

The Hormone Module

WELCOME

Welcome to the hormone module! I am so excited you're here. This has been long-awaited for us all (myself included!)

Before you dive in and read this, I recommend opening up the videos in your portal and following along there. You don't need to watch; just listen. You can print this and take notes if you feel that would help you!

Take your time to work through this information, it's A LOT of info, and it can get kinda dry.

No need to do it all in one day! I actually recommend taking your time and doing 1-2/day instead of all of them at once.

As always, feel free to email me at madison@thevertigodoctor.com. Or put any questions in the Group!

What are hormones?

ONE

Hormones are chemical messengers that coordinate different functions in your body.

You have hundreds of hormones, and each hormone has so many jobs. Hormones tell your brain when you're hungry and full. Hormones tell us how we feel emotions like love and happiness, and how we grow and develop.

Hormones can be responsible for feeling ill, and our bodies not doing what we want them to.

Hormones also affect our vestibular systems. Hormones can increase pressure gradients in your ear (which affects Meniere's Disease), impact serotonin (which affects Migraine), and do so much more!

Remember: this module is for informational purposes only and may not be the best fit for you and your personal situation. It shall not be construed as medical advice. The information and education provided here is not intended or implied to supplement or replace professional medical treatment, advice, and/or diagnosis. Always check with your own physician or medical professional before trying or implementing any information read or watched here.

Hormones & Their Uses

TWO

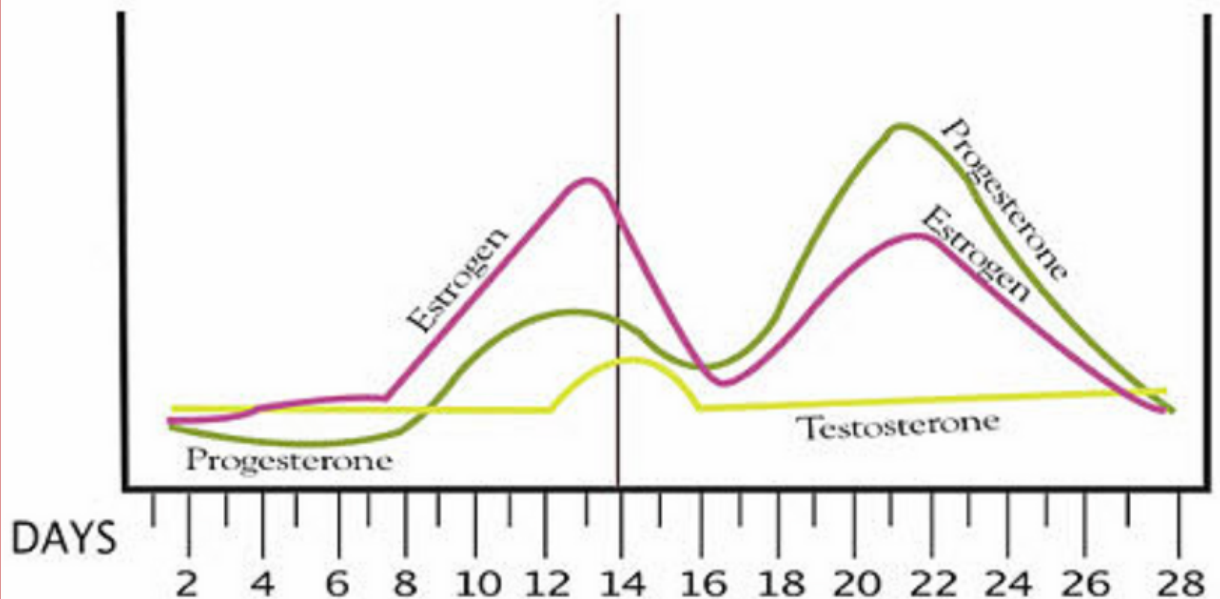
Estrogen is the dominant female hormone produced in the ovaries and present in all humans. It's responsible for puberty in females.

In women, Estrogen rises and falls twice a month during your cycle. It drops drastically two days before your period begins, stays low for about 5-7 days, then slowly creeps back up until you ovulate and then crashes, then it rises and crashes when your cycle repeats. (2)

Most people have their symptoms when Estrogen crashes.

Some people have symptoms during their periods only. That is called Pure Menstrual Migraine.

Others have symptoms during their period, ovulation other times in the month. That is a menstrually related migraine.



Follicular Phase

Ovulation
Ovulatory Phase

Luteal Phase

Hormones & Their Uses

TWO

Progesterone is a hormone produced in the corpus luteum and plays a role in the menstrual cycle and early pregnancy.

Progesterone also helps with sleep and mood, and is responsible for the implantation of fertilized eggs. (3)

Similar to our estrogen cycle, our progesterone also fluctuates throughout the month. It rises and falls with estrogen. See the photo above.

If there is no pregnancy, then progesterone levels fall right as menstruation begins.

Testosterone is the dominant male hormone that helps with growth, tissue maintenance, repair of reproductive tissues and organs, bone mass, sex drive, and human behavior (4).

Testosterone peaks during ovulation but is overall stable at a low level in our system throughout the month.

