

# Assessment clarifiers

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**Narrative abstract:** Skilled palpation is a powerful assessment method for trained Chiropractors. There are times when a little finesse is needed to reduce the noise of other tissues and allow the doctor to make a more clear assessment.

Here I present several 'clinical tricks' that better isolate the segments and tissues I am assessing.

**Indexing terms:** Chiropractic; self reflection; clinical assessment; subluxation.

## Introduction

Techniques of chiropractic examination often use neurological windows to assess biomechanical function. This is the case for example with functional leg checks, various forms of manual muscle testing, heat reading instruments, and palpation of the *temporosphenoidal* line among many other methods. The techniques discussed in this article are not intended to replace any of these more established methods, but rather to add to the Doctor of Chiropractic's toolbelt of assessment options.

Although the methods discussed in this paper have not yet been subjected to formal reliability and validity testing, they are rooted in applied anatomy and clinical experience. Integrating clinical experience with an understanding of the science of anatomy is a necessary aspect of evidence-based practice. In their influential paper on evidence-based medicine, Sackett et al wisely state

*'The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.*

*By [apcj.net/papers-issue-4-3/#MasarskyClarifiers](https://apcj.net/papers-issue-4-3/#MasarskyClarifiers) individual clinical expertise we mean the proficiency and judgement that individual clinicians acquire through clinical experience and clinical practice'. (1)*

Later in their paper, these authors state that the basic sciences are part of the reservoir of external evidence.

## Heads Up Palpation

When palpating the patient's spine in the prone position, left-right asymmetry or comparison to motion segments above or below the one in question can sometimes be amplified by simply asking the patient to raise their head while the examiner palpates. This action activates the

... engaging the patient with certain movements can help isolate the tissues we are assessing and lower the palpatory noise to assist our assessment ...'



spine's extensors. A head lift of just a few degrees can be used when palpating the cervical spine. Lifting the head further (consistent with patient tolerance, of course) will activate the extensors throughout the spine.

The long extensors such as the *erector spinae* cross many motion segments and are therefore of little use in segmental assessment. However, some of the smaller deep spinal muscles are synergists with the larger extensors, including the *multifidus* and *rotatores*. These are controlled by adjacent spinal nerves. If a subluxation is disturbing spinal nerve function to a sufficient degree to inhibit these deep extensors or render them hypertonic, that can make the related motion segment stand out in comparison to the one above or below. If, as is often the case, the spinal nerve disturbance is asymmetrical, one side of the vertebra will have palpably more muscle contraction than the other. This will be accompanied by a rotational and/or lateral flexion malposition of that segment.

#### Example

A 67-year-old music teacher presented for a well visit. She had no particular aches or pains. On palpation, I thought the tissue around the left mamillary of L1 was more hypertonic than the right, but the difference was somewhat ambiguous. I asked the patient to raise her head. When I re-checked, the palpatory ambiguity was gone, and the adjustment proceeded smoothly.

A version of 'heads up palpation' can be performed with the patient in the sitting position. With one hand, the examiner offers resistance as the patient gently extends their neck. The examiner's free hand palpates. I usually find the prone position less awkward for heads up palpation, but it's good to have the sitting option.

