NATURAL AND DRUG-FREE WAYS TO END YOUR MIGRAINES

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ORLANDO SPINE CENTER

INTRODUCTION

Thank you for downloading this e-book and I hope that you will find practical and actionable information to help you find hope and healing. My name is Dr. Jason Nitzsche, and I have been helping people with migraine and other headaches find natural and drug-free relief for many years.

Most people cannot appreciate the devastating impact of migraines. Migraine headaches disrupt every aspect of life since you lose the ability to do anything normally, especially when movement is involved. It can totally incapacitate you, often confining you to bed.

Many people who have some form of illness or chronic pain that has plagued them for years have had numerous doctors' visits and promises, often without long-term results. Unfortunately there is no magic bullet or pill that will simply heal you! The realization of this has led many people to our door.

The process of getting well requires a doctor that is willing to get to the cause of the illness and/or pain and not just mask the problem with meds; a doctor that understands how to reverse years of degeneration; and lastly, a doctor that can create a success plan incorporating ALL of the fundamental facets of health care, not just one. TRUE healing has occurred when you get your body back to the place it once was (or maybe even better) before you acquired the troubles you have today! Yes, that is possible but it takes hard work and consistency.

The fundamentals of upper cervical care re–empower the nervous system so that you can heal properly. It is truly a "miracle" system when done to its fullest potential but it is not enough to create full health. Full health requires the adoption of a proactive healthcare model; doing what it takes to get healthy and stay healthy, not just treating symptoms. This includes a nervous system free of interference, good nutrition, regular exercise and plenty of rest. This recipe will remove the obstacle of "no hope". It is a success system that heals the ONLY effective way...from the "inside out". This is what we will explore in this e-book.

MIGRAINE OVERVIEW[1]

A migraine is not a disease, it is a Syndrome, or collection of symptoms

- 36 million American suffer from migraines
- 14 million Americans experience migraines on a DAILY basis
- 1 in 4 households includes someone with Migraines
- Migraines rank in the Top 20 of the World's Most Disabling Medical Illnesses
- 10% of school-age children suffer from Migraines.

The Migraine Research Foundation describes a migraine as "an extremely debilitating collection of neurological symptoms that usually includes a severe recurring intense throbbing pain on one side of the head (although in 1/3 of migraine attacks, both sides are affected).

Attacks last between 4 and 72 hours and are often accompanied by one or more of the following: visual disturbances, nausea, vomiting, dizziness, extreme sensitivity to sound, light, touch and smell, and tingling or numbness in the extremities or face.

Of course, everyone is different, and symptoms vary by person and sometimes by attack"

While most people consider migraines to be solely the result of changes in blood- flow between the head and neck, modern imaging has shown that circulation is only part of the problem. Changes in the nerves in, and around the head and neck are also essential in understanding migraines.

Migraines are neurovascular headaches. Neuro=nerves. Vascular=blood vessels. Migraines involve both. What is the connection?

Some people are more vulnerable to develop migraines than others. Part of the vulnerability is based on family traits.

Can someone improve or worsen their vulnerability?

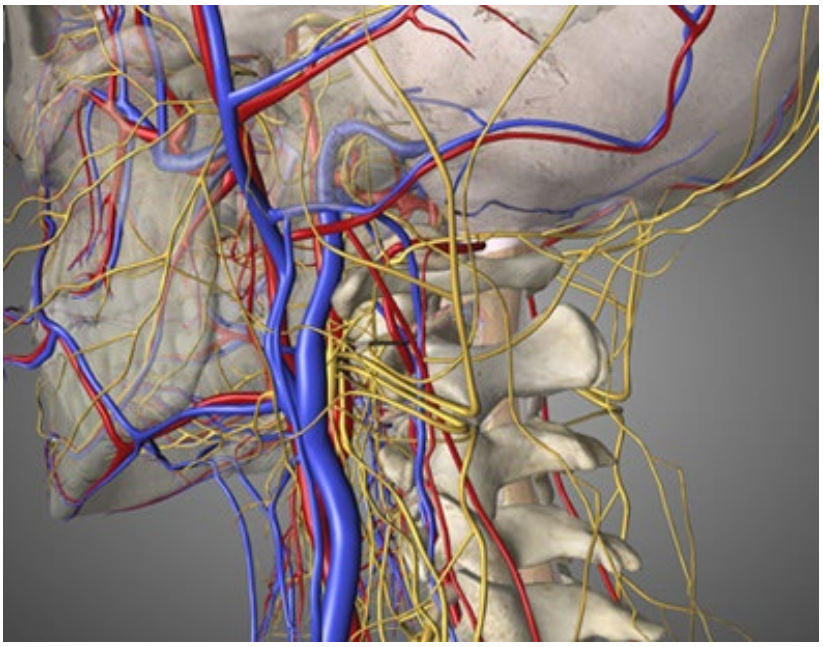
[1] http://www.migraineresearchfoundation.org/about-migraine.html

Blau JN. Migraine: theories of pathogenesis. Lancet. 1992;339:1202-1207.

THE HEAD AND NECK

In order to understand migraines, one has to understand where they live: the head and neck.

The Head and Spine



The head and spine are composed of 55 different bones, which house and protect the brain and spinal cord.

There are 22 bones in the face and skull, and 33 bony rings in the spine called vertebrae. There is a large hole at the base of the skull (foremen magnum) that aligns with the rings of the upper neck to create an armored tunnel around the lower brain (brainstem) and spinal cord.

The junction between the head and spine is called the Upper Cervical Spine (also known as the Craniocervical Junction, or the Occipitoatlantoaxial Joint Complex).

