Hypermobility 106: GI issues in EDS, POTS and MCAD

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Slide handouts and videos are available at:
https://webspace.clarkson.edu/~lrussek/hsd.html

Who Am I?

- Professor Emeritus, Physical Therapy Department, Clarkson University
- Staff PT, St. Lawrence Health System, Potsdam NY
  - Clinical specialties: hypermobility, fibromyalgia, headaches, temporomandibular disorders
- Frequent presenter to professional and patient groups at national conferences
- Author of multiple review and research articles on hypermobility
- Author of ”Chronic Pain” chapter in *Physical Rehabilitation* textbook for PT students
- Lrussek@Clarkson.edu
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I do not have any conflicts of interest to report

Hypermobility Lecture Series

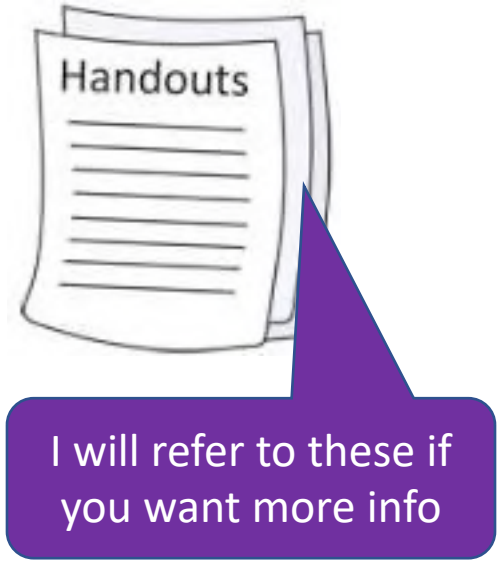
I will refer to these if you want more info

- HSD 101: Basics of HSD/hEDS and self-care
- HSD 102: POTS and POTS self-care, basics of MCAS
- HSD 103: Pain management in HSD/hEDS
- HSD 104: Safe exercise selection and progression with HSD/hEDS
- HSD 105: Posture and joint protection
- **HSD 106: Gut issues in HSD/hEDS, POTS, MCAS**
- HSD 107: Fatigue in HSD/hEDS and POTS
- HSD 108: Headaches, migraines, and TMJ pain in HSD, POTS and MCAS
- HSD 109: Breathing dysfunctions in HSD
- HSD 110: Lumbar instability
- HSD 111: Cervical instability (Part 1: anatomy available on-line, & Part 2 live)
- HSD 112: The vagus nerve
- HSD 113: The importance of fascia
- HSD 114: Hospitalization and surgery with HSD/POTS/MCAS

Objectives

1. Describe some of the GI problems common in the “terrible trifecta” – EDS, POTS, MCAS.
2. Propose self-care strategies for managing some GI issues.
3. Provide a starting point for discussing GI issues with your MD.

Relevant Handouts Available



On my website: https://webspace.clarkson.edu/~lrussek/research.html

- **POTS**
  - Overview of POTS symptoms and causes.
  - Checklist for POTS self-care management.
- **MCAS self-care**
  - Suggestions for managing MCAS.
- **General Self-Care Strategies**
  - Check your medications. Medications can irritate your gut. This handout shows you how to check.
  - Breathing. Breathing incorrectly can increase pain sensitivity, especially in the GI tract.
- **Links to other resources**
  - www.potsuk.org **POTS-UK**
  - http://www.dysautonomiainternational.org Dysautonomia International.
  - https://tmsforacure.org **The Mast Cell Disease Society.**
  - https://www.mastzellaktivierung.info/en/introduction.html. (has English language pages)
  - Bonnie Nasar is a dietician who specializes in EDS, MCAS. She provides individual telehealth, and also has an EDS Nutrition Course: https://nasarnutrition.com

Disclaimer

- I am neither a physician nor a nutritionist/dietician.
- I have based this lecture on published medical literature as much as possible.
- This lecture includes information that my physical therapy patients sometimes find helpful to understand their conditions and/or begin a conversation with appropriate specialists.
- Discuss your personal situation with your health care provider
- I cannot provide individual medical advice regarding diagnosis or treatment.

