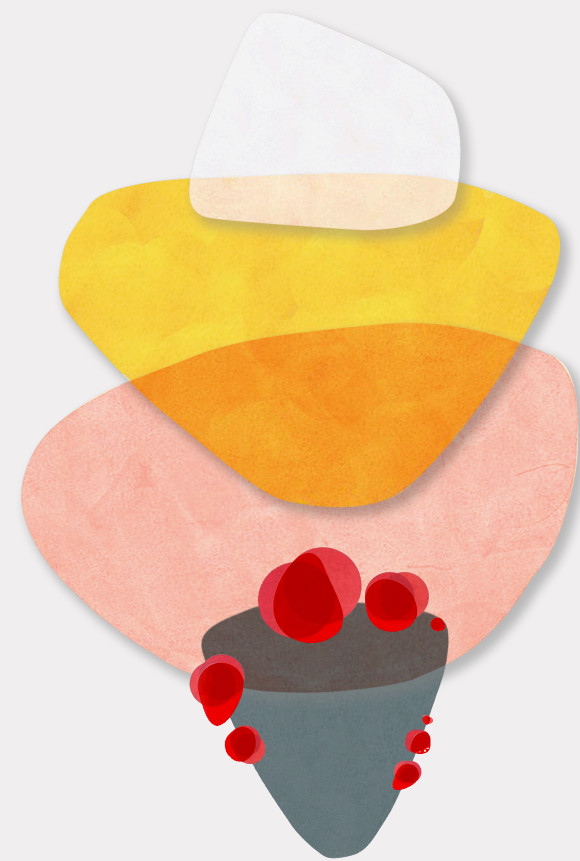


THE
integrative
women's health
INSTITUTE



Outsmart Endometriosis



An Integrative Approach to Endometriosis Relief

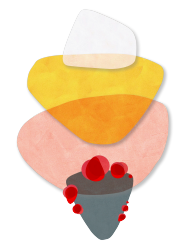
Dr. Jessica Drummond, DCN, CNS, PT, NBC-HWC

What Does an Integrative and Personalized Approach Look Like?

5 Pillars of Healing

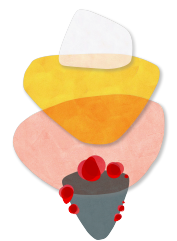
Assessment, testing, nutrition, manual and movement therapies, coaching, mental health support, and lifestyle medicine to address impairments in systems from the cellular to the community levels...

- ◉ **Pillar 1:** Assess and Shift The Autonomic Nervous System (ANS)
 - ◉ Collaborate with Trauma Release Therapies
- ◉ **Pillar 2:** Optimize Digestive Function and Gut Microbiome Composition
- ◉ **Pillar 3:** Balance Immune Function: Quench Inflammation and Quiet The Autoimmune Response
- ◉ **Pillar 4:** Optimize Musculoskeletal Function with Manual, Physical, and Movement Therapies
- ◉ **Pillar 5:** Build a Team with Surgery and Physical and Rehabilitation Medicine



Pillar 1: Assess and Shift The Autonomic Nervous System Safety in My System (SIMS)

- ◉ What would a safe, happy being feel/ think/ do?
- ◉ How can we measure/ track stress and improvement more objectively?

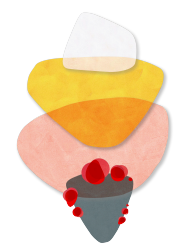
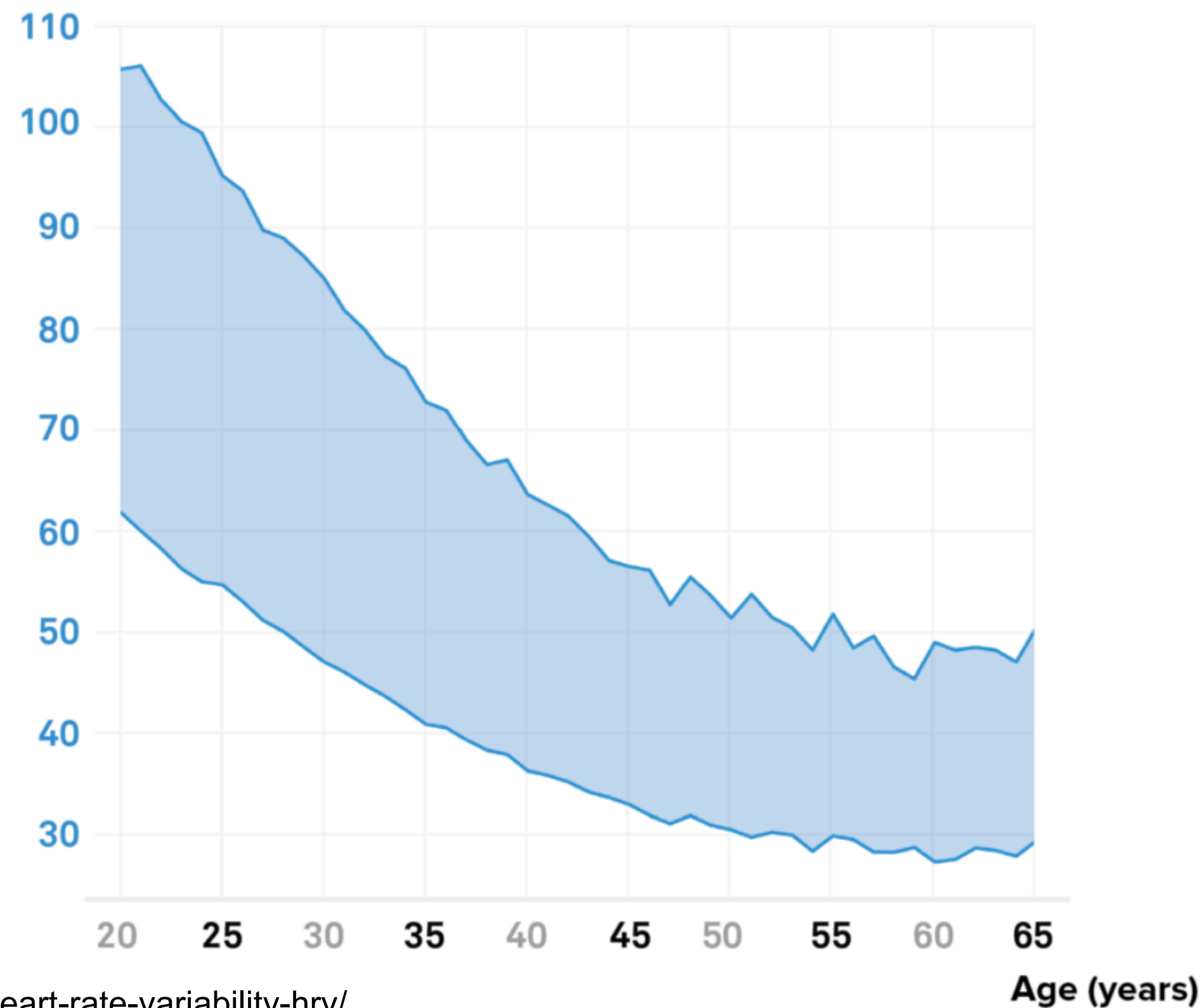


Fitness Tracking to Optimize HRV...

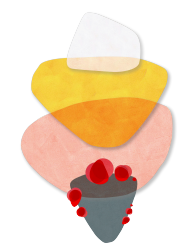
An objective measure of Stress vs SIMS

Middle 50% of HRV Values by Age

HRV (ms)

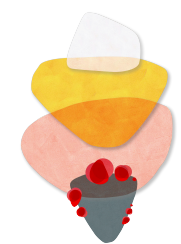
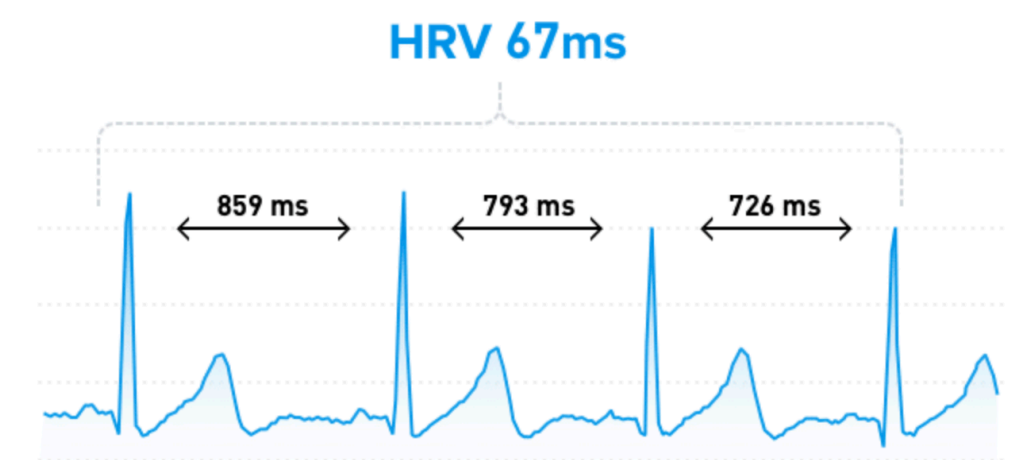


An ideal day...