It does not play a large role in female migraine or other vestibular dysfunction, from what research can show.

Prolactin plays over 300 roles in your body's function. Here we want to focus on its importance with breastfeeding and milk secretion. This hormone is produced and mediated by the hypothalamus, which plays a role in migraine in some theories, and, therefore, could be a reason that there's a role in migraine in women who are breastfeeding.

Oxytocin is the feel-good hormone.

One article shows a trial for intranasal dosing of oxytocin for migraine attacks.

It was a singular and very small study, but the dosage does help. That being said, there may be benefits to more oxytocin, which you could produce naturally, with migraine and vestibular migraine. (6)

There are a few specific time periods in a woman's life, hormonally speaking:

Prepubescent: infancy through puberty 1-15 years old

Reproductive age: after you go through puberty, approximately 15-40 years old.

Climacteric: the 5 years before and after menopause, including perimenopause

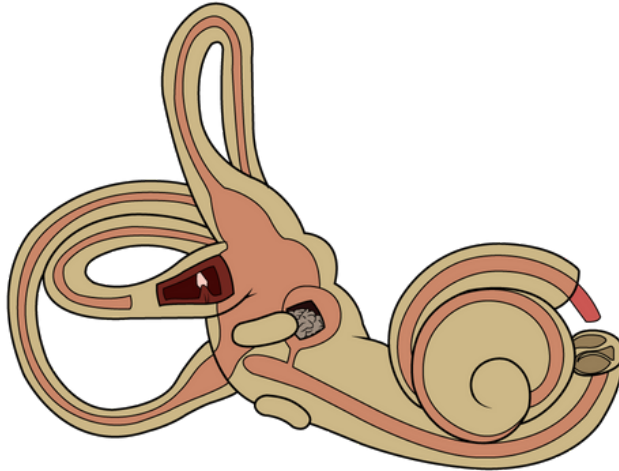
- **Perimenopause** is 'around menopause' meaning that it is right before menopause and it's when inter-menstrual irregularities & changes begin to happen.
- **Menopause:** 12 months after the final menstruation has occurred. (13)

People with hormone-related vestibular disorders, anecdotally, seem to develop vestibular disorders during large hormone shift times (puberty, perimenopause, and postpartum).

THREE

Meniere's Disease: A disease of pressure gradients in your inner ear.

You have two fluids in your inner ear; endolymph (sodium-rich fluid - pink) and perilymph (potassium-rich fluid - tan)



The pressure-volume relationship in your inner ear is affected by too much fluid, sodium, and other substances that can cause swelling (like hormones!)

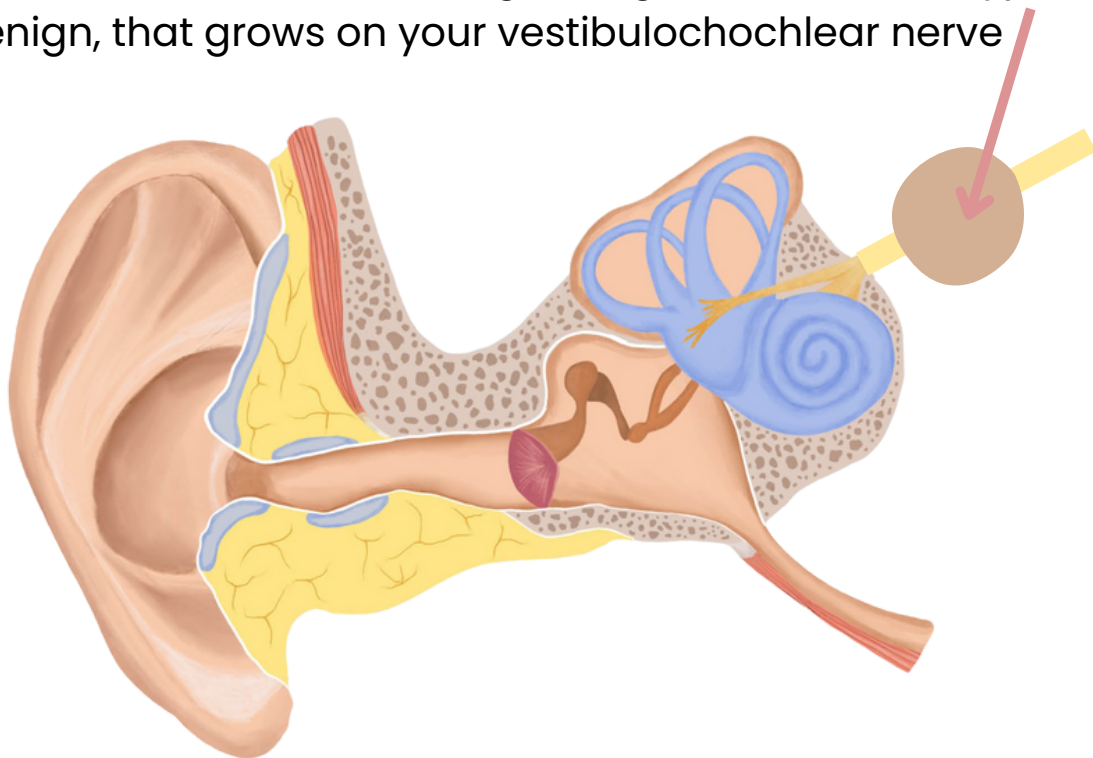
There is a fluid redistribution throughout our body during the premenstrual period (PMS). That fluid redistribution could cause an attack. (7)

Meniere's may worsen during early pregnancy because of the suddenly decreasing amount of particles of certain substances in the blood.