- Bonnie Nasar is a dietician who specializes in EDS, MCAS. She provides individual telehealth, and also has an EDS Nutrition Course: https://nasarnutrition.com
- She has a lecture on nutrition to address brain fog, fatigue and pain in EDS: https://www.chronicpainpartners.com/webinar/webinar-optimizing-nutrition-to-decrease-brain-fog-fatigue-pain/

Approach to Management of HSD

Assist patient in identifying and managing systemic comorbidities: education, treatment and/or referral

Decrease central, peripheral, and autonomic pain sensitization

Educate for correct posture and joint alignment, body mechanics, joint protection, appropriate use of splints and braces

Proprioceptive and motor control training, with training to relax muscles that are guarding

↓

Stabilization, strengthening, muscle flexibility, aerobic conditioning

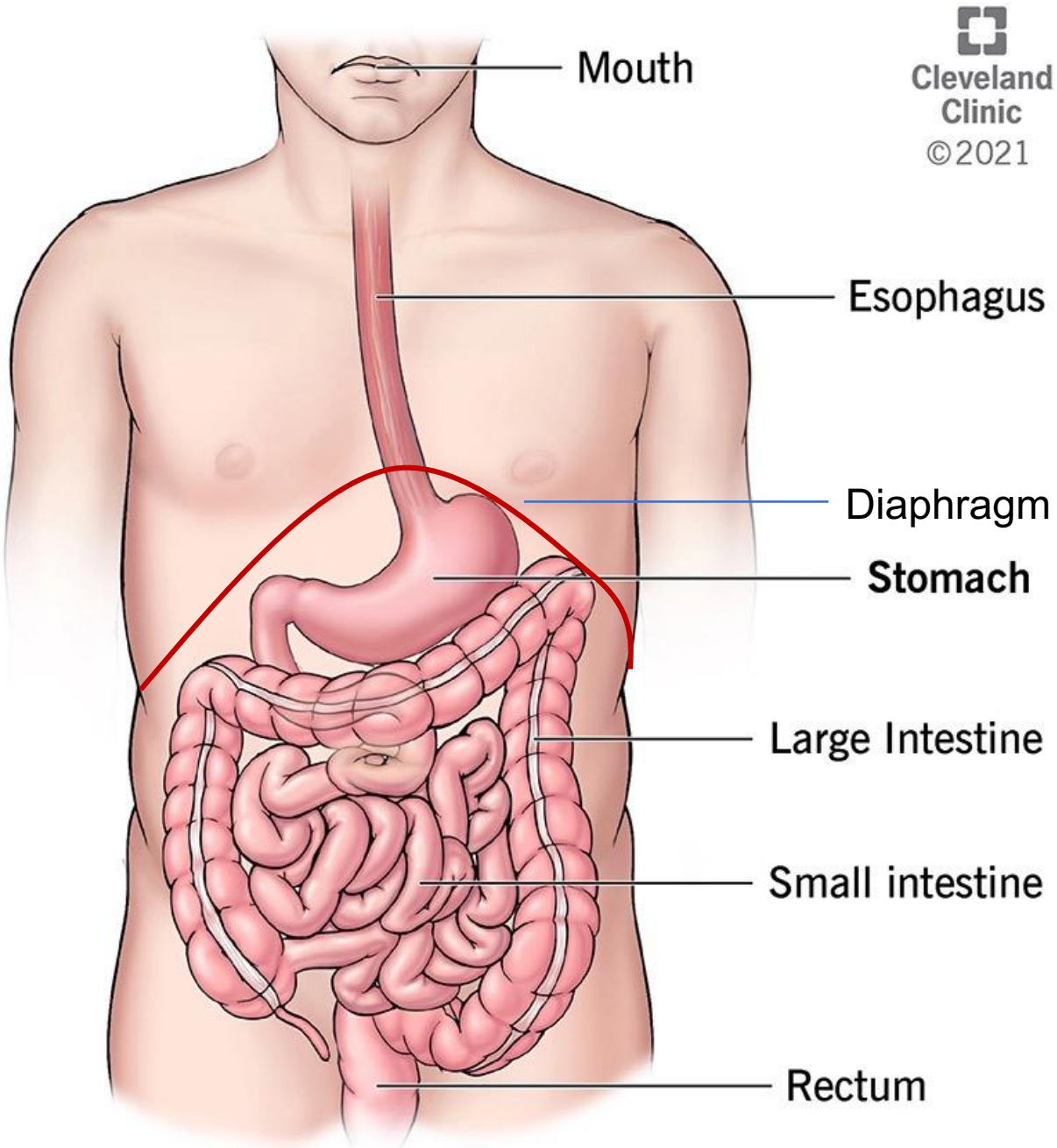
↓

Integration of proper alignment & movement into function

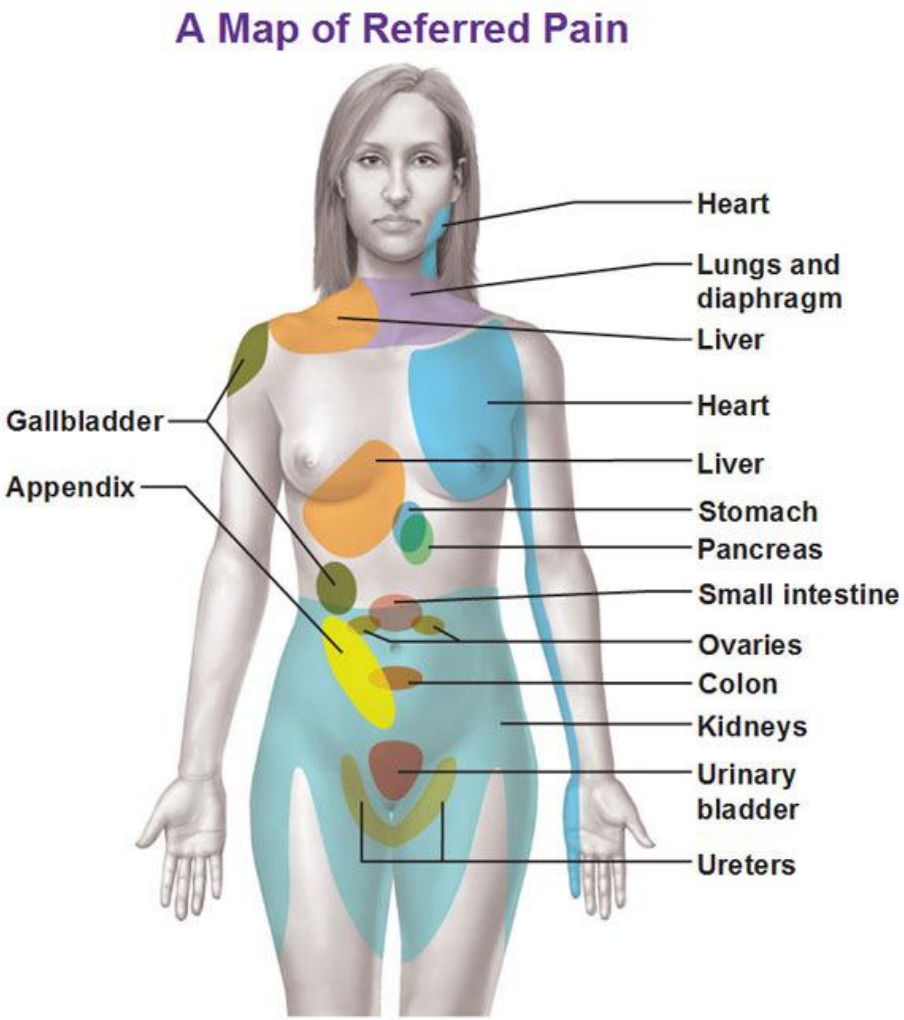
↓

Education about flare management

The Gut, Simplified

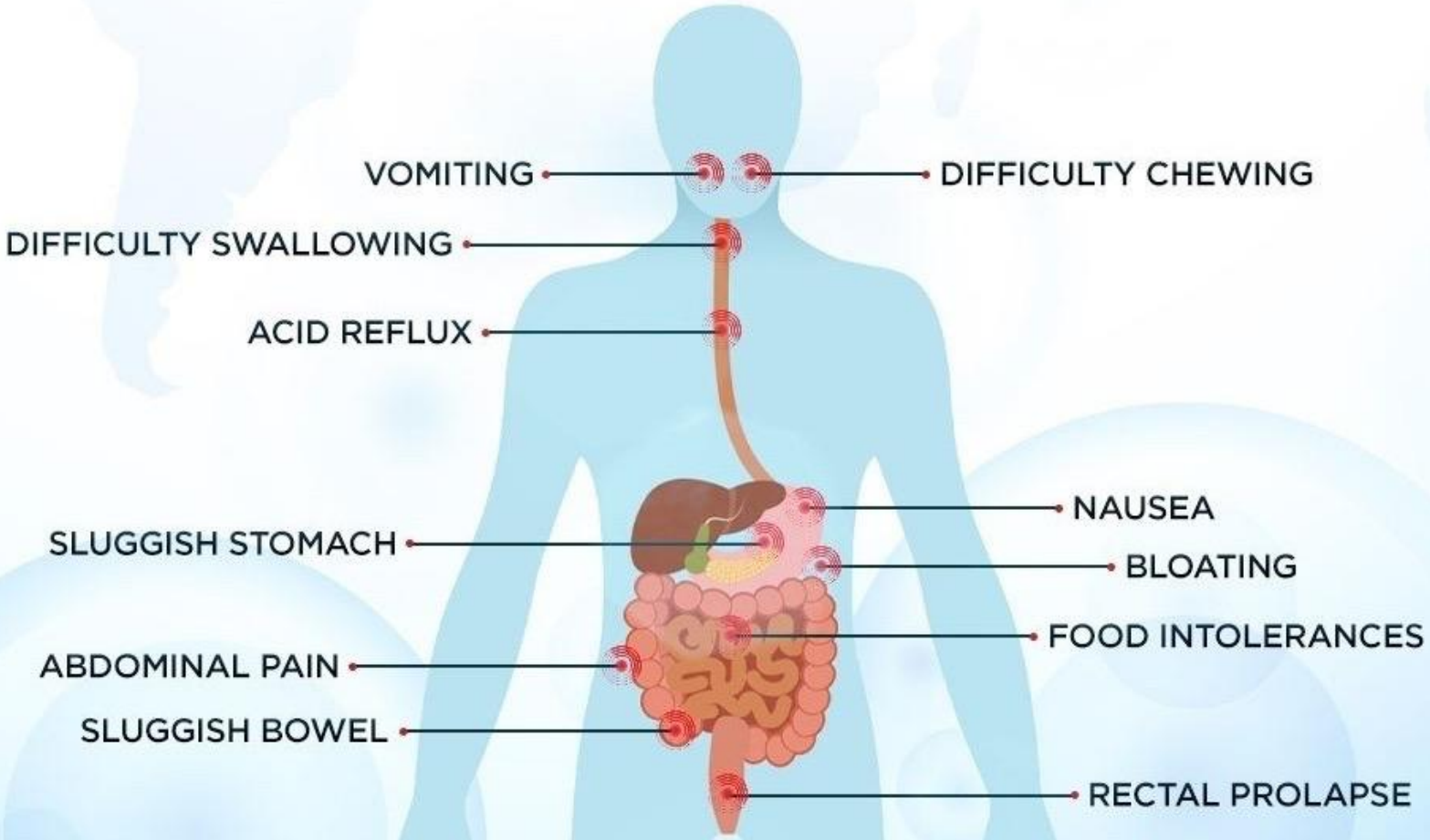


Visceral Referred Pain



- Visceral tissues (internal organs) can refer pain
- Pain referral can irritate tissues at the referral site
  - Example: intestinal problems can cause trigger points in abdominal muscles, which then hurt and provoke trigger points..
    - Gebhart, 2016

COMMON GASTROINTESTINAL (GI) SYMPTOMS IN EDS & HSD



The Ehlers Danlos Society

Common Gastrointestinal Problems

HSD 102: POTS & MCAS

HSD/hEDS

- Indigestion/reflux/GERD
- Feeling overly full (satiety)
- Abdominal pain/bloating
- Gastroparesis (slow digestion)
- Constipation/Diarrhea/IBS
- Nausea/Vomiting
- Hernias
- Celiac
- Abdominal trigger points
- Superior mesenteric artery syndrome
- Median Arcuate Ligaments Syndrome
- Small Intestinal Bacterial Overgrowth

POTS

- Nausea
- Reflux/GERD
- Bloating
- Constipation/Diarrhea
- Abdominal pain
- Median arcuate ligament syndrome (MALS)
- Eating aggravates POTS

Fikree, 2017, DiBaise, 2018; Weinstock, 2021; Lam, 2023

MCAS

- Bloating/gas
- Diarrhea/Constipation
- Abdominal cramping
- Reflux/GERD
- Food sensitivities
- Small Intestinal Bacterial Overgrowth?

