

myofascial techniques

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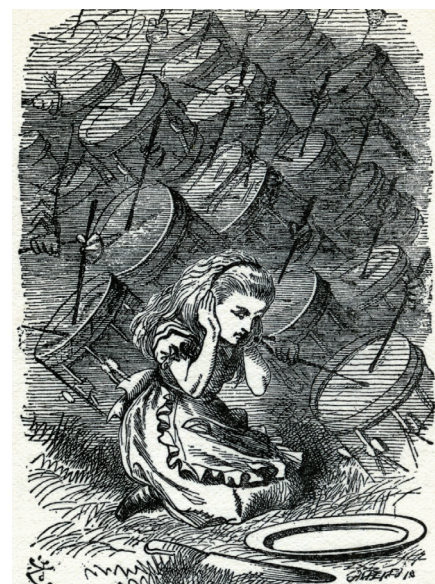
The veins, arteries, and nerves of the head are all involved in migraine pain. The role that each of these structures plays in the causation of migraines is disputed, however. *Images courtesy of Primal Pictures. Used with permission.*

WORKING WITH HEADACHES, PART 2

Understanding Migraines and Vascular Headaches

What is a migraine? Good question. We don't quite know what causes migraine headaches, but we know how to recognize one. Although many people will call any severe headache a migraine, some of the distinguishing characteristics of true migraines are that they

- 1) tend to primarily affect one side of the head;
- 2) throb or pulse;
- 3) recur after pain-free intervals;
- 4) and, are almost always accompanied by either nausea, photophobia (light hypersensitivity), phonophobia (sound hypersensitivity), or aura (visual disturbances).



Visual disturbances and/or hypersensitivity to sound are two of the distinguishing characteristics of migraines. Left: Migraine, Helen Donis-Keller, 2003. Digital/graphite. www.helendonis-keller.com. Used with permission. Right: an illustration by John Tenniel from Louis Carroll's *Through the Looking Glass*. Carroll himself suffered from migraines.

Migraines vary a good deal in their severity and accompanying symptoms, and are sometimes “commingled” with tension/musculoskeletal headaches. However, in the absence of head injuries or other medical conditions, chances are very good that your client is dealing with a migraine or vascular-type headache if your client reports the four signs listed above. Since migraines respond differently to hands-on work, being able to recognize migraines and vascular headaches will make your interventions more effective.

This article continues the discussion begun in “Working With Headaches, Part I: Musculoskeletal Headaches” (*Massage & Bodywork*, July/August 2010, page 110). In this installment and Part 3, I'll explain hands-on techniques from Advanced-Trainings.com's Advanced Myofascial Techniques seminars that we have found particularly effective for relieving and preventing vascular headaches and migraines. Here, our focus will be on understanding and recognizing migraines and cluster headaches.

VASCULAR, OR NOT?

Even though we can recognize and work with migraines, their root cause is disputed and only partially understood. Brain tissue itself is insensitive to pain, so until recently, the severe pain of migraines was thought to originate from dilation and stretching of the brain's blood vessels (which do register pain) and from the resulting pressure to the sensitive meninges and other tissues within the cranium.

Vascular dilation (vasodilation) was thought to be the cause of migraines as early as the 1700s. Brain scans have confirmed that vasodilation is in fact associated with many migraines, and an increase in blood flow of up to 300 percent, but only before a migraine. During the headache itself, blood circulation in the brain is normal, or even slightly reduced.¹ These findings cast doubt on vasodilation as the main cause of migraines. The results may, however, explain the observations of some migraine sufferers that, if applied early enough, ice on the occiput or ice cream held on the palate can slow or stop the progression of a headache, since cold is a vasoconstrictor. Prescription drugs for migraines commonly contain vasoconstrictors,² and anecdotal evidence suggests caffeine (also a vasoconstrictor) can help stop a migraine's progression, if used at the first sign of symptoms.³ However, these and other remedies that rely primarily on correcting vascular dilation produce only limited success, suggesting that there are other mechanisms at work in addition to vasodilation.



The trigeminal nerve and the brain stem, two of the neural structures implicated in both migraine and cluster headache pain. Image courtesy of Primal Pictures. Used with permission.

Women get migraines more often than men, especially around times of hormonal change; up to 28 percent of all women will have migraines at some point in their life.⁴ Studies of twins suggest that genetics has a 60–65 percent influence on the likelihood of getting migraines.⁵ Stress, injuries, certain foods, and a long list of environmental triggers have all been implicated in migraines as well.⁶ The currently accepted view is that migraines are primarily a nervous system disorder, with a complex interplay of genetic and environmental contributors, comparable to the way that both genetics and environment contribute to conditions such as diabetes or high blood pressure.