The Upper Cervical Spine

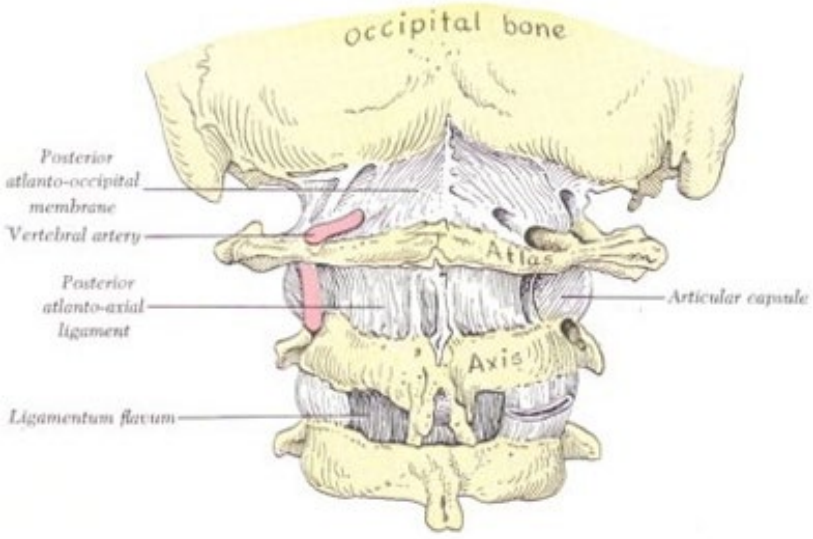
The junction between the head and spine is a complex system made up of the base of the head and the first two vertebrae of the neck, or cervical spine.

The first vertebra is called the Atlas Bone. This is a ring-like bone weighing an average of 2 oz. It is named after the mythic god Atlas, who held up the world on his shoulders. Likewise, the Atlas bone holds the weight of the head, and acts as a gate-keeper for all of the structures and fluids which travel in and out. [2]

[2] http://www.americanheadachesociety.org/assets/1/7/NAP_for_Web_-_Pathophysiology_of_Migraine.pdf

The second vertebra is called the Axis Bone, and is another key vertebra. The axis allows extraordinary movement of the head and neck, while anchoring many important muscles and ligaments supporting the head.

The upper cervical spine is unique, in that it is the most moveable part of the spine, the most neurologically sensitive part of the spine, and yet the most vulnerable to injury. Small injuries to this area can affect the sensitive structures traveling to and from the brain.



The Meninges

The brain and spinal cord is wrapped in 3 layers of soft coverings called the meninges.

The innermost covering is called the pia mater, followed by the arachnoid mater, and lastly by the dura mater.

The 3 Highways: Nerve flow, Blood flow, CSF flow

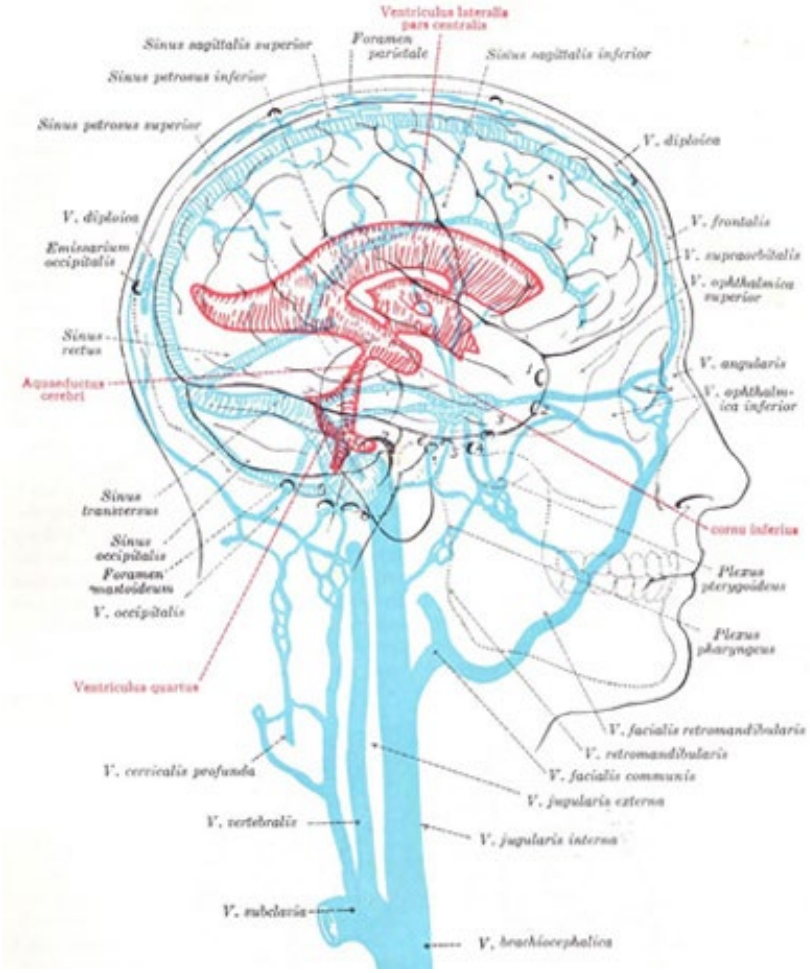
There are three main types of communication between the head and the spine. These highways are interconnected, and disruptions to one may affect the others.

Nerve flow: nerves conduct electrical messages to and from the brain and spinal cord. Nerves are organized much like a tree. The majority of nerve flow travels through the

"trunk" or spinal cord. From there, nerves "branch" out to the rest of the tissues in the head and neck.

Blood Flow: there are two major roads into the head, and one major road out. The Carotid Arteries carry blood into the front of the brain, and the Vertebral Arteries carry blood into the back of the brain. The Jugular Veins are the main vessels that carry blood out of the brain, back to the body.