Fig 1: Rotatores

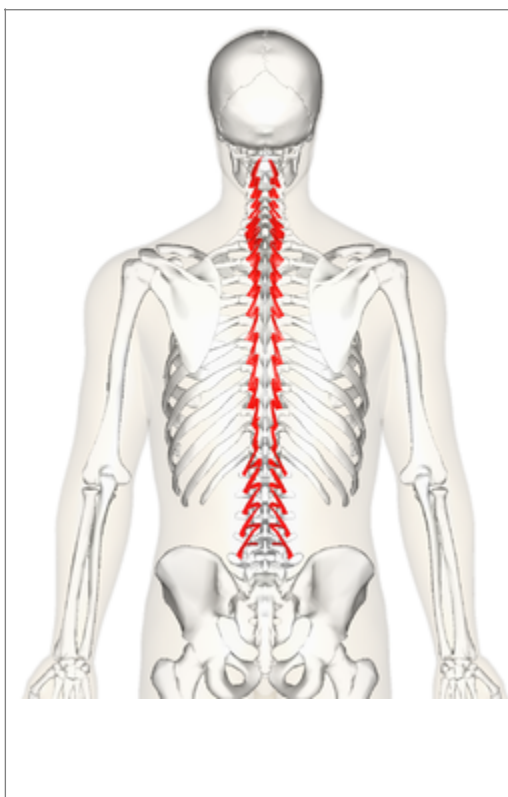
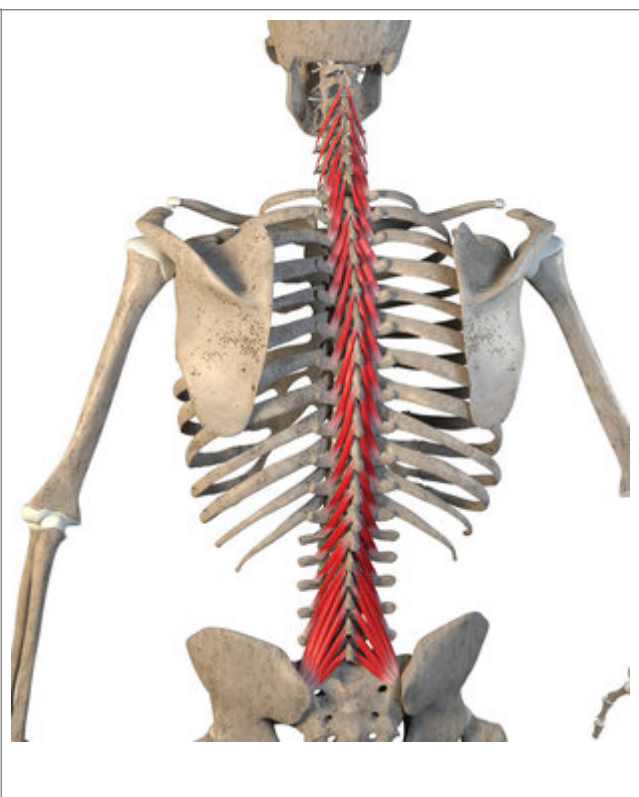


Fig 2: Multifidus



## Inspiration Palpation

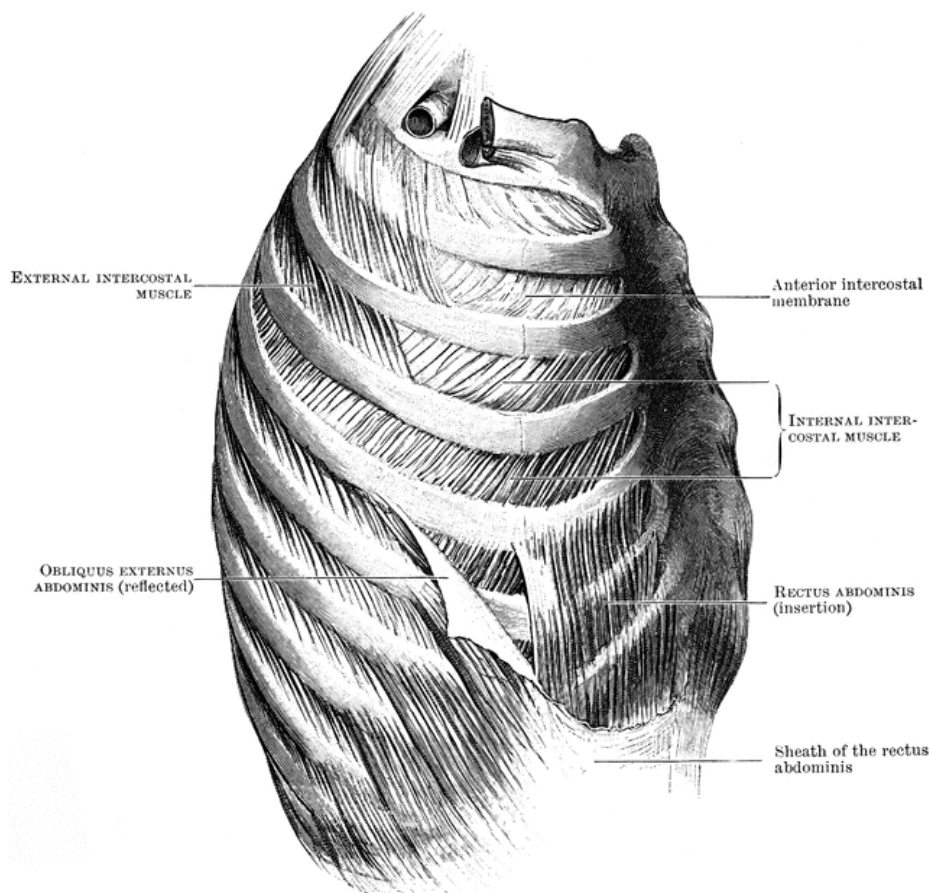
The *external intercostal* muscles are controlled by adjacent thoracic spinal nerves. Nerve dysfunction related to subluxation would be expected to cause one or both *external intercostals* to become hypotonic or hypertonic. As these are muscles of inspiration, taking in a deep breath would tend to activate them. This could help clarify thoracic palpation.