Recent research suggests that migraines start as waves of nerve cell hyperactivity sweeping across the brain; the spreading waves in turn activate pain-signaling neurons in the brain stem.⁷ The root cause of these neuro-electrical “brain storms” of abnormally increased activity is unknown. The hyperactivity is followed by inhibited nerve cell excitability; the cells seem to be worn out, and this exhaustion may explain difficulty speaking or thinking clearly after migraines.



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There may be other neurological factors as well. A 2007 study at Harvard Medical School showed differences in migraineurs' physical brain structure. In the long-term migraine sufferers studied, the area of the somatosensory cortex corresponding to the trigeminal nerve (which supplies the head and the face) was thicker than normal.⁸ It is unclear whether this is a cause or an effect of migraine pain, but the authors of the study suggest that the sensory cortex's differences may help explain why some migraine sufferers also experience back pain, jaw pain, skin sensitivity, and other sensory problems along with their headaches.

CLUSTER HEADACHES

Cluster headaches may be among the most painful experiences known. According to mothers who experience cluster headaches, they can surpass even the pain of childbirth.⁹ Characterized by unilateral, sudden, and severe eye, face, or orbital pain, they can last from 15 minutes to three hours. They tend to recur in clusters of activity, interrupted by pain-free periods; hence their name. They are also known as "suicide headaches," due to their severity. Cluster headaches are less common than migraines, with about 1/25th the number of "clusterers" as migraineurs.¹⁰ Like migraines, cluster headaches have a vascular component, as dilation of cranial blood vessels is thought to put pressure on the trigeminal nerve. Also like migraines, the underlying cause of cluster headaches is unknown, but hormones, neurotransmitters, and abnormal hypothalamus activity are suspected factors.

Cluster headaches have a vascular component, as dilation of cranial blood vessels is thought to put pressure on the trigeminal nerve.

Some cluster headaches are relieved by fresh air, or by vigorous aerobic exercise (which can worsen a migraine); increased oxygenation is the suspected mechanism. Probably because of the trigeminal nerve relationship, hands-on work around the zygomatic arches (through the upper cheek, or intraorally), or careful but firm pressure directly on the rim of the orbit, can both be welcome first-aid measures. In terms of other hands-on techniques, cluster headaches can be addressed like migraines, in accordance with the intentions and techniques I'll describe in the next installment. **m&b**

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NOTES

1. D. W. Dodick and J.J. Gargus, "Why Migraines Strike: Biologists are Finally Unraveling the Medical Mysteries of Migraine, from Aura to Pain," *Scientific American Magazine* (August 2008): 56–63.
2. The fact that vasodilation happens only before a migraine may also explain why hands-on work with the suboccipital muscles can sometimes worsen migraine pain, and at other times relieve it. Since working the suboccipitals may further increase cranial blood flow, it could exacerbate any symptoms related to vasodilation; but since vasodilation doesn't accompany all migraines—and if it does, seems to occur only before the pain begins—there are times when suboccipital work would be relieving instead.
3. Although caffeine reportedly helps some migraineurs if used early enough, others report fewer migraines when regular caffeine use is discontinued.
4. L.J. Stovner et al., "Epidemiology of Headache in Europe," *European Journal of Neurology* 13, no. 4 (April 2006): 333–45.
5. M. Gervil et al., "The Relative Role of Genetic and Environmental Factors in Migraine Without Aura," *Neurology* 53, no. 5 (September 1999): 995–9.
6. Documented migraine triggers include alcohol, dehydration, physical exertion, menses and hormone fluctuations, physical or emotional stress, strong odors, flashing lights, weather changes, allergies, sleep deprivation, hunger, fluorescent lights, and tension headaches. D. Kantor, "Migraine," *MedlinePlus Medical Encyclopedia*. Available at www.nlm.nih.gov/medlineplus/ency/article/000709.htm (accessed June 2010).
7. D. W. Dodick and J.J. Gargus, "Why Migraines Strike: Biologists are Finally Unraveling the Medical Mysteries of Migraine, from Aura to Pain."
8. F.M. Alexandre et al., "Thickening in the Somatosensory Cortex of Patients with Migraine," *Neurology* 69 (November 2007): 1990–95.
9. M. Matharu and P. Goadsby, "Cluster Headache—Update on a Common Neurological Problem," *Practical Neurology* 1 (October 2001): 42–9.
10. M. Fischera et al., "The Incidence and Prevalence of Cluster Headache: A Meta-Analysis of Population-Based Studies," *Cephalalgia* 28, no. 6 (June 1, 2008): 614–618.