CSF Flow: Cerebrospinal fluid circulates within and around the brain and spinal cord, protecting it from injury and circulating important chemicals. Proper CSF flow is necessary for proper brain function.



Trauma

An article in the Migraine Trust ("Post Traumatic Headaches") states

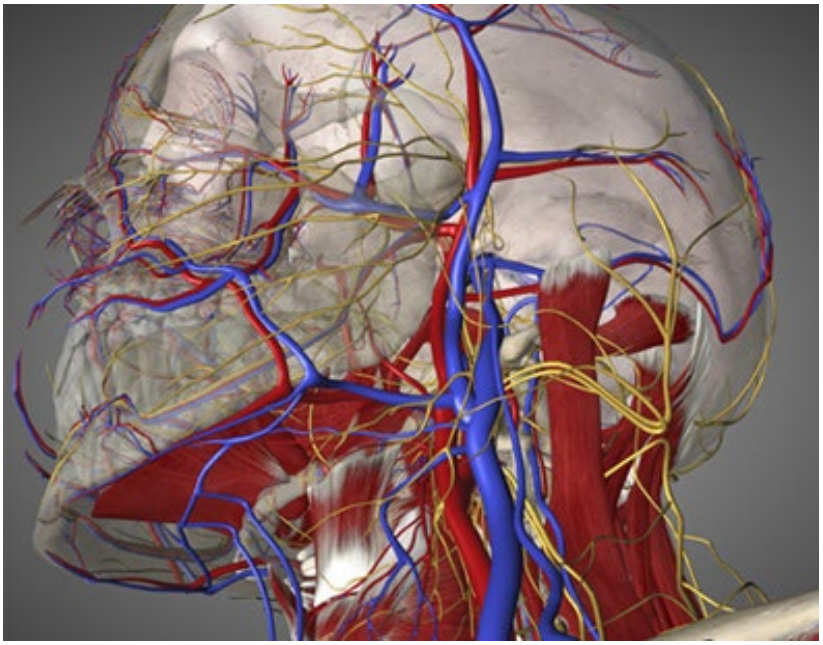
"Trauma can exacerbate a pre-existing headache condition or it can bring on a headache in someone who has never experienced one before."

However there are two systemic reasons as to why migraines are not more commonly associated with trauma.

1. The first reason is the medico-legal implications of such a diagnosis. This means that liability by individuals and insurance companies could potentially skyrocket if life-long migraines were linked to a particular fall or accident.

The same article goes on to say "…There are significant controversies regarding post traumatic headache, particularly when there are medico-legal implications. In the adversarial legal system…, it is common for post traumatic headaches to be dismissed (either as malingering or attempts to gain compensation"

2. The second reason is the strict definition of a post-traumatic headache. In order for a headache to be defined as "post traumatic," it has to begin within 7 days of an injury. This severely limits what can be called "post traumatic" and further shrouds the connection between migraines and trauma.



This common bias is beginning to change however. One example is how retired NFL players are currently suing the NFL for symptoms including delayed onset post traumatic migraines, which have occurred years after the initial injuries. This is further supported by advances in MRI imaging which can see structural changes to the head and neck in patients occurring years after the initial injury.

Dozens of case studies, and this author's clinical experience, show that chronic headaches and migraines can occur years after an initial trauma.

Examples of Trauma

- Birth Trauma: mild, moderate, and severe
- Falls as a baby or toddler
- Child abuse
- Contact Sports (Football, Hockey, etc)
- Sports Injuries (concussions, hits to the head, whiplash)
- Auto Accidents
- Skiing, Snowboarding, etc.
- Fights, battery, etc. [3]

[3] Russell, M.B. and Olesen, J. (1996), Migraine associated with head trauma. European Journal of Neurology, 3: 424–428. doi: 10.1111/j.1468-1331.1996.tb00243.x
http://ihs-classification.org/en/02_klassifikation/03_teil2/05.00.00_necktrauma.html

Familial Predisposition

It is well accepted that migraines tend to run in families. What is not well understood is how?

Some researchers look at the microscopic level, pointing to genetic changes in the nerves and neurotransmitters of the individuals.

Other researchers are beginning to look at the anatomical and physiological level, pointing to genetic similarities in the shape of the vessels, bones, and other anatomical structures.

I have seen hundreds of migraine cases, I have seen such a high success rate following changes to the anatomic positioning of the structures of the head and neck. If migraines were solely based on genetics, there would be no hope of improvement by addressing the anatomical positioning of the head and neck. I believe more study should be focused on the anatomical and physiological tendencies within families to better understand this phenomena. [4]

[4] A review of the literature refuting the concept of minor impact soft tissue injury (mist), Centano C. J., Et Al., Pain Research and Management 2005

Medical Symposium Organized by Fonar to focus on the Cranio-Cervical Syndrome – The Vulnerability of the human neck and it's impact on Cerebrospinal fluid (CSF) flow. March 28, 2013

[5] Honkasalo ML, Kaprio J, Winter T, et al. Migraine and concomitant symptoms among 8167 adult twin pairs. Headache.