Wirz, 2019

POTS: Postural Orthostatic Tachycardia Syndrome
MCAS: Mast Cell Activation Syndrome

Symptoms of Dysautonomia/POTS

PUPILOMOTOR
impaired pupil response
(uncomfortable in bright light)
difficulty with vision

NEUROLOGICAL
migraine, cognitive
deficits, brain fog &
mental clouding

SECRETOMOTOR
difficulty sweating, tearing
and other fluid production
(dry eyes, dry mouth,
difficulty swallowing, dry skin)

PULMONARY
shortness of breath
easily winded
difficulty breathing

GASTROINTESTINAL
nausea, vomiting, diarrhea,
constipation, abdominal
pain, reflux, heartburn,
impaired motility

CARDIOVASCULAR
palpitations, chest discomfort
high heart rate (tachycardia)
low heart rate (bradycardia)
high or low blood pressure
abnormal blood vessel functioning
blood pooling

Symptoms can be
SUDDEN and
unpredictable
in onset

URINARY
difficulty with urine
retention and/or excretion

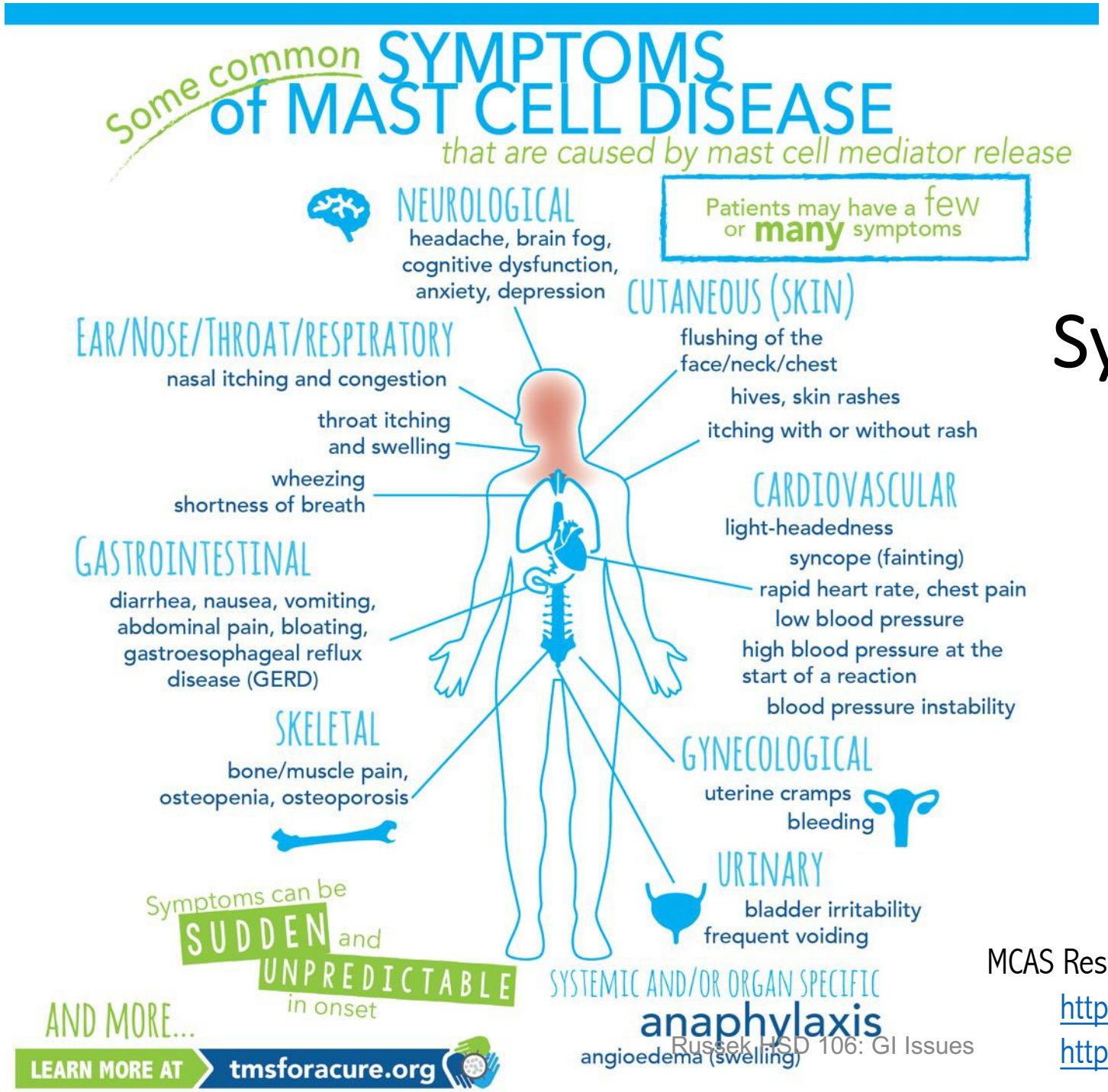
ORTHOSTATIC INTOLERANCE
difficulty standing still, fatigue, lightheadedness,
increase in symptoms with upright posture,
fainting (syncope) or near-fainting, pallor

