

Alternate uses for the Tuning Fork: Doctor, test thyself

Charles S Masarsky

Narrative abstract: All Chiropractors will be familiar with the tuning fork and its usual purpose to assist making determinations about a patient's hearing abilities. Some may also be aware of its claimed use for identifying fractures in a long bone.

Here I describe three applications of the tuning fork vibrations to aid in narrowing my diagnostic approach in subtle presentations, being shoulder pain, temporal bulge cranial fault, and vertigo with a subjective sensation of 'floating'. In each case an adapted use of the tuning fork proved a useful diagnostic aid.

Indexing terms: Chiropractic; self reflection; tuning fork.

Introduction

In a previous column, I mentioned the '*alternate uses test*' which was originally developed to test creativity in children. (Wallach and Kogan, 1965) Essentially, the subject is asked to name as many possible uses for a common object in a set period of time.

For some reason, my attention lighted on my tuning forks one day. In an impromptu exercise, I decided to think about possible alternate uses for the tuning fork.

The tuning fork was originally invented in 1711 by musician John Shore. (Feldmann H, 1997) Although it was originally used to tune musical instruments as well as a musical instrument in its own right, it eventually found its way into the clinic. Most of you are probably familiar with screening tests for hearing developed during the 19th century by Ernst Heinrich Weber and Heinrich Adolf Rinne. In addition to the *Weber* test and the *Rinne* test, exacerbation of pain when the vibrating tuning fork is placed on bone has sometimes been used as an aid in locating fracture.

I tried putting the perception of tuning fork vibration to some alternate uses. I present these experiences as food for thought, not a finished set of clinical assessment protocols. While a frequency of 512 Hz or cycles per second (cps) is commonly used for hearing screening, I have found a tuning fork with a frequency of 128 Hz/cps superior for perception of vibration. Placing the vibrating fork on a location where bone is superficial to the skin is best, and the weight of the fork seems to be adequate pressure.

... our ability to think outside the box has, in this case, allowed 3 new applications of a tuning fork to assist clinical diagnosis ...'



The Non-Painful Side Revealed as the Problem

A 63y retired sales representative and travel agent reported pain in the right upper trapezius area and right arm for 2d. The pain originated when holding a phone in the right arm during a long phone call while holding her dog's leash with her left hand during a walk. She rated her pain intensity at '9' on a scale where '10' is the worst pain imaginable.

I asked her to place her hands palm down on her lap. I placed the vibrating tuning fork on her left index finger just proximal to the fingernail for about 1 second, then moved the fork to the right index finger, moving back and forth between the two for a few repetitions. She stated that the vibration felt equally intense on both. I then repeated the procedure for the middle fingers. She perceived much less vibration on her left middle finger.

On manual muscle testing, her wrist extensors were strong on the right, but inhibited on the left. Palpation verified the C6 dysfunction. In addition, palpation revealed T3 and T12 motion segment dysfunctions.

The identified segments were adjusted. On progress exam 2 days later, she rated her pain level as '1'. There was no longer a left-right difference in vibration sense at the C6 dermatome. The wrist extensors were strong on both sides. Palpation felt normal at C6 and T12, with some residual dysfunction at T3.

Although I had not previously used the tuning fork for dermatome testing, it is not an entirely new idea. In fact, some researchers have found that testing vibration is more accurate than using the pinwheel, brush, cotton balls, or hot and cold test tubes. A somewhat elaborate protocol, the '*clanging tuning fork test*', has been shown to be useful in monitoring diabetic peripheral neuropathy. (Oyer, Saxon and Shah, 2007)

Occipital Challenge Using Tuning Fork

A 76y retired journalist reported discomfort and a '*tingling*' sensation at the right occipital area, with some radiation down the right side of the neck. This had been going on for several days and was disrupting the patient's sleep. She rated her discomfort at '6' on the 10-point scale described above.

I placed the vibrating tuning fork at the patient's anterior fontanelle, and asked her if the vibration felt centred, or did it feel stronger on one side. She indicated stronger sensation to the right of the tuning fork. I guided her hand to the inferior shelf of the occiput and asked her to give it a gentle lift. The vibration no longer lateralised to the right.