This would induce that osmosis or fluid transfer, and free fluid can enter the endolymphatic space.

This can cause an attack.

Acoustic Neuroma: a slow growing mass, which is typically benign, that grows on your vestibulochochlear nerve



This mass presses on the acoustic neuroma causing dizziness, vertigo, hearing changes, and sometimes affects the facial nerve causing pain, numbness, and tingling.

Research shows that mice treated with extra estrogen compared to a control group or estrogen + estrogen decreasing treatment had faster-growing tumors than the comparative groups. (11)

Estrogen affects the pace of growth of acoustic neuromas/vestibular schwannomas.

Vestibular Migraine

FIVE

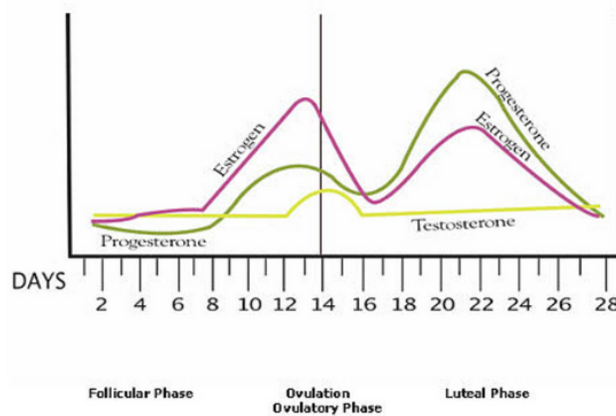
HORMONES

Vestibular Migraine: Migraine is a neurological condition manifesting with many different symptoms. Dizziness, vertigo, and other light-headed vestibular symptoms are part of that diagnosis.

Pure Menstrual migraine: a person with migraine symptoms only during menstruation and never other times during the month (12).

Menstrually Related Migraine: an attack that occurs 2 days before bleeding and continues for the first 3 days of bleeding and has occurred for $\frac{2}{3}$ of your last menstrual cycles (13).

Estrogen: estrogen fluctuates throughout your cycle, and research tells us that people who have migraine have estrogen levels that drop further and faster when it drops than the average population.



Estrogen Dominance

- Mood swings
- Brain fog
- Heavy painful periods
- Weight gain
- Breast tenderness

So instead of it dropping like in this chart, it drops more quickly than it should after ovulation and before menstruation. This is associated with migraine symptoms around someone's period.

Another thing about estrogen...

During perimenopause, we find that women who have never had vestibular migraine change to having vestibular migraine (with and without a migraine history), or women who have had vestibular migraine worsen during perimenopause.

This mechanism is not entirely clear. However, we do know that it happens. There are a few theories:

The first is that estrogen has an impact on serotonin, which is a neurotransmitter that modulates pain and mood. These changes during your cycle of estrogen would change serotonin levels and therefore affect a migraine.

Also, we know that lower serotonin levels affect the trigeminal nerve, which can cause a migraine attack. Since estrogen and serotonin have a relationship, the lower estrogen will cause an attack via lower serotonin which modulates the trigeminal nerve and affects migraine.

During perimenopause, estrogen dominance can also trigger a migraine attack due to the excitatory nature of estrogen. (16)

Testosterone: Some research shows that testosterone, if too low, will affect migraine. When it is then supplemented in some people, headache frequency reduces (14)

Progesterone: levels change throughout your cycle and can also be partially responsible for migraine attacks.

Symptoms of progesterone dominance:

- Mood Swings
- Heavy and irregular periods
- Anxiety
- Low sex drive
- Fatigue

Prolactin: can affect migraine and, therefore, vestibular migraine. People with hyper-prolactin numbers were more commonly diagnosed with chronic migraine than episodic migraine.

However, having hypo-prolactin - not enough prolactin - was correlated with more acute attacks. (15)

AND prolactin has receptors on the trigeminal ganglia, the cranial nerve also partially responsible for migraine. This causes enhanced CGRP release. We have anti-CGRP drugs for migraine because having migraine is often related to less CGRP processing ability. So, having accurate prolactin levels is important!

So, Why Do Our vestibular migraine symptoms worsen during perimenopause and menopause?

As we progress through life and go through perimenopause and menopause, we may have a new or worsened onset of migraine. A lot of it is due to not being able to predict our cycles as they become more sporadic and erratic.

There is a narrative that women with migraine have been told for years that says we will get better as we age, but that's just not the case. Migraine doesn't just stop when menopause or perimenopause comes, and for many, it gets worse.

Menopause and perimenopause also increase the risk for depression, which we know has a large impact on migraine. Specifically, migraine and the serotonin issues we chatted about earlier.

And, due to the estrogen fluctuations, and how erratic the symptoms are, the migraine attacks that a person does have usually are worse and more disabling (17).