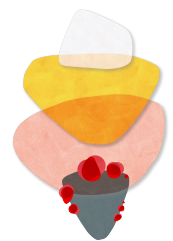
The “Stress” Metric (Garmin vivosmart 4)

- The stress metric is a custom Garmin determined metric based on heart rate variability (HRV).
- HRV measures how much variability (measured in milliseconds) there is between heart beats.
- A higher variability typically indicates a higher level of parasympathetic activity (relaxed/ calm/ heal state).
- A lower HRV typically indicates a higher level of sympathetic activity (fight/flight or stressed state).

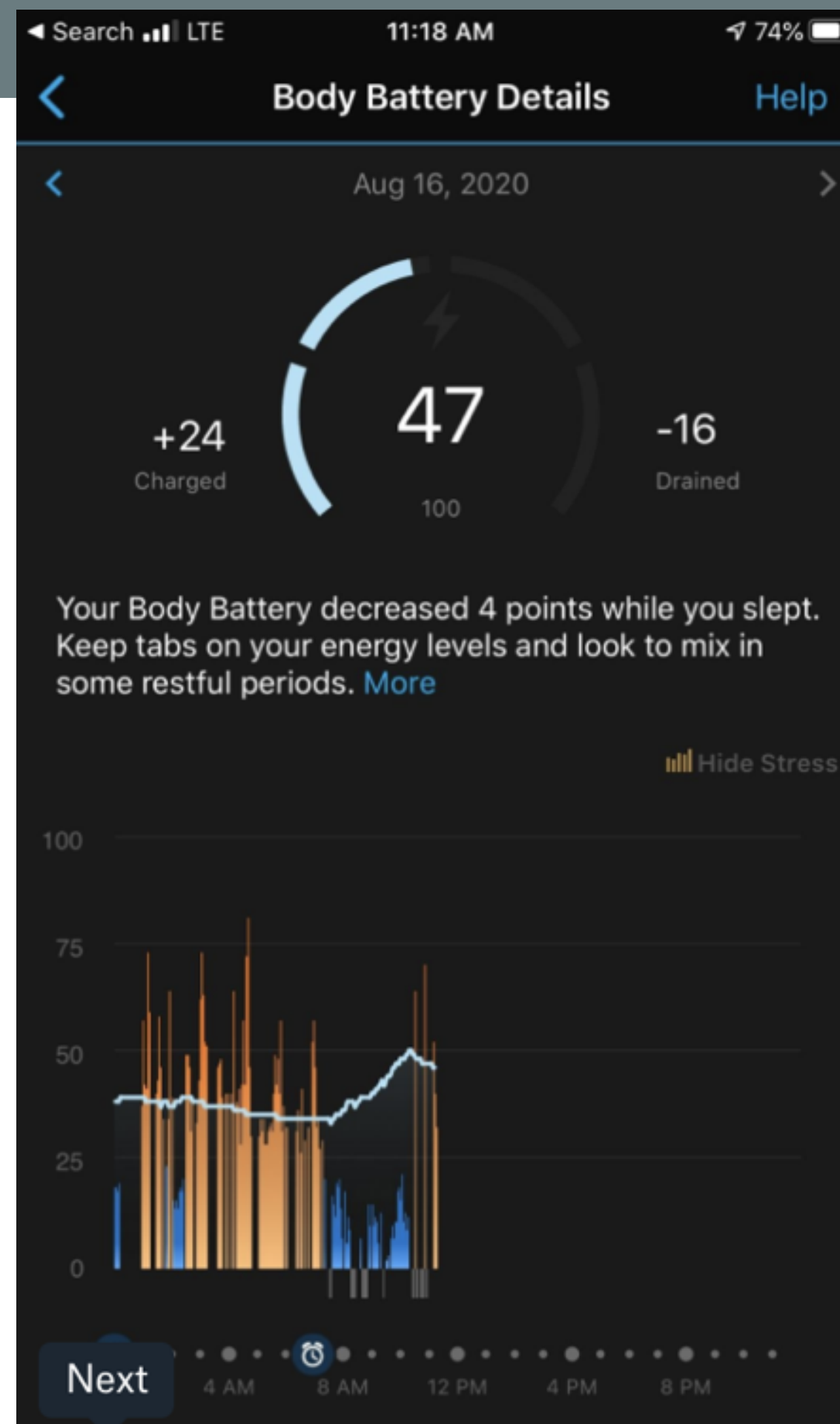


The “Stress” Metric (Garmin vivosmart 4)

- ◉ The number shown on the dashboard is the average stress score of the day.
- ◉ Normal ranges vary person to person, so the dashboard will typically determine a 28 day norm and looks for deviations from this norm for any given person.
- ◉ Garmin determines ranges as follows: 0-25 = Rest, 26-50 = Low Stress, 51-75, Medium Stress, 76-100 = High Stress



A high stress night, with need for heavy recovery in the morning...

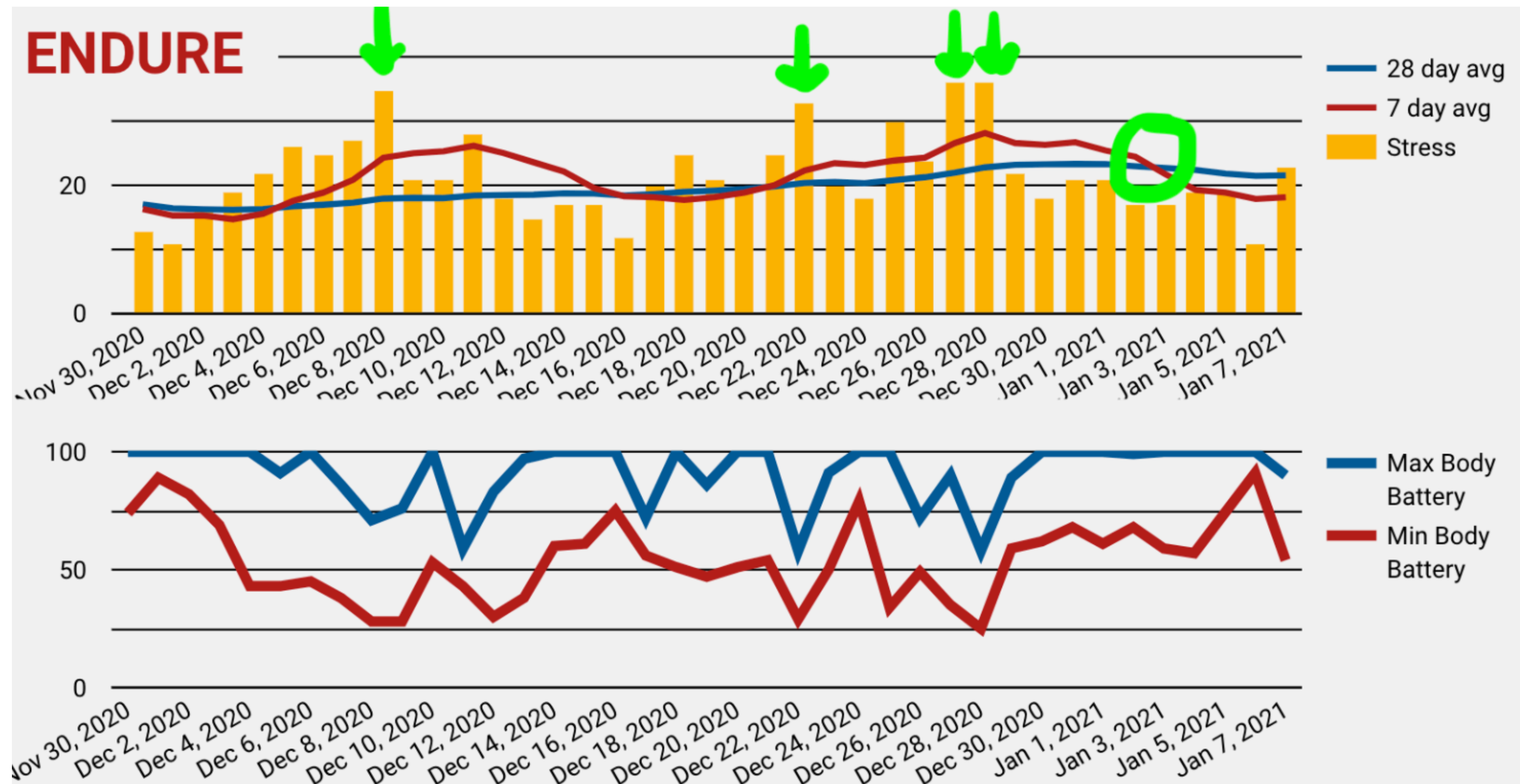


Using HRV to empower patients to use PSNS for recovery/ healing

- ◉ When monitoring your stress levels, what activities get you into the “blue” zone?
- ◉ When you wake up with your body battery fully charged, how do you feel? What did your previous day look like, what did your bedtime routine look like?
- ◉ When you wake with a low body battery and/or do not feel well rested, what was your total sleep? What about your quality sleep? What were your stress levels during the night? What were your stress levels entering into sleep?
- ◉ It could be that the individual got decent sleep but the wind down/relax time was not there leading up to it. This can impact body battery the next morning/how the individual feels.
- ◉ HOW and WHEN your clients eat is as important as what they eat. What are her stress levels with eating? What is her eating window?



