alkalinity of saliva, the amount of amalgam and the type of metals in the mouth (capsules in yellow gold, white gold, cheap metal, titanium implants, etc).

I later learned that the patient had scheduled the appointment with her dentist to replace those reactive amalgams, thus preventing that the phenomenon of the electric field could come back.

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

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