Also, we get many vasomotor symptoms during this time, which affects the migraine system and likelihood.

What is hormone therapy?

Hormone therapy is when a person is prescribed bioidentical hormones to reduce the vasomotor symptoms of perimenopause/menopause. These symptoms can affect migraine. So by treating those symptoms, you're treating the migraine as well. It's treating the root cause. However, the research has shown us mixed reviews about whether or not it works.

For some women, hormone therapy has worsened their symptoms, and for others, it has made their symptoms better. This is an individual reaction determined between you and your doctor.

Should I get tested for a hormone imbalance with blood work or other methods?

In general, hormone tests are not great tests. Your hormones are constantly changing.

Instead, we tend to dose patients with the bio-identical hormones we talked about to give our bodies what we need to smooth out our hormone fluctuations. These can be in the form of a pill, patch, IUD, or gel.

Many researchers try to get us to stay away from the numbers and go based on feelings.

For example, if you're having any symptoms of difficulty with perimenopause and menopause that would normally be treated with hormone therapy, try it at a very low dose, slowly working upwards to an appropriate dose.

Forms of Hormone Therapy

Pills:

The pill is typically a low-dose estrogen pill or estrogen-progesterone combination pill that helps your body avoid spiking your estrogen levels and prevents them from dropping low enough to cause a migraine attack. It works for some; however, for many, the 'off' week triggers a migraine attack which makes taking the pill worthless.

Sometimes *a non-cycling pill* works for people. A non-cycling pill means when you have a pill that you take every day of the month, instead of having an off-week where you take a sugar pill. Ask your doctor if this is right for you.

There are also progestin-only pills. These are more frequently recommended for those who have migraine with aura. These may also generally help control migraine in women regardless of the type. However, if symptoms like acne or pelvic pain are being treated with a combination pill, it can still be beneficial to take both. (18)

Pills should not be considered for women who are smokers, have a history of breast cancer personally or in the family, and have no other vascular risk factors. Additionally, they should know or find out if a pill can even be tolerated. Some cannot tolerate it, and they may have a bad reaction - this should be considered.

Additionally, birth control pills make many people feel a lot worse. This is because of the sudden fluctuations in hormones. In one study, 24.1% of women with migraine significantly worsened after taking the pill. (19)

Creams and gels:

They can be delivered on the skin or intravaginally. Depending on you and your needs, either may be appropriate.

Estrogen gel can help smooth out your cycle and should usually be given daily, although everyone is different. You should also start slowly and titrate the dose upwards.

If you are very estrogen dominant, you also may want to consider taking only progesterone. According to some research, a 2% bioidentical progesterone cream effectively relieves premenstrual and menopausal migraine.

Typically you apply $\frac{1}{4}$ to $\frac{1}{2}$ of a teaspoon of the cream to your skin daily in the few days leading up to the beginning of your cycle. Or take it three weeks of the month if you don't know your cycle. (15)

Patches

A hormone patch is a patch you stick to your skin that releases that hormone, usually estrogen, into your bloodstream. It will be a slow and steady release to even out the hormones. Patches may be safer for older women and more at risk for a blood clots. Women who used this were significantly less likely to get a blood clot.

Can it make you worse?

For some women, hormone therapy makes their attacks worse, as they cannot tolerate the treatment.

If this is you, stop the treatment immediately and tell your doctor.

What if Hormone Therapy Isn't an Option?

If you respond poorly to hormone therapy for your vasomotor symptoms in an attempt to also treat migraine, there are always other options.

Do Triptans work during this time?

Longer-acting triptans can be taken starting before your period, in the form of mini prevention.

Triptans should be taken following your doctor's plan.

Mini prevention starts 2 days before your symptoms begin (about 4 days before your period starts).

Example: If your period starts on Friday, your symptoms may start on Wednesday. Prevention needs to start on Monday and go until your period is over.

Usually, naratriptan or frovatriptan are prescribed as they're longer acting. However, everyone is different.

What If Triptans Don't Work?

Many people have found that once your period starts, a triptan is not as effective in treating the attack itself, so it's better to prevent the attack that you know is coming all together.

Another kind of mini-prevention that may work for you is to bump up your current medication for prevention during your cycle before your symptoms are supposed to start.

This kind of mini prevention should be continued for about 6 days

Your symptoms do need to be consistent for this to work, so tracking your symptoms and your period will be important here.

If you cannot figure out your cycle/when to start see the last few videos where I chat about taking your temperature.

What other ways can I control my estrogen and serotonin other than an antidepressant medication?

The following is not medical advice.

According to Dr. Beh's book *Victory over Vestibular Migraine*, Vitamin B6 can be incredibly helpful in managing serotonin levels as it gives your body the building blocks for dopamine and serotonin.

Another non-pharmaceutical option is to take soy isoflavones 60 mg (standardized to 40% isoflavones), Dong Quai 100 mg, and black cohosh 50 mg every day (18). Vitamin E can be helpful for you in preventing migraine attacks when taken at 400 units daily. (18)

Your previous medication that worked before may no longer be an option. If this is the case, you may have to try different or multiple medications. It would be best if you also were sure that you are taking normal supplements for Vestibular migraine, such as magnesium, B2/Riboflavin, CoQ10, Vitamin D, and omega 3's.