Stress (HRV) Optimization for (Post-Surgical) Recovery

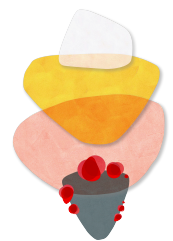
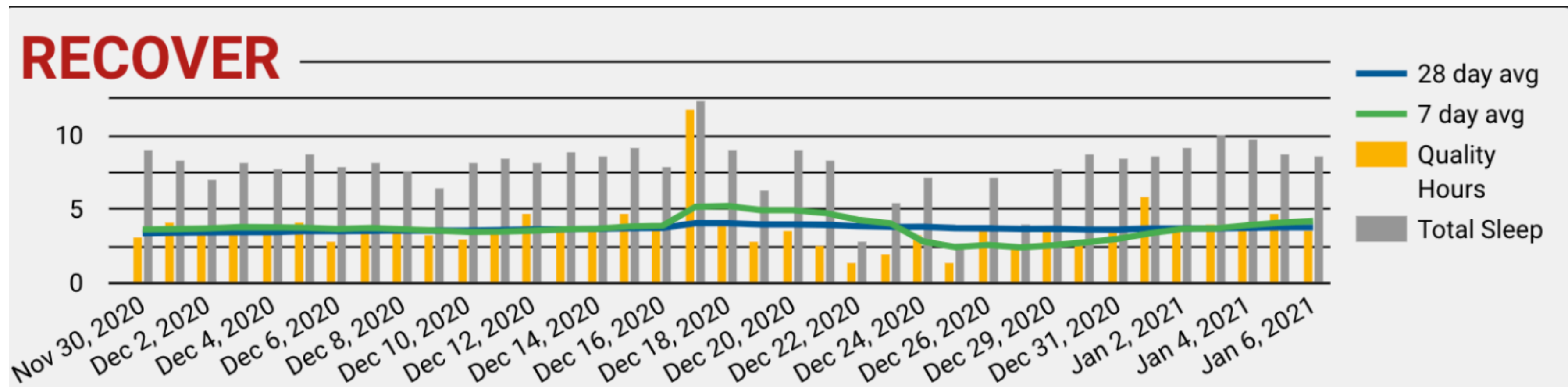


What could be “stressful”?

- Lack of parasympathetic activation, such as regular nervous system modulation techniques/ vagus nerve toning techniques -mindfulness, meditation, yoga, tai chi, chi gong, stimulate the vagus nerve at the neck or ear, laughter, etc.
- Lack of supportive health team, home team, or community
- Blood sugar dysregulation/ hormonal imbalances
- Histamine intolerance/ MCAS
- Anemia or other nutrient deficiencies
- Inflammation
- Trauma/ trauma history



Sleep Optimization for Recovery



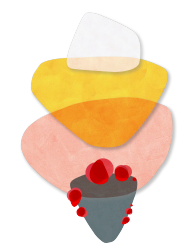
Sleep Optimization for Recovery

- ◉ Quality sleep (on our dashboard) is a measure that combines deep sleep and REM sleep. It should be around 40% of the total sleep hours.
- ◉ When monitoring-- **deep sleep**: optimal is 1.5 - 2 hours between 10pm and 2am nightly. (Monitor daily on the app.)
- ◉ **REM Sleep**: Your first period of REM sleep each night usually occurs within 90 minutes of falling asleep, and only lasts about 10 minutes. On average you'll go through 3-5 REM cycles per night, with each episode getting longer as the night progresses. The final one may last roughly an hour.
- ◉ For healthy adults, spending 20-25% of your time asleep in the REM stage is a good goal. If you get 7-8 hours of sleep, around 90 minutes of that should be REM.

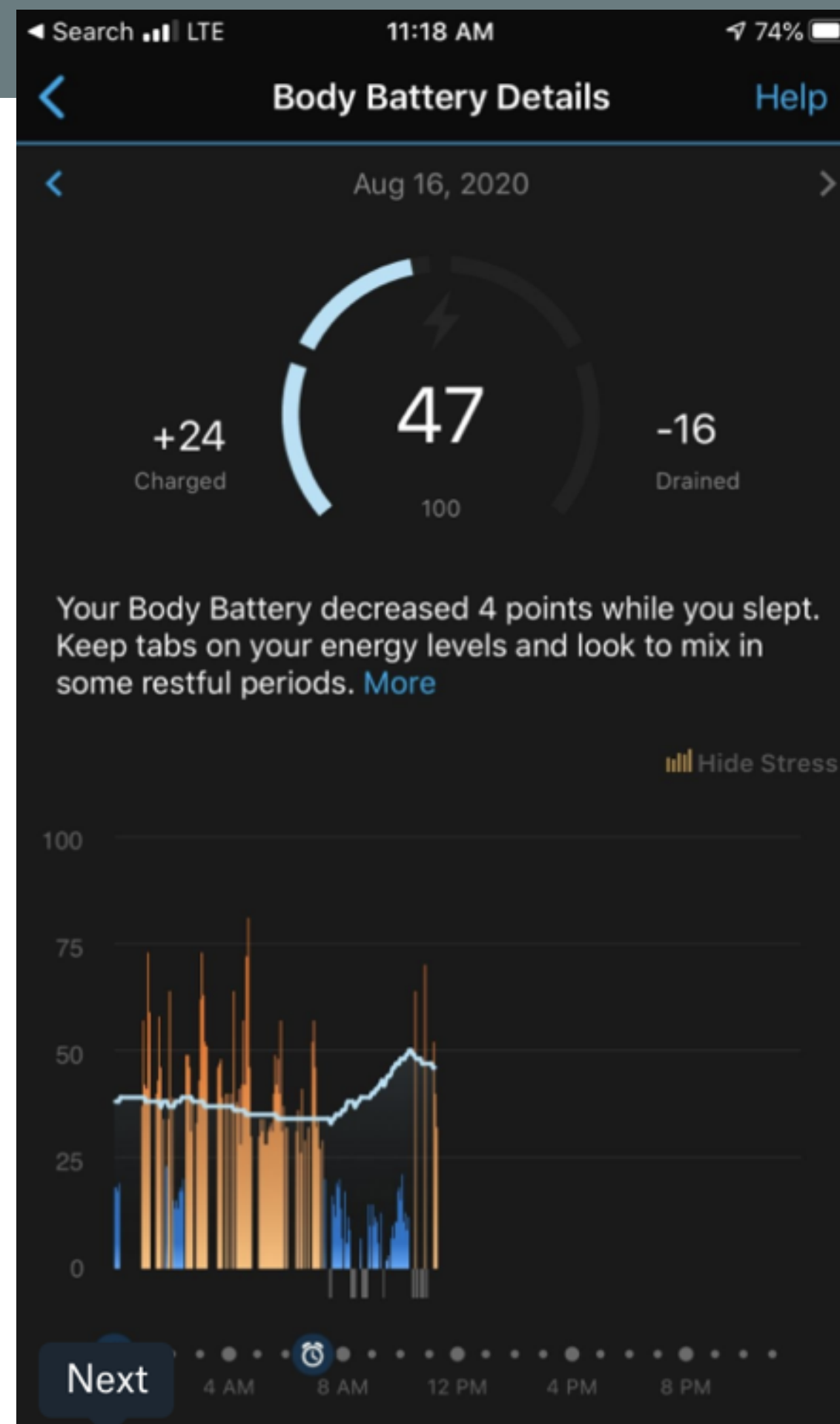


Using HRV guided exercise intensity and nutrition to empower patients to use PSNS for recovery

- ◉ When exercising, **how quickly do you recover** based on time of day the exercise was performed? For example, if you exercise at 10 AM, how long does it take you to get back into the blue zone, how is your sleep, what is your body battery the following morning versus if you exercise at 4 PM?
- ◉ If you have a high-intensity workout planned, but wake with a lower body battery, would it be possible to switch this out with something more restorative?
- ◉ What happens after you eat, do you go into the orange or blue zone? Does this vary by what you eat, the time you eat, how you eat? What about after you drink water? What connections do you notice between what you eat for (when you eat) dinner and stress over night?