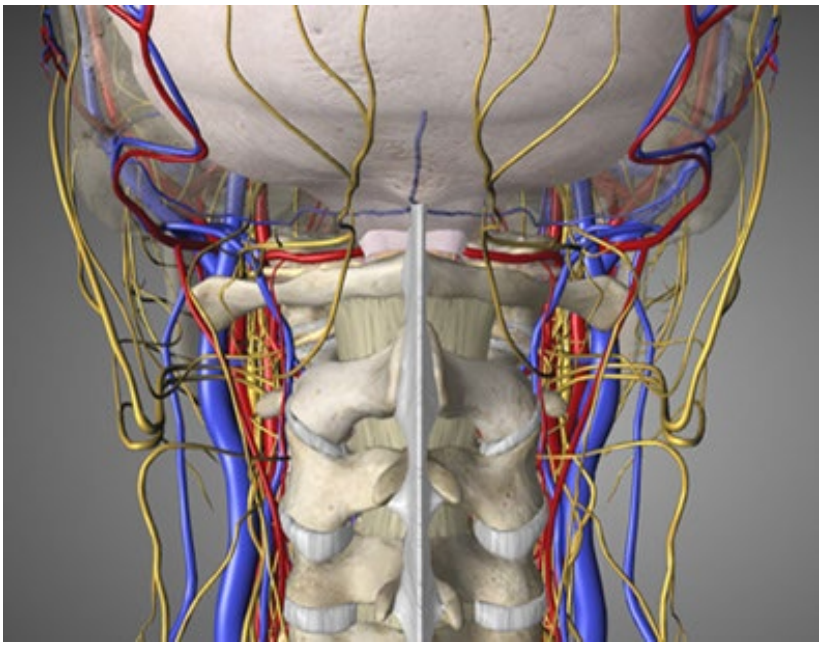
1995;35:70-78. 2.Ophoff RA, Terwindt GM, Vergouwe GM, et al. Familial hemiplegic migraine and episodic ataxia type-2 are caused by mutations in the Ca2+ channel gene CACNL1A4. Cell.1996;87:543-552.

STATISTICS

Migraines occur most often in:

- Women (18 percent of women compared to 6 percent of men)
- People between the ages of 35 and 55
- Lowest income groups
- Caucasian people

Migraine sufferers use 2.5 times the amount of prescription drugs and have six times as many diagnostic tests and services.



The average monthly healthcare costs for migraine sufferers is $145, while those who don't suffer from migraines pay an average of $89 per month.

91% miss work or can't function normally during migraine attack

More than 70% have a family history of migraine

70% of those in a Canadian study said migraines caused problems in their relationships

70% of all migraine sufferers are women

69% have consulted a physician at some time seeking treatment for migraine pain

63% have one or more migraine attacks monthly

59% missed family or social events

53% have severe disability requiring reducing activities or bed rest

51% said migraines cut in half their work or school productivity

Almost half of all migraine sufferers are have not been diagnosed

49% said they had to restrict activities for at least one day during a migraine episode

49% restricted their activities at least one day during migraine attacks

47% of people who have symptoms that meet the guidelines to be diagnosed with migraines thought they had a tension headache, sinus headache or another type of headache

31% missed at least one day of work or school in past three months

25% have one or more migraines a week

24% have gone to the emergency room because the migraine pain was so severe

6%saw a doctor at a hospital for a migraine in the past three months

- Throbbing, pulsating pain — 85%
- Light sensitivity — 80%
- Sound sensitivity — 76%
- Nausea — 73%
- Pain on one side — 59%
- Vision changes, blurred vision — 44%
- Aura — 36%
- Vomiting — 29%

The most common migraine symptoms reported by migraine sufferers are:

Note: these figures are from the American Migraine Study II of almost 4,000 migraine sufferers in 1999. http://migraine.com/migraine-statistics/

COMMON MEDICAL TREATMENTS

Triptan Drugs

It is believed that triptans treat migraine discomfort by relieving swelling and narrowing blood vessels. It is unknown exactly how they work to help stop a migraine attack.

The most common Brands include:
1. Imitrex (Sumatriptan)
2. Zomig (Zolmitripan)
3. Maxalt (Rizatriptan)

Side Effects include:
- **Tingling**
- **Feelings of Pressure**
- **Confusion**

More Serious Effects include:
- **Hallucinations**
- **Fast Heart Beat**
- **Muscle Spasms**
- **Trouble Walking**

Current Options for the Prevention and Treatment of Migraine; Clinical Therapeutics; Adelman 2001

Beta Blockers

These are commonly used to treat high blood pressure, but are also now prescribed for migraines because they may relax and open blood flow in the blood vessels.

The most common Brands include:
1. Propranolol (Inderal LA)

Side Effects Include:

- **Fatigue**
- **Nausea**
- **Insomnia, Nightmares**
- **Depression**
- **Weight Gain**
- **Memory Problems**

Antidepressants

The way antidepressants work to prevent migraines isn't known. Because neurotransmitters in the brain are associated with migraine attacks, it is believed that antidepressants impact their activity that might prevent migraines.

Most common Brands include:

- Elavil
- Norpramin
- Prozac
- Zoloft
- Lexapro

Chemical Drug Class:

- Monoamine oxidase inhibitors (MAOIs)
- Selective Serotonin Reuptake Inhibitors (SSRIs)

Side Effects Include:

- **Drowsiness**
- **Painful Urination**
- **Sexual Dysfunction**
- **Dizziness**
- **Headaches**

Serious Effects Include:

- **Suicidal Tendencies**
- **Aggressive Behavior**
- **Thoughts of Hurting Others**
- **Panic**

[6] http://www.umm.edu/patiented/articles/what_medications_tension-type_headaches_000011_7.htm

EXTERNAL ENVIRONMENT

The majority of articles and research studies focus on external triggers of migraines, rather than the individual's inherent ability to adapt to his or her environment.