Otherwise, the treatment medications are the same as they would be for non-hormone-related migraine. GePants, triptans, antidepressants, and others are all options. Also, other supplemental treatments, specifically neuromodulators devices like Cefaly and GammaCore, can be useful in preventing and treating attacks.

Continued...

These attacks should be treated aggressively. Menopause has a mean age of 52 years old, and at that point in life, other ailments often come into play, like back pain, cervicogenic headache, and others. These can worsen migraine attacks, so treating those confounding factors is an important piece of the puzzle.

Work very specifically, incrementally, and aggressively to get the results you want.

Remember, this is never medical advice, and you should always check with your doctor first and foremost. If one doctor doesn't listen, you're always welcome to find another doctor. And, if your doctor isn't sure, ask them to email or call each other for your benefit in medical management.

(13)

Why Does Dizziness Start Postpartum?

Many women find that their symptoms are worse right after giving birth to a child, especially concurrent children after the first.

Many people report that during pregnancy, their vestibular symptoms go away completely (especially after the first trimester), and then right after they give birth, they start to feel worse again. Why does this happen?

1- This is speculation, but it's likely that prolactin, which causes swelling of the body and is largely responsible for milk production, causes swelling of other tissues/fluids (like endolymph) and can make you dizzy.

2- Right after you give birth, usually within 24 hours, your body returns to normal estrogen levels, which is a massive drop in hormones from what it had in the 2nd two trimesters of pregnancy. This drop of estrogen is what gave you your menstrual migraine/vestibular symptoms before getting pregnant, and that is now back, and in even a bigger way. Then the prolactin kicks in, and you're in a place to start getting migraine again or vestibular symptoms again.

- Women who have a history of migraine, even if it has gone into remission during pregnancy, have a higher likelihood of getting vestibular migraine. After pregnancy, they often turn from migraine into VM for no apparent reason, and that reason is truly unknown.

Continued...

3- Those with already thin superior semicircular canals may cause superior canal dehiscence from pushing/pressure during delivery. This can cause Superior canal dehiscence syndrome. (20)

Additionally, according to *Victory over Vestibular Migraine*, Postpartum depression and the new stress of being a parent can play a role in the increase in migraine attacks. (18)

Another study found that about half of women with migraine were protected against migraine during their breastfeeding period by about half. (21)

Safe supplements: B2, B6, folate, B12, vitamin D, magnesium, CoQ10, ginger, peppermint oil, L-tryptophan, and NAC. (22)

I had 2 episodes 4 weeks apart when I was ovulating. It felt like BPPV, is this a thing?

- Ovulation is where estrogen peaks, and then immediately drops. It's unlikely that it's causing BPPV to occur every single month, and more like that it's causing a VM flare with positional vertigo.
- That being said, it is possible for BPPV risk to be higher after menopause because we have decreased estrogen, bone density, and other factors that make BPPV worse.
- *"It has yet to be fully elucidated why postmenopausal women have a higher prevalence of benign paroxysmal positional vertigo (BPPV); however, the sudden decrease in estrogen during menopause can cause a rapid decrease in estrogen receptors, which may disturb otoconial metabolism and thus, increase the prevalence of BPPV." (23)*

Can perimenopause cause pressure and pain in the head?

- Perimenopause can cause many many vasomotor symptoms (symptoms of the vascular system).
- It can also make migraine more often present or relevant or worse. Since pressure and head pain are a part of migraine, yes it can be caused by perimenopause.

Why do symptoms improve and then revert back?

- Your symptoms will improve with higher and more normalized levels of estrogen and then will 'revert back' to the dizziness when the dizziness drops

What are the connections between high prolactin and vestibular/vertigo disorders?

- Both high and low prolactin can cause dizziness and vertigo.
- A prolactinoma, causing an abnormal amount of prolactin secretion can indeed cause dizziness (24)
- Hyperprolactin numbers were more common in chronic vs. episodic migraine but in other studies, decreased levels were found to be correlated with acute attacks. It seems like you need a 'normal' number in order to reduce migraine attack frequency.

Can PCOS be related to PPPD?

- PCOS Polycystic Ovary Syndrome is an imbalance of hormones causing acne, unwanted hair growth, infertility, difficulty with your period being 'normal'
- PCOS can be distantly related to migraine and therefore to PPPD due to hormonal imbalances. However it's unlikely that the underlying and primary condition associated with PPPD is PCOS. It's more likely affecting something like vestibular migraine.

How can PMS be a trigger for Migraine/BPPV and what can I do about it?

- Premenstrual syndrome, or PMS, is a trigger for migraine because it is when estrogen drops, and therefore it's when you can get a migraine during this time.
- Mini-Prevention talked about with your neuro/OB-GYN is the answer

Who can we turn to for help?

- It's because of the changes in estrogen most commonly. We can turn to the neurologist and OBGYN for management of these symptoms.
- Try to get them to work together if you can

Does nursing have an impact on Meniere's or Migraine symptoms?