A high stress night, with need for heavy recovery in the morning...



Brain Inflammation and Pain

- Reducing inflammation (HRV—> stress) holistically...



Beyond Nutrition



Integrative Women's Health Institute ...

Published by Jessica Drummond [?]

· December 14, 2019 · 🌐

My secrets to an anti-inflammatory life. Do you agree?

- ❤️ Gently have the difficult conversation. Repeat as needed.
- 💰 Keep 6 months of expenses in savings.
- ⚡ Turn off the wifi at night.
- 🙏 Meditate or pray before you do anything else.
- 🍷 Celebrate everything.
- 😴 Go to sleep.
- 👐 Practice receiving help.
- 💧 Drink water.
- 🌲 When it feels too hard, take a walk.
- 👂 Listen.
- 🤗 Don't hold back when someone needs a hug.

🔒 Tag Products

✎ Edit

3,982

People
Reached

524

Engagements

[Boost Again](#)

Boosted on Dec 23, 2019

By Jessica Drummond

Comple

People
Reached

1.1K

Post
Engagement



Comment as Integrative ...



Direct Neurotransmitter Support

- ◉ GABA: CBD, certain probiotics, yoga
- ◉ Serotonin: Amino acid absorption, specific amino acid supplementation - L-tryptophan, 5-HTP (be careful of over supplementing with collagen peptides that don't contain tryptophan, can lead to serotonin depletion), and certain probiotics



“All disease begins in the gut.”
Hippocrates

“Actually... it all *begins* in the
nervous system, but the gut is a
close second.”

me





Pillar 2: Optimize Digestive Function and Gut Microbiome Composition

Digestive Function

1. Chewing
2. Eating mindfully
3. Adequate stomach acid, digestive enzymes, bile
4. Healthy small intestinal lining
5. Optimized intestinal motility
6. Healthy and diverse gut microbiome
7. Healthy colonocytes
8. Healthy pelvic floor function and toileting position for 1-3 times daily Bristol 4 bowel movements



Anti-inflammatory Nutrient Dense Diet (Not one-size-fits-all)

- Range of Healthy “Diets” to Support Endometriosis Healing
- Vegan/ Vegetarian (anti-inflammatory, nutrient dense, difficult to get enough amino acids to support soft tissue resilience and neurotransmitter balance)
- Mediterranean (anti-inflammatory, nutrient dense, B-vitamins in grains good for HPA axis balance, but many sensitive to gluten/ dairy)
- Paleo/ AIP/ Keto-Alkaline (more easily absorbed amino acids - IF good stomach acid/ enzymes, lots of veggies, fewer immune sensitivities - nightshades, nuts, legumes, grains)



Elimination Diet as Assessment Tool

- 3-4 weeks to quiet autoantibodies
- Vegetables: ALL 8-10 servings daily, except nightshades in those with a high suspicion of sensitivity to these.
- Protein: Fish, grass fed red meat (may need to limit to 1 serving weekly), organic poultry (also may need to limit) - consider risk vs. therapeutic intake of amino acids, legumes (if vegan/ vegetarian, depending on suspicion of sensitivity.)
- With many autoimmune comorbidities, may even consider carnivore to rest immune activation.



Personalized Elimination Diet

- Healthy Fats: omega-3 fish oil, avocado, olive oil, nuts and seeds (consider suspicion of sensitivity), coconut oil
- Grains: may eliminate, may reduce and be gluten free
- Herbs and spices: garlic, turmeric, oregano, rosemary, ginger, basil, fennel, cinnamon, etc.
- Be careful with nightshades/ spicy spices - red pepper, paprika, etc.
- HYDRATION



Personalized Elimination Diet Avoid to Assess

- Grains
- Nightshades
- High Oxalate and Histamine Foods
- Dairy
- Gluten
- Soy
- Sugar/ Sweeteners



Personalized Elimination Diet Avoid to Assess

- Very high oxalate foods (but related more to digestive FUNCTION and lack of calcium absorption)
 - Spinach
 - Bran
 - Rhubarb
 - Beets
 - Potatoes
 - Nuts and nut butters
 - Vinegars/ Citrus/ Vitamin



Personalized Elimination Diet Avoid to Assess

- High histamine foods (also related to function - DAO enzyme, etc.)
- HNMT snp?
 - Alcohol
 - Fermented, pickled or canned foods
 - Aged cheeses
 - Smoked and cured meats
 - Shellfish
 - Beans and Legumes
 - Nuts
 - Chocolates and other cocoa based products
 - Vinegar
 - Processed foods



Personalized Elimination Diet Avoid to Assess

- Histamine Liberators
 - pineapples
 - bananas
 - citrus fruit, such as oranges, limes, lemons, and grapefruit
 - strawberries
 - papaya
 - tomatoes
 - nuts
 - spices
 - legumes
 - cocoa
 - alcohol
 - seafood
 - egg whites



Histamine and Endometriosis Symptoms

- Itchy skin, eyes, ears and nose and/or seasonal allergies
- Dermatitis/ Chronic hives
- Burning in mouth, hands or feet
- Swelling / Feeling of tightness or fullness in the throat
- Flushing or temperature regulation issues
- Postural Orthostatic Hypotension Syndrome (POTS) or other forms of dysautonomia
- Dizziness, Vertigo, or even loss of consciousness
- Low blood pressure/ Tachycardia/ Heart palpitations
- Sleep disturbance/ Confusion or Irritability/ Anxiety or panic attacks
- Migraines/ Alcohol intolerance/ Caffeine intolerance
- Irregular menstrual cycle/ Gut motility issues



Histamine Issues and Endometriosis

- Diamine oxidase (DAO) is the digestive enzyme that breaks down histamine.
- Consider a deficiency of this enzyme.
- HistaminX: Supplement of probiotic species that DON'T produce histamine in the gut.
 - Bifidobacterium infantis
 - Bifidobacterium bifidum
 - Bifidobacterium longum
 - Lactobacillus salivarius
 - Lactobacillus plantarum
 - Bifidobacterium lactis
 - Bifidobacterium breve



Histamine Issues and Endometriosis

- **Histamine methyltransferase (HNMT)** is the other enzyme involved in the breakdown of histamine.
- Consider genetic snags that may limit its efficiency (related to migraines, Parkinson's, and ADHD)
- Supplement with zinc and the ayurvedic herb salacia oblonga (to balance blood sugar.)
- Metformin can further inhibit the efficiency of DAO enzyme function.
- Folate, magnesium, SAMe, vitamins B1, B5, B6, and vitamin C can support the activation of the HNMT enzyme, while turmeric and caffeine and sodium benzoate can inhibit its activity.



Endometriosis and Autophagy

- **Normally there is a shift in autophagy through the menstrual cycle. But, in endometriosis autophagy is not happening normally, especially as the cycle progresses to the luteal phase.**
- The down-regulation of autophagy in endometriosis is estrogen-dependent and is also caused by inflammation.
- But, persistent oxidative stress experienced, decreased susceptibility to p53 and hypoxia may contribute to autophagy increasing in endometriosis.
- Thus, timing may be important to consider.

Yang, H. L., Mei, J., Chang, K. K., Zhou, W. J., Huang, L. Q., & Li, M. Q. (2017). Autophagy in endometriosis. *American journal of translational research*, 9(11), 4707–4725.

Zhan, L., Li, J., & Wei, B. (2018). Autophagy in endometriosis: Friend or foe?. *Biochemical and biophysical research communications*, 495(1), 60–63. <https://doi.org/10.1016/j.bbrc.2017.10.145>



Endometriosis and Autophagy

- **Could intermittent fasting (or fasting cyclical with the menstrual cycle) be beneficial?**

Yang, H. L., Mei, J., Chang, K. K., Zhou, W. J., Huang, L. Q., & Li, M. Q. (2017). Autophagy in endometriosis. *American journal of translational research*, 9(11), 4707–4725.