The top external triggers of migraines include weather, stress/ sleep, and foods and chemicals.

a. Weather – According to a survey by the National Headache Foundation, specific weather triggers may include:

i. Temperature Changes
ii. High Humidity
iii. High Winds
iv. Stormy Weather
v. Extremely Dry Conditions
vi. Bright Lights and Sun Glare
vii. Barometric Pressure Changes

However, some objective studies do not show a consistent association between weather changes and migraines (the patient was unaware of changes in barometric pressure in these studies).

b. Stress/Sleep – Stress and lack of sleep are common published triggers of migraines.

Stress-induced migraines are common descriptors of migraines triggered by periods of high stress. Some researches suggest it could be due to a change in cortisol levels in the body, or rises in blood pressure. However it is still unclear as to the connection, or mechanism between stress and migraines.

One study showed the reduction of stress, following a stressful period, could also be a trigger of migraines.

Sleep-induced migraines are also widely reported. Some researchers point to Rapid Eye Movement (REM) sleep as a provoker of migraines. It is suggested that certain

7 Neurology Now:June–July 2013 - Volume 9 - Issue 3 - p 12–13
8 Headache 2009 Jun; 49(6): 941–52; http://1.usa.gov/ZFo5NB.
9 American Academy of Neurology: http://aan.com/guidelines

sleep patterns do not allow for the deepest stages of sleep (stages 3 and 4), which are necessary for the production of “feel good” chemicals called serotonin and dopamine, both neurotransmitters.

It is suggested certain people skip these deeper stages of sleep, thus not producing sufficient serotonin or dopamine and awaken following REM sleep with migraines.

c. Foods and Chemicals

Migraine.com conducted a survey of migraine sufferers to list the most common foods triggers.

1. Chocolate 75%
2. Cheese 48%
3. Citrus 30%
4. Alcohol 25%
5. Cured Meats
6. MSG
7. Aspartame and Artificial Sweeteners
8. Asian Foods
9. Coffee, Tea, Colas
10. Food Dyes

The mechanism for food triggers are also not well understood, yet stress hormones are also suggested as possible culprits.

It is important to note that some believe that food cravings are actually part of the migraine, which leads to eating certain non-typical foods.

[10] http://www.webmd.com/migraines-headaches/features/do-your-sleep-habits-trigger-migraines
[11] http://health.usnews.com/health-news/blogs/on-women/2008/02/27/first-i-get-stressed-then-i-get-migraines
[12] http://www.einstein.yu.edu/news/releases/993/migraine-attacks-increase-following-stress/
[13] http://migraine.com/migraine-triggers/food-and-drinks/

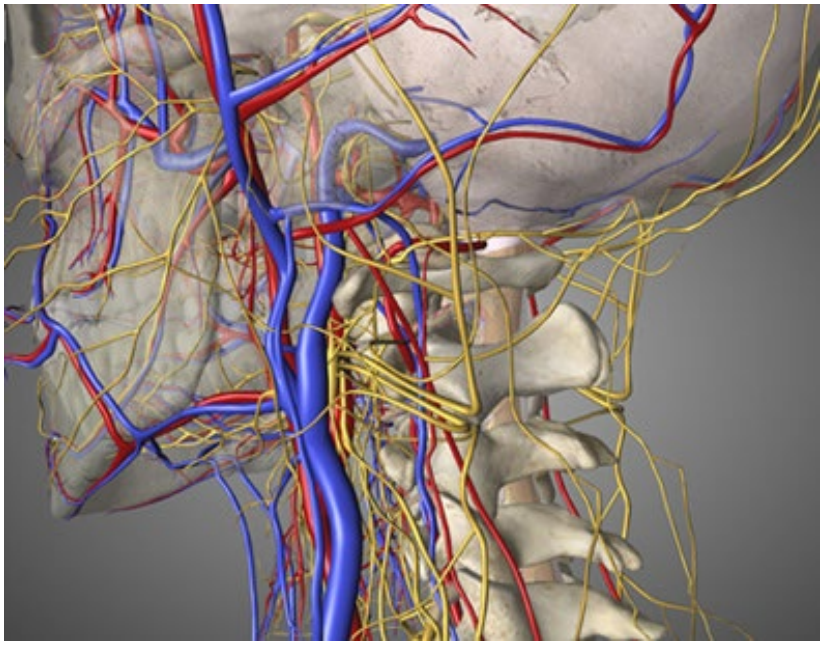
INTERNAL ADAPTABILITY

While the direction of research has been focused on finding genetic causes of migraines, and developing novel medications to counter-act the mechanisms of migraines, it is important to note the absence of very poignant questions.

Why is it assumed migraines are the result of genetic lottery or chemical imbalance?

Why are drugs studied more than any other form of therapy for migraines?

What is the financial reward for keeping research drug-focused?



Are there other areas of research worth pursuing?

One important area of focus is on the mechanical relationships in the body involved with migraines. By shifting away from chemical causes and effects, toward mechanical causes, researchers are beginning to gain valuable insight into this phenomenon.