- Yes because we have really high prolactin and have just dropped from a really high amount of estrogen back down really low. And our bodies are trying to level itself out again.
- When you're breastfeeding, prolactin levels are high, and estrogen levels are low. The relationship between these hormones keeps your breast milk supply up and your period away. If you breastfeed exclusively, it can delay the return of your period for many months. - (25)
- Breastfeeding keeps your estrogen low, which will end up potentially spiking your vestibular symptoms, as well as spiking your prolactin which can also lead to chronic dizziness and migraine. (26)
- Also, if there is a spike in oxytocin, it could actually make your symptoms better. In the videos, we chatted about oxytocin having a positive impact on your symptoms, which could explain why some women are protected from migraine by breastfeeding.

Did HRT cause all my issues?

- Hormone replacement therapy is intended to replace and smooth out your hormonal fluctuations, but it could make them worse depending on what type.
- If it is given in the form of a birth control pill where there's a week without hormone replacement, then yes, it can get worse.
- According to the MAYO Clinic, for some women, it can also make your migraine symptoms worse.
- Large hormonal fluctuations are one of the triggers for VM from classic migraine, especially postpartum. So, if HRT is prescribed incorrectly or just didn't work for you, then yes, it absolutely could have caused this, would be my assumption. But it would be really unlikely.

Why do Vestibular Neuritis symptoms get worse with my period?

- This shouldn't happen unless the VN has turned into VM or something else. This is a good time to look into other diagnoses.

What non-medication techniques can I use to get through my period?

- You can up your dose of magnesium if your doctor approves, which can be helpful.
- You can try GammaCore and Cefaly to see if it aborts the attack or other neuromodulation devices

Will going on the pill help my migraine symptoms?

- Not necessarily. It can make it better if you're using HT vs. a Birth control pill because the birth control pill (unless it's cyclical) still leads to that drop in estrogen every 3-weeks when you take the 'sugar pill'. Talk to your doctor about your options here.
- Sometimes an IUD with progesterone + hormone therapy estrogen vaginally delivered is a great option if you get vasomotor symptoms with your menopause and perimenopause symptoms.
- Lastly, it could be better to just treat the migraine with supplements designed to help the migraine we have talked about before, or treat it with prescription medication. Especially using mini prevention before the onset of your symptoms.

What can you do to improve vestibular migraine with serotonin levels or by adjusting other hormones?

- Serotonin levels regulate estrogen synthesis. Additionally, falling serotonin levels can trigger a migraine for many women, as it's responsible for connecting neural signals from one part of the brain to another. It's also the happy hormone. And we know that not enough serotonin can cause anxiety and depression, as well as migraine.
- Serotonin plays a big role in hormonal function and brain function. However, when you're on a drug like amitriptyline, your body is already doing its best to keep serotonin in your system.
- Other ways to help your serotonin levels are:
 - Exercise
 - Certain foods (eggs, cheese, tofu, salmon, turkey, etc.)
 - Get outside into the sun/nature
 - Meditation
- However, the best treatments are often mini-preventions if your cycle is predictable, supplements,

What if I have chronic vestibular migraine where my attacks worsen during ovulation?

- Ovulation has a drop in estrogen, so options like mini-prevention or hormone therapy are great ideas if they can be tolerated.
- Knowing your cycle and symptoms during this time as well can be helpful.
- You can increase your normal preventative drugs at that time, or take extra magnesium or another supplement that help you to manage your symptoms and attacks normally.

What if I am significantly worse with bioidentical progesterone?

- If you are worse with progesterone, you can try estrogen only patches or gels under the guidance of your doctor, or you can switch to a different kind of prevention that may work better for you.
- These include using prescription and non-prescription medications designed to treat migraine.
- You may not be a candidate for hormone therapy, or you need to go down on your dose because people with migraine are naturally more sensitive to medications.

What do I do if my doctor thinks I should induce medical menopause to stop my cycle completely because I have so many VM symptoms with my cycle? What if I don't want to do this.

- VM is affected by estrogen, as we've chatted about before. The medications can help with this. However, full menopause does not necessarily get rid of headaches. Usually, a better option is to use estrogen patches or gels to level or smooth out the hormone levels throughout your monthly cycle, effectively removing the estrogen drop at the beginning and middle of your cycle.
- Hormone therapy, which is intended to eliminate the vasomotor symptoms that cause migraine attacks, helps prevent migraine attacks overall.
- There are many negatives to menopause, like osteoporosis, higher BPPV risk, sexual dysfunction, weight gain, and more. Often the risks here outweigh the benefits.
- Instead, treating the migraine at its source, and treating the vasomotor symptoms with hormone therapy, if you can tolerate it, is the best option to talk to your doctor about.

Does estrogen dominance cause VM & other vestibular disorders?

- Estrogen is one of the most common causes of hormonal imbalance in migraine. It also has effects on the acoustic neuroma and Meniere's disease, as we discussed earlier.
- Large hormone imbalances can make VM more likely to occur and change from those with classic migraine
- Estrogen imbalance can cause swelling in the ear with Meniere's disease. It can also cause acoustic neuromas to grow more quickly.