Zhan, L., Li, J., & Wei, B. (2018). Autophagy in endometriosis: Friend or foe?. *Biochemical and biophysical research communications*, 495(1), 60–63. <https://doi.org/10.1016/j.bbrc.2017.10.145>

CAUTION
Elimination Diet is a
(short term)
ASSESSMENT TOOL
ONLY



Brain > Gut

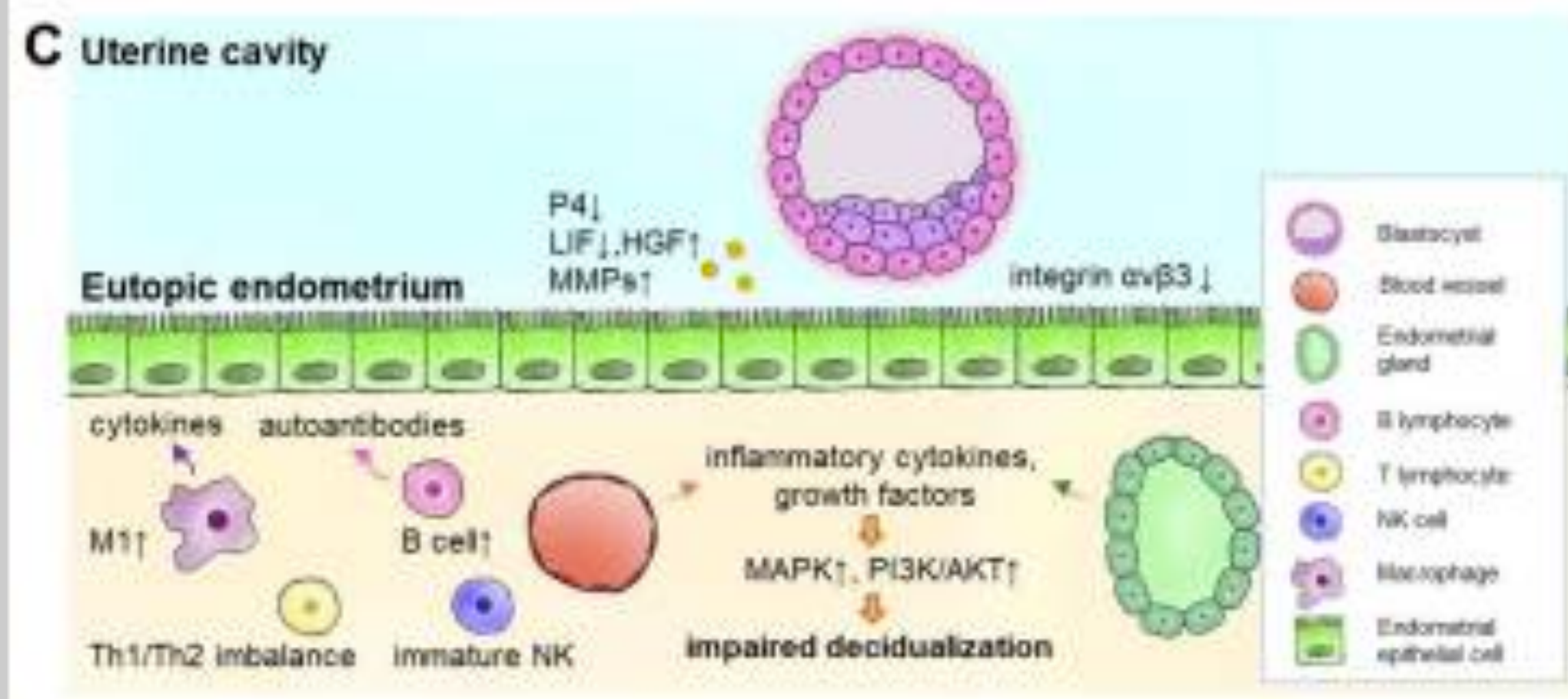
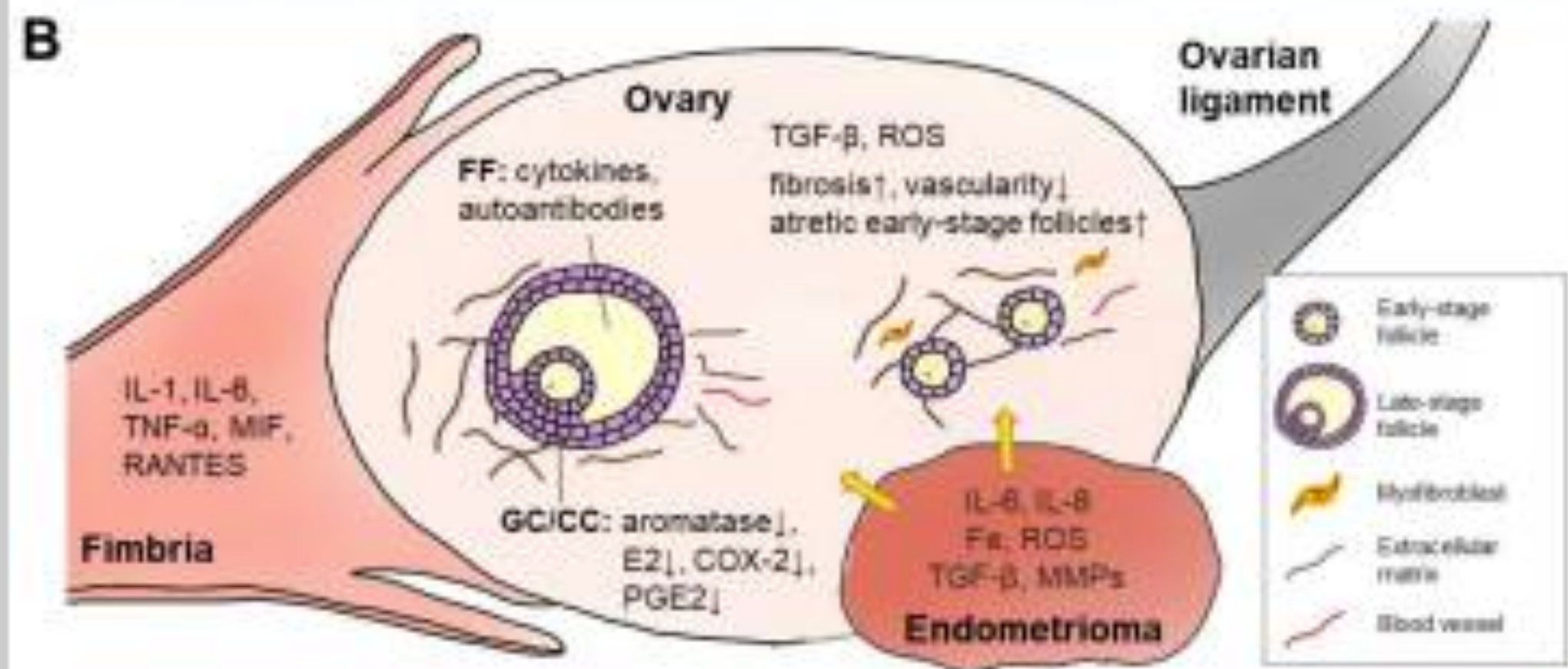
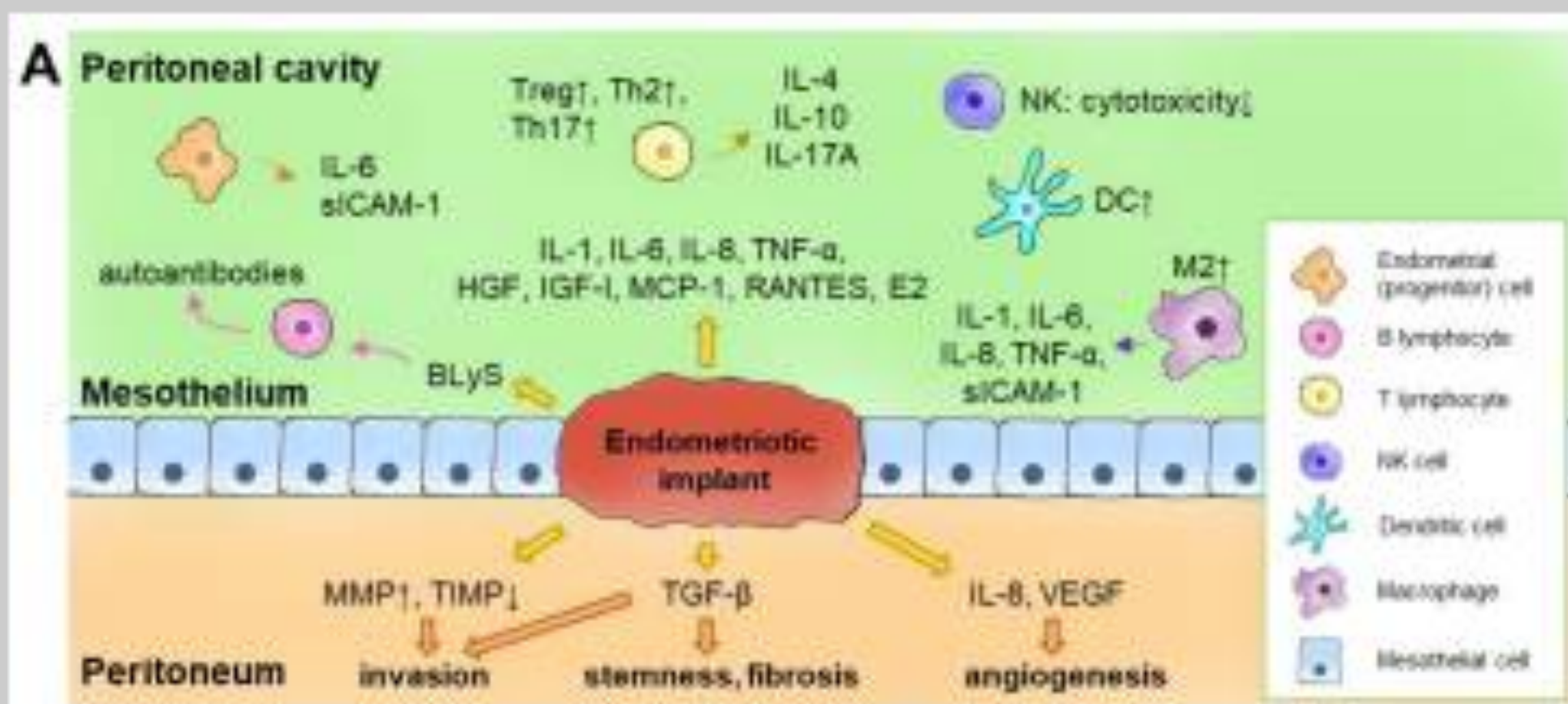
*Be careful not to
activate the fear
response of the limbic
system!