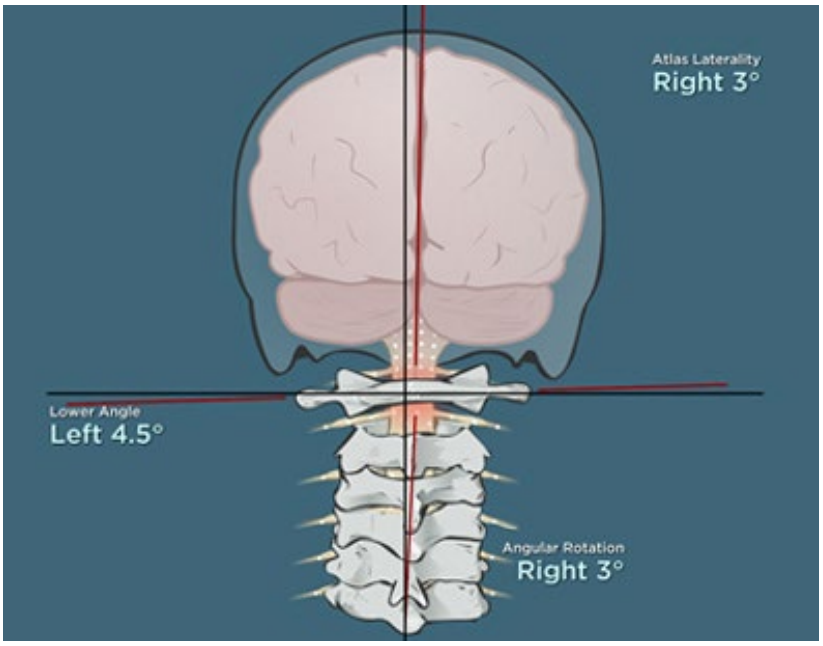
a. Head and Neck Communication

The human body is the most complex living organism on the planet. Yet, the head and neck is the most complex structure in the human body.

The human brain is called the “Final Frontier” because of it’s complexity, mystery, and central role in human life and function. However, it depends on an intricate and rich network of communication channels between it and the body in order to function properly.

[14] HINKLE LE, Jr., WOLFF HG. The Nature of Man’s Adaptation to His Total Environment and the Relation of This to Illness. AMA Arch Intern Med. 1957;99(3):442-460. doi:10.1001/archinte.1957.00260030124013.
Flanagan, M. The Downside of Upright Posture. Two Harbors Press. 2010.

It also relies on the housing (the head and neck) to be properly positioned, and properly mobile, in order to allow for proper brain function, and necessary travel of various fluids in and out of the head.



* The brain relies on a complex mechanism of fluid pressure changes in order to keep blood flowing to brain when going from lying-down to standing, respond to changes in barometric pressure, and respond to changes in blood pressure.

* The brain relies on a rich network of sensors (called proprioceptors and mechanoreceptors) throughout the body to give it the necessary information to be able to command the body to balance and move against gravity. A third of these sensors sit in the muscles between the head and neck.

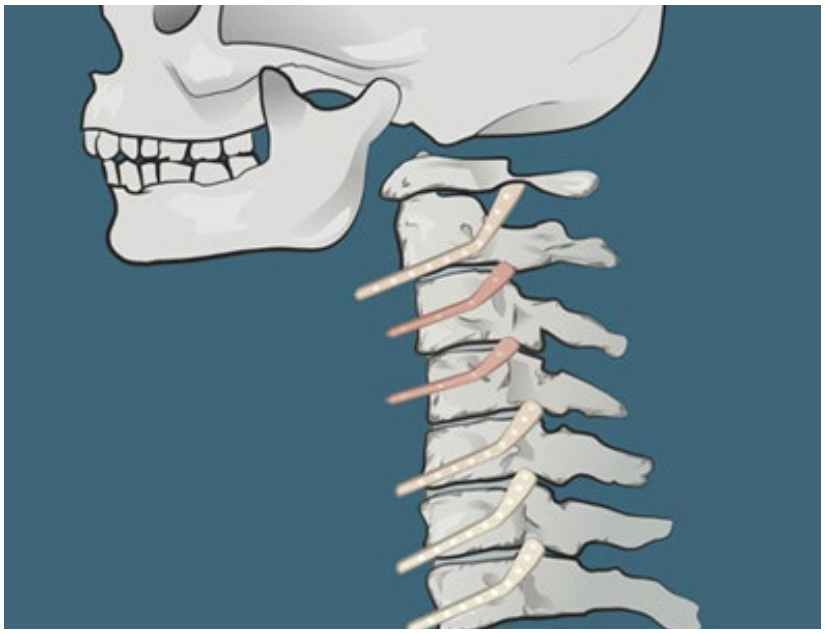
* The brain relies on the proper flow of cerebrospinal fluid to properly remove waste from the brain, and prevent the accumulation of waste particles called metabolites.

* The brain also coordinates pain sensation throughout the head, neck and face through a complex system called the trigeminal sensory system. This system is now widely accepted as the major system involved with the various migraine-related symptoms in the body.

Why is the anatomy and biomechanics important?

It is important because proper function depends on proper position and movement of the housing around the brain and spinal cord.
Some individuals are more susceptible to injuries to the housing around the brain and spinal cord. These injuries change the alignment of the head and neck structures, and can begin to disrupt the fluid dynamics to the brain, as well as the feedback mechanisms to the nerve centers in the brain.

What can result is the decreased adaptability of the body to changes in the internal and external environment.



- The brain cannot adapt to changes in barometric pressure

- The brain cannot adapt to changes in stress

- The brain cannot properly cycle through normal sleep patterns

- The brain cannot properly coordinate fluid pressure changes in blood flow

- The brain cannot properly modulate (control) pain signals throughout the body

- The brain cannot properly coordinate autonomic centers responsible for balancing the flight/flight and rest/digest mechanisms in the body.

b. Susceptibility
Some individuals are more susceptible to dysfunction and migraines based on their anatomy and biomechanics.