Based on palpation and manual muscle testing, the right occiput, T2, and L3 were adjusted, as well as an anteriority at T6. The occipital-mastoid suture on the right was decompressed using respiratory assist adjusting. Respiratory assist adjusting was also administered for a temporal bulge cranial fault. Manual stimulation of the yin tang acupuncture point and gentle traction of the suboccipital muscles were administered. The patient reported substantial relief.

Tuning Fork Challenge with a Vertigo Patient

A 30y cable technician formerly employed as a massage therapist complained of one week of vertigo episodes. These were most often triggered by riding up in an elevator. She stated that an episode '*feels like I'm floating*'. She also felt a sensation of '*pressure*' in her left ear. She denied neck pain or discomfort in the chest. She stated that similar vertigo episodes had been taking place occasionally during the past 8 years, and medical evaluation had not identified a cardiovascular cause.

During *Weber's* test, the sound lateralised to the right ear. *L'Hermitte's* test was negative. Reverse digit span was 4, which is slightly deficient short-term memory for an adult of normal

intelligence. Gazing left and up was uncomfortable, and caused a previously intact muscle to become inhibited, a finding known in Applied Kinesiology as '*ocular lock*'.

Tuning fork testing at the external occipital protuberance, the posterior fontanelle, and the anterior fontanelle all produced a sensation of vibration centred on the tuning fork. However, when the tuning fork was placed at the glabella, the vibration sense was more intense on the right. On Applied Kinesiology challenge (manual testing of a muscle before and after test pressures at an articulation), an expiration assist cranial fault was noted.

In addition to the expiration assist cranial fault, the temporomandibular joint, the left sacroiliac joint, and T3 were adjusted. Soft tissue reflex work (neurolymphatic stimulation) was performed for the left *piriformis* and left *sternocleidomastoid* muscles. Yin tang stimulation and suboccipital muscle traction were administered.

After the adjustment, the tuning fork was applied to the glabella. The patient exclaimed, '*It's centered!*' I joined the patient for a brief trip up and down in the elevator in the building where my office is located. She experienced mild vertigo on the way up, and when the elevator '*bounced*' at the end of the trip. However, she said the vertigo was much milder than at presentation.

Conclusion

Based on the limited experiences I have reported, it seems that symmetry of asymmetry of vibration sense on the cranium may be a useful outcome measure for cervical subluxation and cranial faults.

The use of vibration sense may sharpen the assessment of the dermatomes as well.

Charles S. Masarsky

DC

Private practice of chiropractic, Vienna VA

viennachiropractic@verizon.net

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References

Feldmann H. History of the Tuning Fork. I" Invention of the tuning fork, its course in music and natural sciences. *Laryngorhinootologie*, 1997; 76(2): 116-122. Abstract: <https://pubmed.ncbi.nlm.nih.gov/9172630/>

Oyer DS, Saxon D, Shah A. Quantitative Assessment of Diabetic Peripheral Neuropathy with Use of the Clanging Tuning Fork Test. *Endocrine Practice*, 2007; 13(1): 5-19. Abstract: <https://pubmed.ncbi.nlm.nih.gov/17360294/>

Wallach MA, Kogan N. *Modes of Thinking in Young Children: A Study of the Creativity Intelligence Distinction*. Holt, Rinehart, and Winston, New York, 1965.

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.

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.

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Masarsky CS. The laboratory, outside and inside [The wide-angle lens]. *Asia-Pac Chiropr J.* 2023;4.1. apcj.net/papers-issue-4-1/#MasarskyLaboratory.

Also

Masarsky CS, Todres-Masarsky M. Long Haul COVID-19 and Subluxation: A case report. *Asia-Pac Chiropr J.* 2022;2.6. apcj.net/papers-issue-2-6/#MasarskyLongCovid

Masarsky CS, Todres-Masarsky M. Long COVID Hyposmia/Parosmia and subluxation: A case report. *Asia-Pac Chiropr J.* 2022;3.2. apcj.net/Papers-Issue-3-2/#MasarskyHyposmia.

Masarsky CS, Todres-Masarsky M. Long COVID: A Risk Factor for Scoliosis Incidence and Exacerbation? [Hypothesis] *Asia-Pac Chiropr J.* 2023;3.3. apcj.net/Papers-Issue-3-3/#MasarskyLongCovidScoliosis.

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