If hormonally affected VM is well controlled by a low dose birth control pill, are there adverse vestibular side effects to continuing this treatment long term?

- If a low-dose birth control pill controls your symptoms, that's awesome!
- According to the National Cancer Institute (NCI), using birth control pills may slightly lower your risk for endometrial and ovarian cancers.
- Long-term use may slightly increase your risk for breast, liver, and cervical cancers. If these cancers run in your family, tell a healthcare professional and discuss your risks.(27)
- Combination pills may increase your risk for blood clots, especially if you're over 35 or a smoker. Talk to your doctor about other options if you are at risk. (27)

How does perimenopause affect my vestibular system and vestibular migraines?

- Your hormones fluctuate way more during perimenopause than they did previously.
- Your hormones and periods are mostly predictable during your normal-period times (who's to say what's normal, though?). Your estrogen, progesterone, and other hormones rise and fall consistently throughout your 28-ish day cycle.
- When this stops and becomes more erratic, your hormones become more erratic. This is what can be the cause of vestibular migraine to form from classic migraine or what can be the cause of worsening vestibular migraine.

Before and during my period, my symptoms are so much worse. What can I do to avoid this?

- As we chatted about in the module information, your estrogen drops immediately before your period and throughout that week.
- To avoid this, you can up the amount of magnesium or other supplements you take (if you talk to your doctor first!)
- If your period is predictable, you can use mini-prevention as a preventative tactic. 2 days before your know your symptoms start, which is usually 2 days before your period (so that's 4 days before the start of your period), you can start to use your mini prevention. This can be either extra supplements or prescription medication.

Food & Supporting your Hormones:

- Eat more cruciferous veggies. These are veggies like arugula, broccoli, Brussels sprouts, cabbage, kale, and cauliflower. These have indole-3-carbinole, which promotes liver function. The liver is where our waste products are spit out and cleansed from our bodies. So we know here that we need to get rid of what we've used up somehow. Eating these can help, but you'll need a TON of these in your diet to do what DIM may do for you instead.
- DIM is another way to get indole-3-carbinole. One pilot study found that estrogen dominant women were impacted positively by taking DIM daily. However, there are a few phases of liver detox that waste chemicals take to get out of your body. Phase 2 is making toxins in your body water soluble so you can pee them out. This is a complex pathway that we don't need to get into, but we should consider that we need to support this phase as well (28).
- Sulforaphane and calcium D-glucarate should be integrated into your body as well. These two help support phase 2, according to some research. This will help turn the estrogen into a form that your body can process. (28)
- Please talk to your doctor about these options.

Food & Supporting your Hormones:

- Eat fats regularly. Fats are essential for hormone production and transfer through the body. So many of us have heard ourselves or our parents say, 'low fat is better!' When in reality, it's just not better for us. Eating fat is a good thing, especially healthy nuts like avocados, nuts, and more!
- This will help reduce inflammation. We need fat to have a body protecting us from any hormone being dominant.
- Being on a low-fat diet could be doing more harm than good for many of us. Not giving our brains (which are made from fat) and hormones (which need fat) enough fat will slow down many bodily processes that we need to survive and thrive.
- The third thing is to eat enough protein- Whether it's from an animal or a plant (I recommend getting some of both), getting those in will help you stay fuller for longer, keep your blood sugar balanced, and therefore help support our hormones. Try to get grass-fed meats to reduce the number of hormones within the meat you're eating.

Food & Supporting your Hormones:

- Next, Feed the microbiome in your gut. Yes, your gut needs nutrients to process everything you're putting in your stomach! We have all heard of the gut-brain axis! Foods rich in probiotics (like kefir, fermented veggies, olives, and more) are all really important for you to eat. I know we stay away from fermented foods on HYH, but as we learned from Kelli, they can benefit your gut, brain, and hormones.
- All of that had to do with DIM and supporting taking DIM if a person is estrogen dominant.
- Before you want to start DIM, please talk to your doctor and a dietitian who knows how to properly dose these things before taking something without knowing how it may affect you.

Next, let's talk about phytoestrogens.

- A phytoestrogen is a plant-based compound that mimics estrogen. If you are a person who is estrogen deficient in perimenopausal and menopausal women, phytoestrogens could help to support your body.
- Some foods are high in phytoestrogens, like soy products and supplements that you can take, too!
- Foods that contain soy and, therefore, phytoestrogens are:
 - Tempeh, soybeans, tofu, miso, soy milk, and others. Also, oat, rice, barley, quinoa, flaxseeds, sesame seeds, and other seeds and nuts.
- Talk to a dietitian, and your doctor about if phytoestrogens to increase the amount of estrogen in your body could be effective for you. (30)

Hormone Testing

- I wanted to recognize that we talked about hormone tests not being the best tests during the main content. But I did want to mention one that I think would be helpful.
- We know that a DUTCH test shows us where hormones have been, how they work if we have an excess, where there's a backup, and where they're stored. Ask your doctor to help you order one and interpret it. People like Kelli Yates, The Migraine Dietitian, and other dietitians/functional practitioners also have access to these tests and know how to read them. If you think hormones may be playing a big role, it's something good to look into.

I also wanted to talk with you about how taking your basal temperature could be helpful.