Pillar 3: Balance Immune Function: Quench Inflammation and Quiet The Autoimmune Response

- **Address small intestine barrier function:** glutamine, zinc, berberine, demulcent herbs, collagen, reduction of irritants, etc.
- **Anti-microbial herbs** (SIBO, SIFO, dysbiosis): berberine, uva-ursi, garlic, oregano oil, olive leaf extract, etc. (**don't forget motility...** supplements (ginger and artichoke), visceral PT, vagus nerve toning/optimizing HRV.)
- **Anti-inflammatory and antioxidant supplements:** resveratrol, EGCG, Vitamins C&E, pycnogenol, curcumin, etc.
- **Mitochondrial support:** Antioxidants, also L-carnitine + fish oil



Chronic Inflammation is Associated with Endometriosis-Associated Infertility

Lin, Y. H., Chen, Y. H., Chang, H. Y., Au, H. K., Tzeng, C. R., & Huang, Y. H. (2018). Chronic Niche Inflammation in Endometriosis-Associated Infertility: Current Understanding and Future Therapeutic Strategies. *International journal of molecular sciences*, 19(8), 2385. doi:10.3390/ijms19082385



Immune Support/ Gut and Pelvic Microbiome

- Optimize digestive motility
 - Vagus nerve toning
 - Visceral PT
 - Movement strategies
 - Ginger/ artichoke
 - Mindful eating
- Prebiotic and Probiotic Foods
- Test and optimize gut microbiome



Pillar 4: Optimize Musculoskeletal Function with Manual, Physical, and Movement Therapies

- Amino acids, peptides and co-factors for **collagen stability** (common EDS comorbidity): vitamin C, zinc, manganese
- Pelvic physical therapy including viscero-vascular mobilization (especially ileocecal valve) and myofascial release of local areas of immobility
- Pelvic floor down training and stability/ neuromuscular re-education
- Motility optimization supplements such as... standardized extracts of artichoke (*Cynara cardunculus*) and ginger (*Zingiber officinale*), histamine breakdown enzymes, quercetin, rotational movement, general movement, and vagus nerve toning and nervous system regulation exercises.



Movement and Routine for Healthy Bowel Function

- Assess and support circadian rhythm.
- Morning routine - hydration, sunlight, movement, etc.
- Regular movement. Consider the time that it feels easiest, consistency is key.
- Stop eating earlier in the evening (ideally eat during daytime hours, or stop eating 2 hours before bedtime.)
- Fasting/ feeding in alignment with expression of clock genes.
- Evening wind down routine.

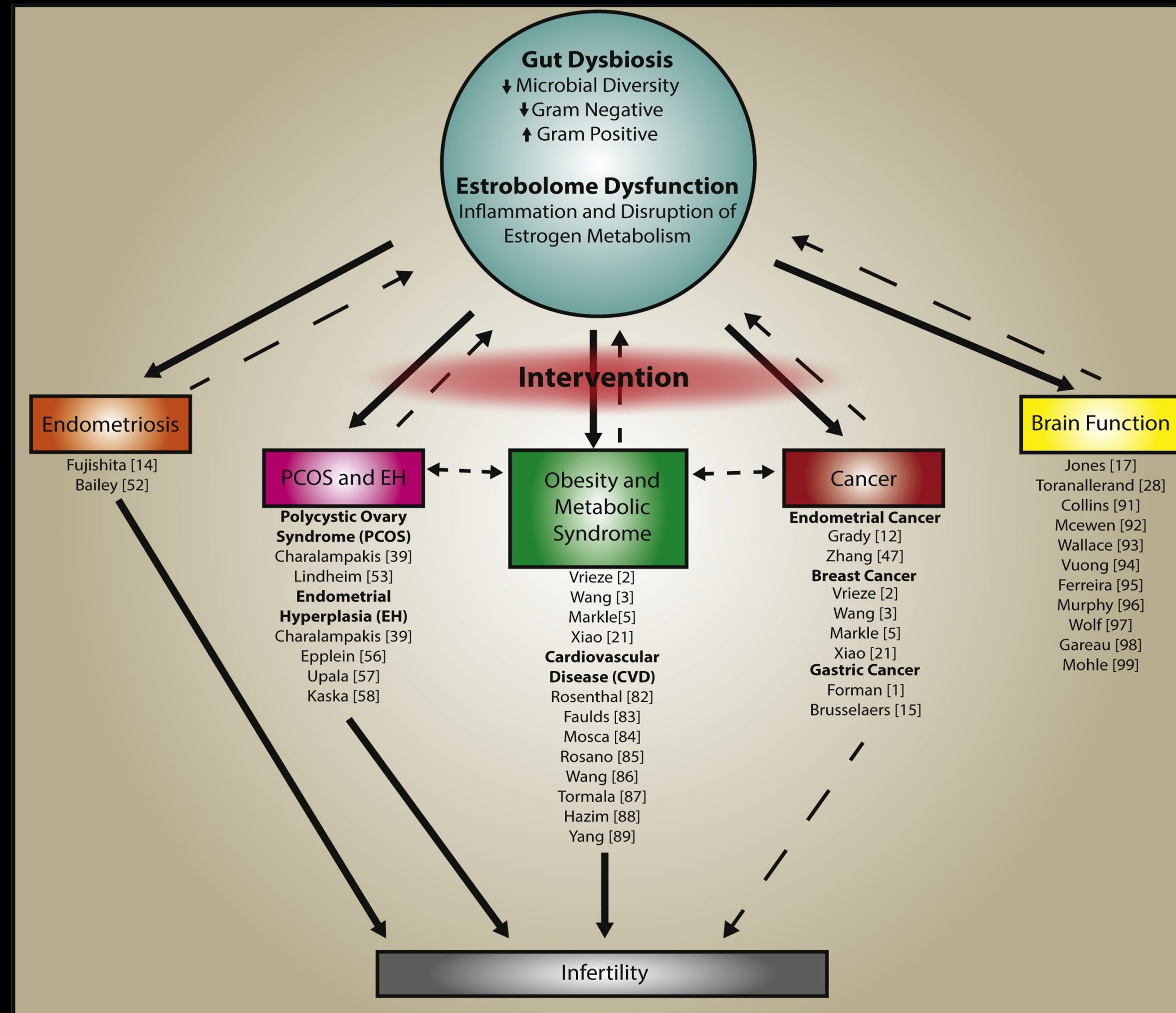


A Word on Hormones...