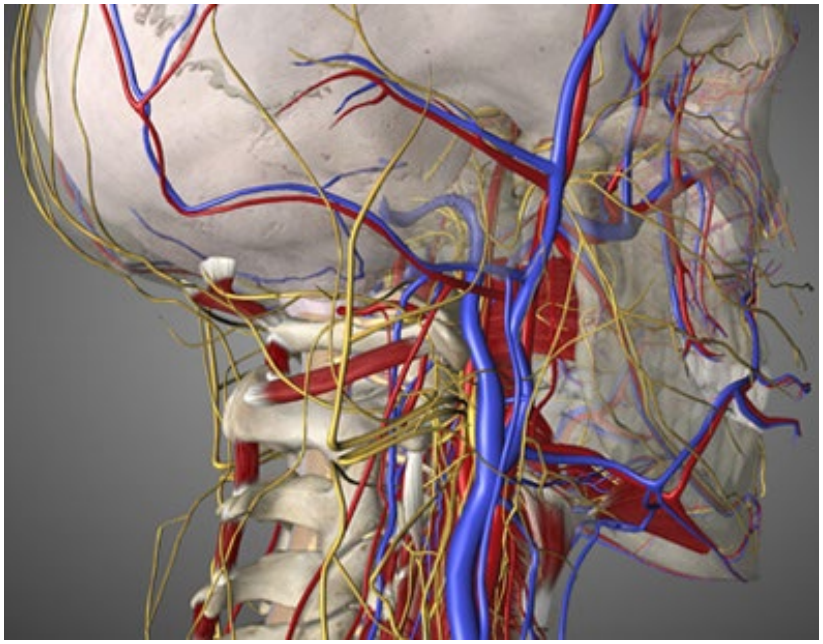
* Tight Spaces:
The same amount of furniture may fit fine in a large house in the country, yet be completely cramped in a small urban apartment.

Some individuals have larger “housing” around the brain and spinal cord which allows for greater adaptability to trauma and injuries. Others have smaller “housing” and thus experience much greater symptoms and dysfunction with even minor “traumas” to the head and neck.

15 http://www.wsj.com/articles/SB10001424127887323646604578405073343715596
16 Flanagan, M. The Downside of Upright Posture. Two Harbors Press. 2010.
http://www.urmc.rochester.edu/news/story/index.cfm?id=3584

- Lack of Re-enforcement
  Short, muscular head and necks are less susceptible to injury than long slender necks.

  Men have thicker bones and more muscles supporting the head and neck than women. This is why women also experience greater injury, and are more prone to chronic dysfunction following physical trauma or whiplash.



- Familial Tendencies
  Migraines definitely can run in families. However, some researchers are suggesting it may be the increased susceptibility to anatomical changes to the head and neck that influence migraine tendencies rather than purely genetic lottery which condemns them to lifelong migraines.

- Congenital Variations
  Certain variations including chiari malformations affect the shape of the head and neck and contribute to migraine susceptibility.

  The important observation made by clinical researchers and doctors suggests that genetic susceptibility is not the same as genetic determinism. People who are susceptible to increased dysfunction and migraines do not have resign to life-long migraines and medication.

c. Mapping the Head and Neck

It is possible to now map the changes to the head and neck following a trauma. The ability to map the positioning of the head and neck after an accident or injury has lead to advances in understanding brain function and migraines.

- Composite 3D Digital X-rays

  Much like a GPS image on your iphone can give you pinpoint accuracy in your location; composite 3D digital x-rays can now give precise information about the

positioning of the head and neck following a trauma. The ability to measure and detect changes to the housing around the brain and spinal cord following a trauma can give life-changing insight to a migraine case, even decades after the initial trauma.

The complex relationship between the head and neck following a trauma has been labeled the Atlas Subluxation Complex (or ASC). Injuries can cause over 10,000 different variations of head and neck displacement, leading to altered physiological function.

Studies have shown that changes as small as ½ a millimeter between the head and neck can alter the brain's ability to adapt to the environment, leading to increased susceptibility to migraines and associated symptoms.

- Advanced MRIs

  Current research is showing changes in blood flow and cerebrospinal fluid flow in both migraine and mTBI (mild traumatic brain injury) individuals. New imaging technology shows the inability for the head and brain to adapt to changes in the internal and external environment in individuals with migraines.

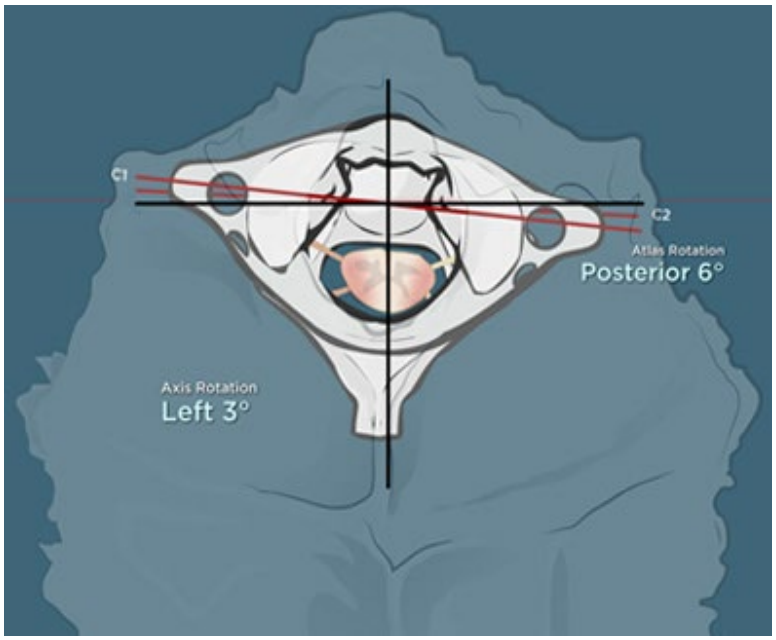
  New advanced upright MRIs are able to detect changes to the circulation between the head and neck following injury. 99% of MRIs are performed with the individual lying down. These, however, are unable to detect changes in the structure of the brain and spinal cord once the individual becomes upright.