HSD 102: POTS & MCAS

POTS Symptoms & Causes

Great POTS info at: www.potsuk.org and http://www.dysautonomiainternational.org

Symptoms of MCAS



MCAS Resources:

https://www.tmsforacure.org

https://www.mastzellaktivierung.info/en/introduction.html


Why?

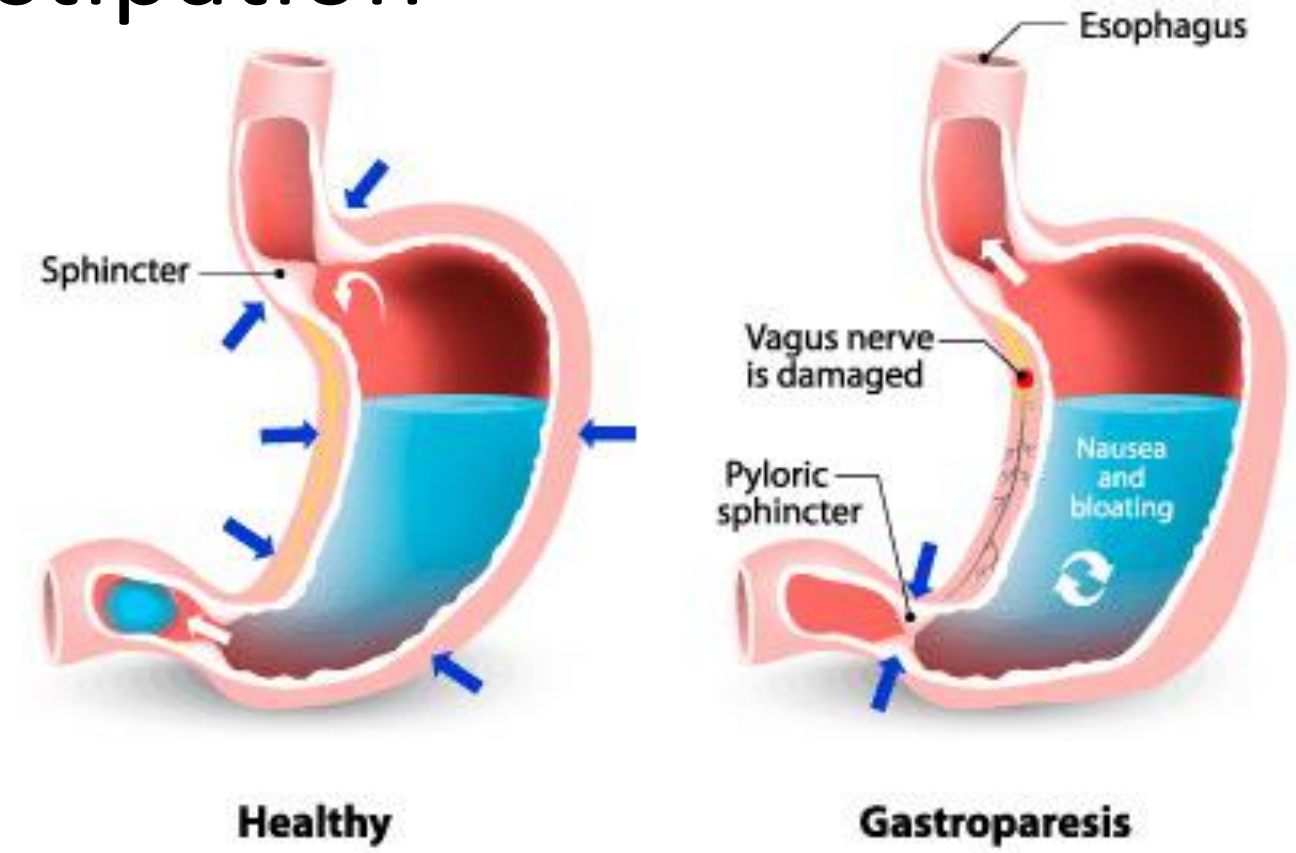
Why So Many GI Problems?