The Endocrine Environment in Endometriosis **Complicated, especially for DIE**

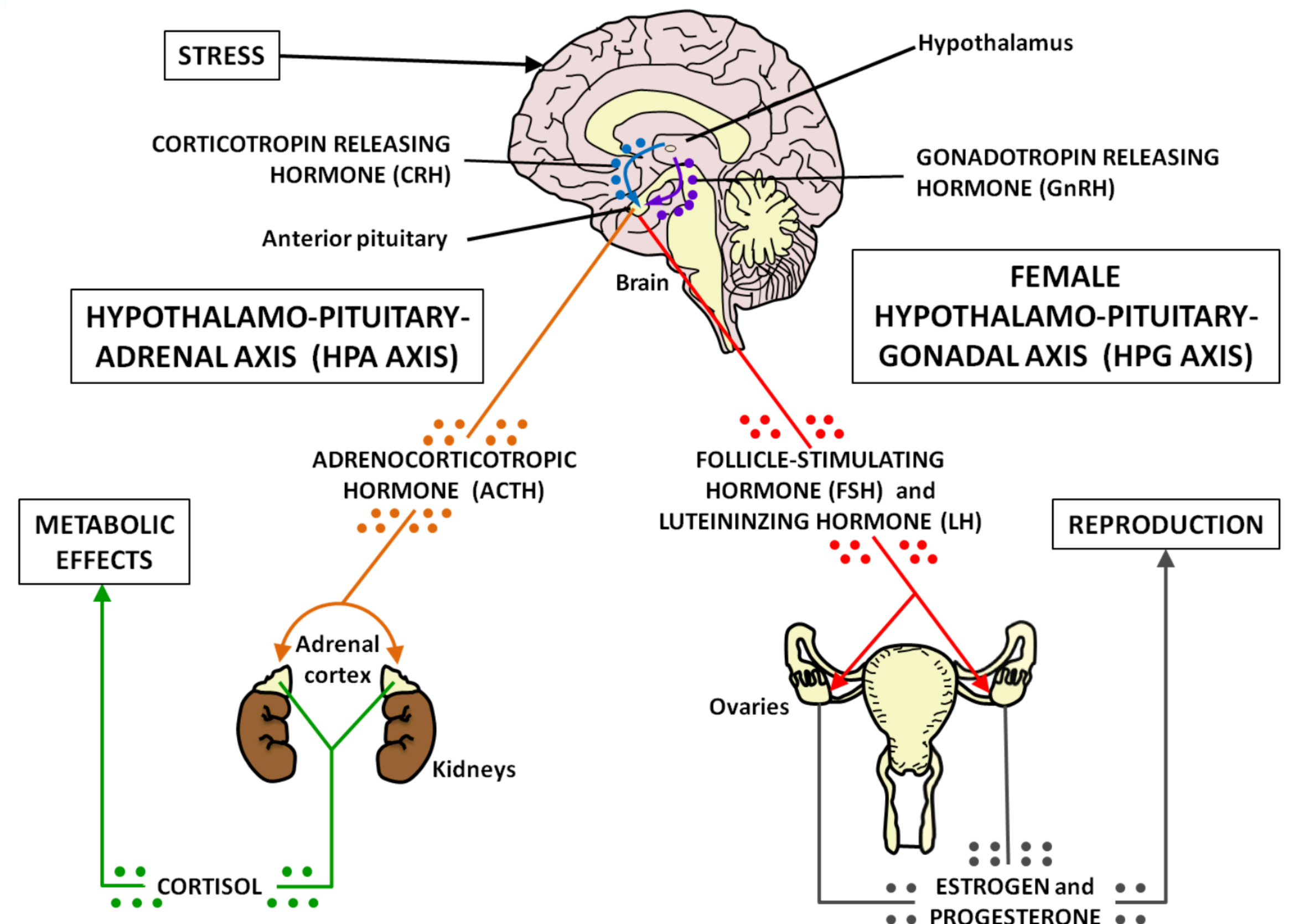
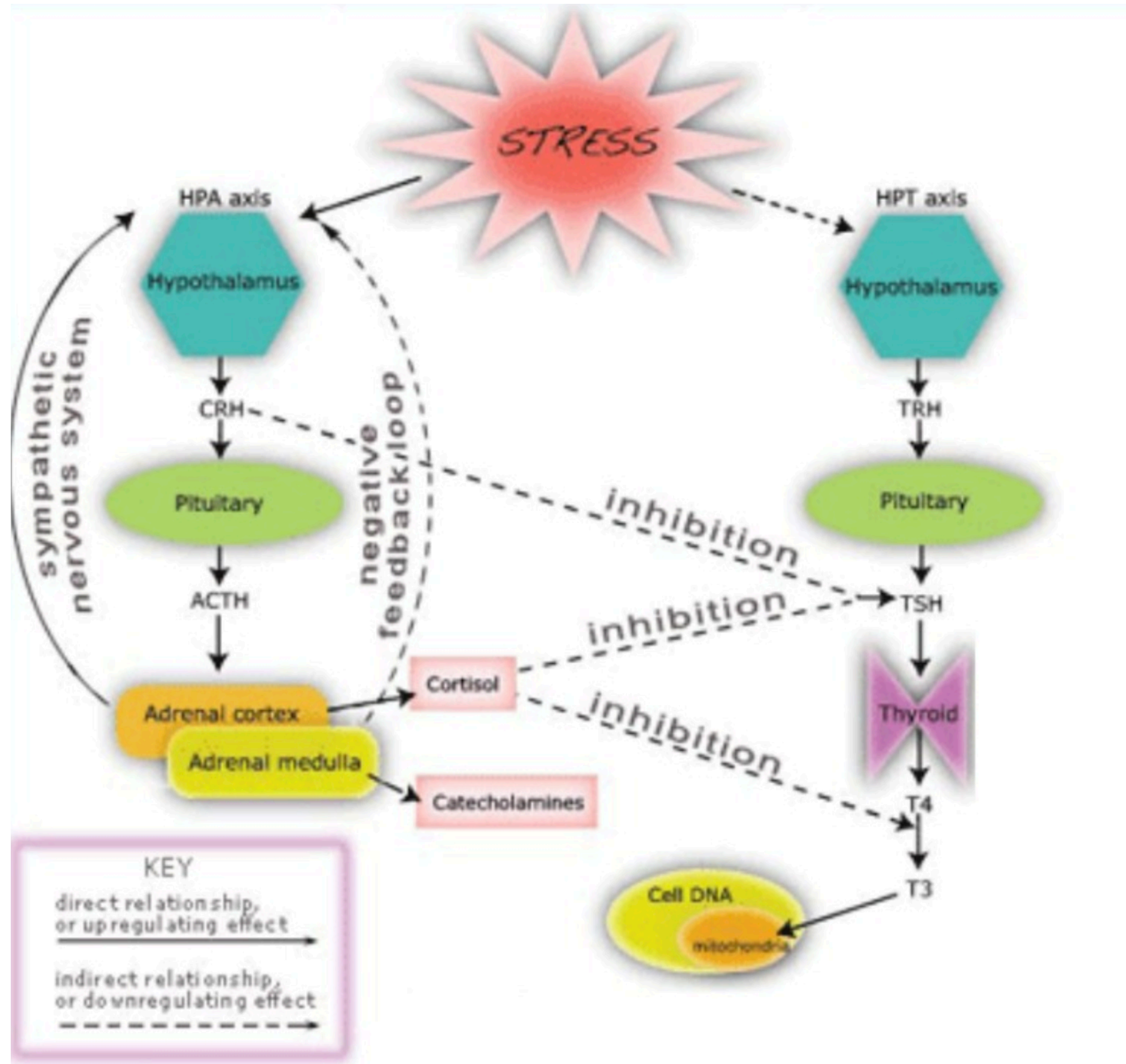
- “We observed a high variability (of ERα and PR distribution) in the same gland, among distinct glands in the same sample and among distinct patients receiving the same treatment.”
- Luminal epithelial height (LEH) and stromal staining intensity (SSI) were not modified according to treatment (with hormonal therapies.)
- **This heterogeneity of ERα and PR distribution could explain why endocrine treatments are unable to cure this condition.**

Brichant, G., Patricia, N., Adelin, A., Carine, M., Foidart, J-M., & Nisolle, M. (2018). Heterogeneity of estrogen receptor α and progesterone receptor distribution in lesions of deep infiltrating endometriosis of untreated women or during exposure to various hormonal treatments. *Gynecological Endocrinology*, DOI: 10.1080/09513590.2018.1433160





Support The HPA, HPT, HPO Axes



“Once you choose hope, anything’s possible.”

– Christopher Reeve





Pillar 5: Build a Team with Surgery and Physical and Rehabilitation Medicine

Surgical Consult

- Personalized nutrition, physical therapy, and skilled lifestyle medicine are collaborative to skilled excision surgery in many cases.
- Surgical excision has impacts on autoimmune markers.
- Don't forget the risk of extra pelvic endometriosis (and common comorbidities, such as ovarian cancer.)



Post-Op Adhesions/ Scarring A Role for Enzyme Therapy?