Your basal temperature, or your body's core resting temperature, changes throughout your cycle consistently. It goes up and down as you enter different phases of your cycle. As your cycle changes, your luteal phase becomes smaller, which is the phase between ovulation and your period.

Your basal temperature will be lower at the beginning of your cycle (during the follicular phase, AKA during menstruation) and then starts to tick up during ovulation, then drop again before your period starts. People use this as a form of birth control by abstaining from sex during ovulation when their temperature reaches that point.

Knowing your basal body temperature and how it fluctuates for you around your attacks could be helpful.

There is no research to support this, but it's something that I have started to do with a few of my patients as an experiment. There's no harm in taking your temperature daily, and if you notice a pattern here, it could make a big difference in how you're able to treat your migraine!

If you did want to try this, I would track your temperature daily before getting out of bed. Just write it down in a note daily. Then, track your attacks and other symptoms daily as well. Then after about 8 weeks, you may be able to see a pattern in your temperature and your symptoms based on the phase of your cycle. This may be effective if your cycle is more sporadic and you can't predict when you may start to have your period. But, if this does work, you may be able to predict when you need to start mini prevention if that's something that works for you.

Seed cycling: (31)

Seed cycling is a wellness practice without much research. As always, talk to your doctor before trying this new practice.

During the Follicular phase (days 1-14), you eat 1-2 TBS pumpkin seeds and 1-2TBS ground flax seeds daily.

Pumpkin seeds contain a lot of zinc, which can help produce estrogen when there are not many estrogens, which is exactly what happens in the follicular phase.

Flax seeds contain lignan, which binds to excess estrogens and can help support your body during this time. And proponents of seed cycling claim that the phytoestrogens in flaxseeds can help increase or decrease estrogen levels.

During the Luteal phase, days 15-30, a person doing Seed Cycling eats 1-2 TBS sesame seeds and 1-2 TBS of sunflower seeds daily.

Sunflower seeds are high in vitamin E, which can help boost progesterone, and high in selenium which helps get rid of excess estrogen. Sesame seeds are rich in zinc, which boosts progesterone production and also contain lignans to block any excess estrogen.

If your cycle is more unpredictable and you don't know where to start, naturopathic doctors ask you to start on the full moon and use the moon cycle.

Seed cycling (31)

Seeds can also be used in menopause.

In menopause, some seeds are helpful as well.

Some studies have found that daily, 50mg of sesame powder improved hormone status, antioxidants, and blood fat levels. However, other studies note that lignans, phytoestrogens, and seeds may not be any more effective at improving symptoms of menopause than a placebo, so more research is needed.

Lastly, according to the article by Healthline, although this practice may not balance your hormones, eating more seeds boosts the number of vitamins we consume, which can lower the risks of some cancers and can reduce inflammation, cholesterol, and blood sugar levels. So, it's not a bad practice for those reasons, even if your hormones aren't balanced completely.

Sleep

There is research showing an association between sex hormones and sleep. Women going through hormonal changes (like menopause) have big changes in sleep patterns. Regulating your sleep (this will be a future module) can help you regulate your hormones. Sleep also is related to depression - those who sleep less are more at risk for depression (32)

Gut health

Poor sleep can cause gut dysbiosis (disruption of the microbiome). This can play a role in serotonin dysregulation and impact your vestibular system. (33) See the diet and gut health module with Kelli Yates.

Movement

The best way to increase serotonin is with exercise (which therefore affects migraine/vestibular disorders positively). Movement also improves dopamine, another happy hormone.

Over-exercising can increase body stress, which will have negative effects. That's why sometimes it makes your symptoms worse. And, it's why we preach 'listen to your body' in Vestibular Group Fit!

Stress management

Hydration

Healthy blood sugar levels

Stress management

When your body is experiencing chronic stress, it's experiencing chronic fight-or-flight reactions. When this happens, our body releases cortisol at seemingly hyperdrive levels. High cortisol can lower estrogen levels, which we know can be bad for vestibular disorders, especially vestibular migraine and the estrogen crash.

Hydration

Our brains are 75% water. Even 1-2% dehydration in a person without a vestibular disorder can trigger dizziness and imbalance that seem like vestibular symptoms. Because you do have a vestibular disorder, it's even more important to stay hydrated and keep a healthy brain and body with water. Talk to your healthcare team about how much water you need to be drinking.

Healthy blood sugar levels

Your blood sugar levels should be homeostatic throughout the day, meaning that they fluctuate, but in a small range. Drops in blood sugar, quickly raising blood sugar too high, or out-of-range blood sugar, in general, can be hard on many vestibular disorders, especially vestibular migraine & Meniere's disease.

Eat throughout the day, be sure you're getting proteins, fats, and carbs in each meal & snack, and try to eat every 3-4 hours even if you're not starving.

Balancing Your Hormones

DISCLAIMER

Remember: this module is for informational purposes only and may not be the best fit for you and your personal situation. It shall not be construed as medical advice. The information and education provided here is not intended or implied to supplement or replace professional medical treatment, advice, and/or diagnosis. Always check with your own physician or medical professional before trying or implementing any information read or watched here.

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