### Example

An 80-year-old retired computer programmer presented to resume chiropractic care after a four-month hiatus. She was previously discussed in a long COVID case report. (2) While palpating the T2-T3 motion segment, there seemed to be greater tissue tension on the left than the right. However, this patient carried a great deal of upper thoracic tension that day, rendering the finding somewhat ambiguous. When the patient took a deep breath in, tissue around the left transverse process of T2 stood out in clear relief.

Inspiration palpation can be intensified by asking the patient to inspire forcibly through pursed lips, as if sucking the air in through a straw. This forced inspiration will create a more robust contraction of the external intercostal muscles. However, for patients with emphysema forced inspiration can carry a risk of alveolar damage.

Fig 3: Intercostals



## Dynamic LOREX

In a previous paper, I discussed the observation of lower rib excursion (LOREX) as an indirect outcome measure related to the diaphragm. (3) The lower ribs move superiorly and laterally during diaphragm contraction. Lack of this movement or left-right asymmetry in this movement may indicate diaphragmatic distress.

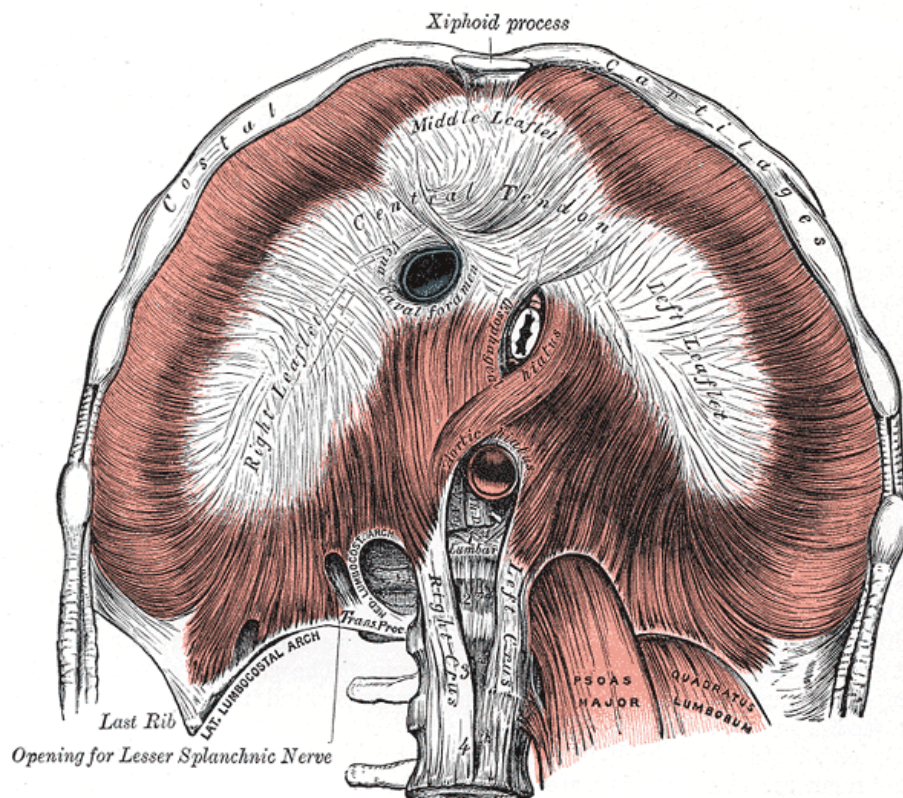
As discussed in the aforementioned paper, the diaphragm can be affected by subluxation at many levels. Abnormal LOREX can also be an indication of *quadratus lumborum* dysfunction or costovertebral hypomobility, among other possibilities. Therefore, LOREX by itself does not direct the examiner to a particular motion segment. It is useful as an outcome measure, with normalisation of lower rib mechanics being a favourable result. However, a recent patient encounter suggests that checking LOREX in various spinal postures may yield more focused information.