- 12.5% of women with endometriosis report using serrapeptase to manage symptoms.

Krabbenborg, I, et al. (2021) Diet quality and perceived effects of dietary changes in Dutch endometriosis patients: an observational study
Published: July 23, 2021 DOI: <https://doi.org/10.1016/j.rbmo.2021.07.011>



Post-Op Adhesions/ Scarring A Role for Enzyme Therapy?

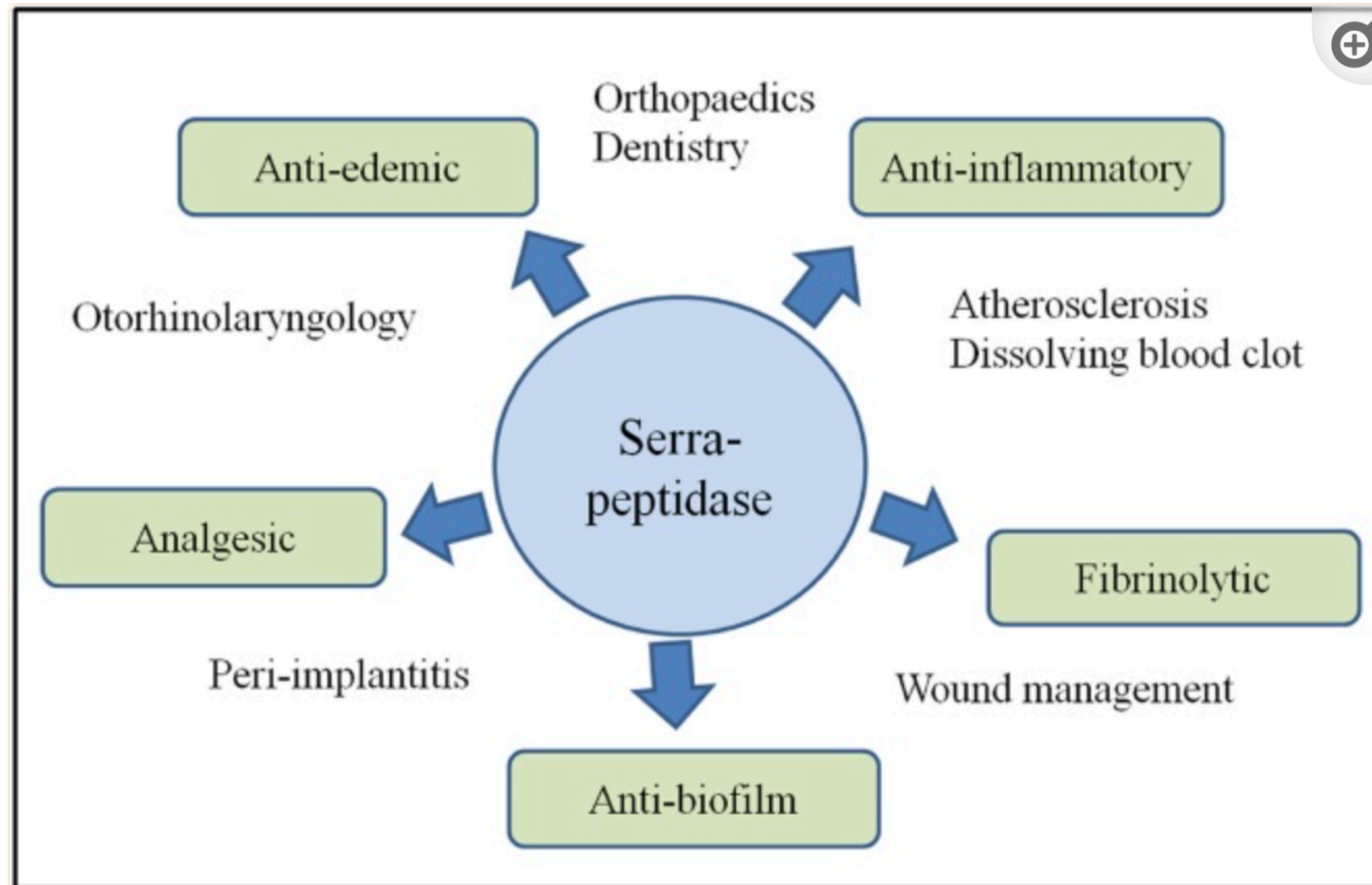
- The fibrinolytic enzymes **serrapeptase** and **nattokinase** have been shown to be effective in removing fibrous scar tissue.
- Anti-inflammatory, anti-biofilm, analgesic, anti-edemic, and fibrinolytic
- Serratiopeptidase, commonly known as serrapeptase, is widely used in surgery, orthopedics, otorhinolaryngology, gynecology, and dentistry for its anti-inflammatory, anti-edemic and analgesic effects (but limited research):
 - Pulmonary fibrosis
 - IBD
 - Post-op ortho and buccal surgeries

Shah N. (2021). Effects of Systemic Enzyme Supplements on Symptoms and Quality of Life in Patients with Pulmonary Fibrosis-A Pilot Study. *Medicines (Base, Switzerland)*, 8(11), 68. <https://doi.org/10.3390/medicines8110068>

Jadhav, S. B., Shah, N., Rathi, A., Rathi, V., & Rathi, A. (2020). Serratiopeptidase: Insights into the therapeutic applications. *Biotechnology reports (Amsterdam, Netherlands)*, 28, e00544. <https://doi.org/10.1016/j.btre.2020.e00544>



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Risks of **Serrapeptase** and **Nattokinase**

- Risks of **serrapeptase** and **nattokinase**:
- Increased bleeding in those with bleeding disorders, such as hemophilia, people who take blood thinners, and must be **stopped at least 2 weeks prior to surgery**. (Wait for at least 1-2 weeks post-op as well to be sure the client is stable.)
- May promote dizziness, headaches, lightheadedness or fainting in those with low blood pressure or dysautonomia.
- Can also cause hypotension in those on antihypertensive drugs, like ACE inhibitors and calcium channel blockers.
- Serratiopeptidase comes from an animal (silkworm) and is not GI stable (must be enteric coated.)



Consider Transformation Enzymes Protease

- Watch for symptoms of **biofilm disruption**, and **consider bleeding risks**.
- Endo + common co-infections: upper genital tract and peritoneal infections
 - More colony forming units of Gardnerella, Streptococcus, Enterococci and Escherichia coli in the endometrium.
 - In the cervix Atopobium is absent, but Gardnerella, Streptococcus, Escherichia, Shigella, and Ureoplasma are increased.
 - Higher concentrations of E. Coli and higher concentrations of bacterial endotoxins in menstrual blood.
 - A Shigella/Escherichia dominant stool microbiome is more frequent.
 - Higher concentrations of bacterial endotoxins and an increased incidence of mollicutes and of HPV viruses.
 - In mice, transplanted endometrium changes the gut microbiome while the gut microbiome influences the growth of these endometriosis lesions.



Consider Transformation Enzymes Protease

- Transformation Protease, Protease IFC (anti-inflammatory / anti-oxidant blend), or Protease + CBD (research is limited on effectiveness/ safety in humans with endometriosis.)
- Based on survey data: oral forms of cannabinoids are superior for mood and gastrointestinal symptoms in people with endometriosis. (Inhaled for pain.)

Mistry, M., Simpson, P., Morris, E., Fritz, A. K., Karavadra, B., Lennox, C., & Prosser-Snelling, E. (2022). Cannabidiol for the Management of Endometriosis and Chronic Pelvic Pain. *Journal of minimally invasive gynecology*, 29(2), 169–176. <https://doi.org/10.1016/j.jmig.2021.11.017>

Sinclair, J., Collett, L., Abbott, J., Pate, D. W., Sarris, J., & Armour, M. (2021). Effects of cannabis ingestion on endometriosis-associated pelvic pain and related symptoms. *PloS one*, 16(10), e0258940. <https://doi.org/10.1371/journal.pone.0258940>



Physical Medicine and Rehabilitation

- Ultrasound guided nerve blocks
- Local anti-inflammatory injections
- Other medical approaches to neuromusculoskeletal pain



What's the *protocol*?

- There is no one-size-fits-all Endometriosis Protocol
- A root cause focused integrative approach addresses each person's nervous, immune, digestive, endocrine, and musculoskeletal systems.
- When these systems are optimized surgical outcomes are improved, symptoms are reduced or eliminated, and fertility is optimized.

“

Don't chase symptoms.
Optimize systems.

DR. JESSICA DRUMMOND





Thank You

- Connect on Instagram **@integrativewomenshealth**
- Go to: **womenshealthquiz.com** to test your women's health practice skills.
- Learn more at: **IntegrativeWomensHealthInstitute.com**