Upright MRIs and Phase Contrast MRAs (magnetic resonance angiography) are able detect changes to the head and neck in migraine patients which would otherwise be missed in conventional imaging

Improving Adaptability

A small group of clinical researchers, biophysicists, PhDs, and specialized chiropractors have focused on understanding the changes associated with changes to the head and neck in migraine individuals, and correcting them.

Using the latest in imaging technology, physics, and biomechanics, a unique technique has been developed to detect, and correct, changes to the head and neck responsible for altered brain function and circulation.



The technique is called upper cervical. It is exceptionally safe, gentle, and non-invasive. It does not seek to treat migraines, rather focuses on restoring altered function to the housing around the brain and spinal cord. However, the results have been overwhelmingly positive.

a. Evaluation

Migraine sufferers undergo a non-invasive evaluation. The evaluation is designed to understand your unique story, determine the presence of an ASC (Atlas Subluxation Complex), and create a 3D image of your head and neck.

b. Report and Initial Correction

The results are discussed, and calculations are performed to determine a custom correction of the junction between the head and neck.

The correction is an extremely light and gentle adjustment that feels much like a doctor taking someone's pulse on the side of the neck. The correction is so gentle, it is safely performed on infants and babies.

Composite 3D digital X-rays are retaken to ensure a proper correction has been performed. The individual often does not feel a change immediately following the adjustment.

c. Follow-up

The individual often returns during an initial 12-week period to assess for proper correction, monitor tissue healing, and measure the progress of the symptoms.

Unlike drugs and medications, the upper cervical technique does not treat or suppress the symptoms associated with migraines. The upper cervical procedure is designed to improve the biomechanics of the housing around the brain and spinal cord: the head and neck.

The improved biomechanics often improves the adaptability of the brain and spinal cord, and individuals often show dramatic improvement in their symptoms.

We have has seen over 85% improvement in the frequency and severity of migraine symptoms through upper cervical care. The clinic also works with integrative professionals including Neuromuscular Dentists, Neurooptha mologists, and Craniosacral Therapists for more complicated migraine cases.

Author's Note: It is important to note that the migraine cases with the best response are non-hormonal migraines. Certain migraine cases are the result of multiple factors, and a thorough evaluation will be performed to rule-out complicating factors.

CONCLUSION

Migraine headaches can be a source of immense anxiety in your life. It is extremely difficult to live with the possibility of getting a migraine at any moment. After reading this eBook, you should be able to determine possible triggers that result in a migraine attack.

While eliminating triggers can be important it is much more important to address the underlying cause of the condition. An upper cervical corrective procedure is focused on correcting a common underlying cause of migraines. When blood and cerebrospinal fluid flow normalizes as a result of an upper neck corrective procedure, many of the triggers will cease to affect your body.

Thank you for reading this e-book and if you would like to speak with me personally in my Orlando office about your migraine headaches call **407-578-2225** or just click the button below:

Schedule a Consultation

Be Well,

Dr. Jason Nitzsche
Clinic Director
Orlando Spine Center
http://www.gentlespinecare.com
407-578-2225

Upper Cervical Chiropractic Research

- Eriksen, Kirk. Upper Cervical Subluxation Complex – A Complete Review of Chiropractic and Medical Literature. Philadelphia: Lippincott, Williams and Wilkins, 2004. Print.
- Observed changes in quality of life measures and cerebrospinal fluid flow parameters in migraine subjects receiving chiropractic care. Woodfield HC 3rd[1], Becker WJ, Hasick DG, Rose S. J Altern Complement Med. 2014 May;20(5):A50-a50. doi: 10.1089/acm.2014.5131. http://www.ncbi.nlm.nih.gov/pubmed/24805628
- Treatment of bipolar, seizure, and sleep disorders and migraine headaches utilizing a chiropractic technique. Elster EL. J Manipulative Physiol Ther. 2004 Mar-Apr;27(3):E5. http://www.ncbi.nlm.nih.gov/pubmed/15129207
- Chiropractic management of essential tremor and migraine: a case report, Hubbard TA, Kane JD. J Chiropr Med. 2012 Jun;11(2):121-6. doi: 10.1016/j.jcm.2011.10.006. http://www.ncbi.nlm.nih.gov/pubmed/23204956
- Atlas vertebra realignment and achievement of arterial pressure goal in hypertensive patients: a pilot study. Bakris G, Dickholtz M Sr, Meyer PM, Kravitz G, Avery E, Miller M, Brown J, Woodfield C, Bell B. J Hum Hypertens. 2007 May;21(5):347-52. Epub 2007 Mar 2 http://www.ncbi.nlm.nih.gov/pubmed/17252032
- Upper cervical chiropractic management of a patient with Parkinson's disease: a case report. Elster EL. J Manipulative Physiol Ther. 2000 Oct;23(8):573-7. http://www.ncbi.nlm.nih.gov/pubmed/11050615
- Evidence-based guidelines for the chiropractic treatment of adults with headache. Bryans R1, Descarreaux M, Duranleau M, Marcoux H, Potter B, Ruegg R, Shaw L, Watkin R, White E. J Manipulative Physiol Ther. 2011 Jun;34(5):274-89. doi: 10.1016/j.jmpt.2011.04.008. http://www.ncbi.nlm.nih.gov/pubmed/21640251
- The possible role of cranio-cervical trauma and abnormal CSF hydrodynamics in the genesis of multiple sclerosis Damadian RV, Chu D. Physiol Chem Phys Med NMR. 2011;41:1-17. http://www.ncbi.nlm.nih.gov/pubmed/21970155
- Neck pain and disability outcomes following chiropractic upper cervical care: a retrospective case series. Rochester RP. J Can Chiropr Assoc. 2009 ug;53(3):173-85. http://www.ncbi.nlm.nih.gov/pubmed/19714232