### Example

A 58-year-old administrator for a non-profit organisation presented for a wellness check. He stated he was 'fighting a cold or something'. Other than that, he reported no pain or distress. I had the patient stand with his back toward me. After placing my hands around the patient's lower ribs and bringing my thumbs as close as possible at his back, I asked him to take a deep breath in. Palpation and visual observation revealed markedly reduced LOREX on the right side. I asked him to turn his head to the right; there was no noticeable change in rib excursion. I asked him to turn his head to the left. This time, the ribs were almost equally mobile on both sides.

Since most cervical rotation takes place in the upper cervical spine, I reasoned that there was likely to be a subluxation in that region. Palpation in the sitting position revealed a left rotational malposition of C2.

Fig 4: Diaphragm



In a previous paper, I presented several cases in which the use of a tuning fork was helpful in assessing the patient. (4) One method I described involved placing a vibrating tuning fork at various points on the skull. The patient is asked to state if the sense of vibration feels centred at the place where the tuning fork touches, or if the sense of vibration seems to 'leak' to the left or right. I have found the external occipital protuberance, the posterior fontanelle, the anterior fontanelle, and the glabella to be convenient points to use for this '*leaky vibe*' test.

Like the LOREX test, the *leaky vibe* test by itself is a general outcome measure, with centring of vibration sense as a favourable result. Sensory innervation to the external skull and face is primarily via the trigeminal nerve and branches of upper cervical spinal nerves. Therefore, if acute skull injury, scar tissue from previous injury, or CNS disorder is ruled out, asymmetrical perception of vibration raises the examiner's suspicion of an upper cervical subluxation and/or a cranial fault. By itself, *leaky vibe* does not distinguish one from the other.

However, one of the patients discussed in that previous paper felt the vibration '*leaking*' to the right side of the vibrating tuning fork when placed on her anterior fontanelle. When asked to give the right inferior shelf of the occiput a gentle lift, the perception of vibration centred.

On palpation and manual muscle testing, a right occipital adjustment was indicated. In this instance, the *leaky vibe* test was an integral part of the chiropractic analysis, in that it clearly pointed to an atlanto-occipital subluxation.

### Conclusion

Any observation that indicates a problem with neurological and/or biomechanical function can potentially aid the Chiropractic analysis, or at least serve as a useful outcome measure. I strongly suspect the profession has yet to develop all of the possibilities in Chiropractic assessment. Some of these will undoubtedly exploit the power of developing technologies.

Other methods, such as those discussed in this paper, are quite accessible to any competent Chiropractic practitioner regardless of their level of technological sophistication. I would suggest that methods in this category are easily explained, making them potentially useful for patient education, interprofessional dialogue, and communication with third party payors.

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### *About the author*

Dr Charles Masarsky has been in the private practice of chiropractic with Dr. Marion Todres-Masarsky since 1983. Their office is located in Vienna, Virginia, USA in the suburbs of Washington, DC. He also offers continuing education programs for chiropractic colleges and associations. For information about his practice or his CE programs, please e-mail [viennachiropractic@verizon.net](mailto:viennachiropractic@verizon.net).

Citations for Dr Masarsky's published papers are available at his website under 'about the doctors': [www.viennachiropractic.com](http://www.viennachiropractic.com).

Dr Masarsky writes a frequent feature in the *Journal* called 'The Wide Angle Lens' in which he takes a broader than usual perspective on one issue or another, and has contributed much on clinical aspects of COVID.

### *See more Wide-Angle Lens papers*

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### *Also*

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For others, search 'Masarsky' at [apcj.net](http://apcj.net) or go to [www.viennachiropractic.com](http://www.viennachiropractic.com).