We don't really know, but some hypotheses:

- Abnormal gut wall connective tissue in HSD is too stretchy
- Sensory receptors in the gut may respond too fast or slow to being stretched by food in the gut.
  - The gut has more nerves than the brain, and they may become irritated
- The gut is controlled by the autonomic nervous system, which is not functioning properly in this population with dysautonomia/POTS
- Irritated gut becomes leaky, inappropriate absorption challenges the immune system which protects us from 'invaders' and other bad things
- Overactive immune function in MCAS affects the gut, which has an important immune function to protect the gut..

Gastroparesis & Constipation

- Gastroparesis = no gastric emptying
- Delayed gastric emptying = slow emptying of the stomach or intestines
  - Sx: early satiety, bloating, nausea, indigestion, vomiting, pain
- 65% of people with gastroparesis also have constipation
- How to test for this:
  - Gastric emptying test
  - ”Smart Pill” measures delayed movement throughout GI system



https://badgut.org/information-centre/a-z-digestive-topics/gastroparesis/

Zikos, 2019

Consequences of Constipation

- Straining can cause hernias and prolapse
- Straining can cause incontinence (urinary and fecal) or hemorrhoids because rectal tissues are overstressed
- Constipation increases risk of bacterial overgrowth (which can lead to SIBO) and malnutrition
- Straining increases abdominal and thoracic pressures, which interferes with blood return to the heart

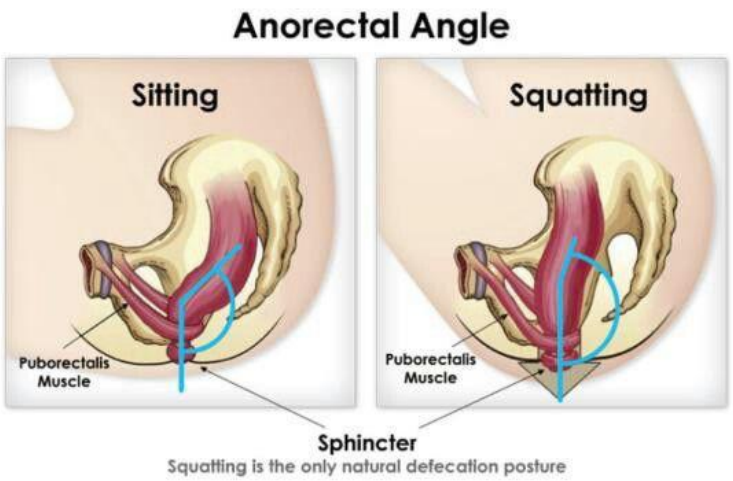
https://www.evidentlycochrane.net/feet-up-constipation/

Tips for Managing Constipation

1. Drink plenty of water
2. Avoid caffeine
3. Eat fiber
4. Exercise
5. Go when you feel the first urge
6. After breakfast, sit on the toilet for 15-20 minutes and wait for the ejection reflex- which does exactly what it says
7. Take your time on the toilet
8. Raise feet on a stool, lean forwards (see next slide)
9. Don’t hold breath, ssss, grrrr, or moo
10. Do a pelvic floor contraction when the bowel movement is done to encourage complete closing

https://www.evidentlycochrane.net/feet-up-constipation/

Toileting for Constipation

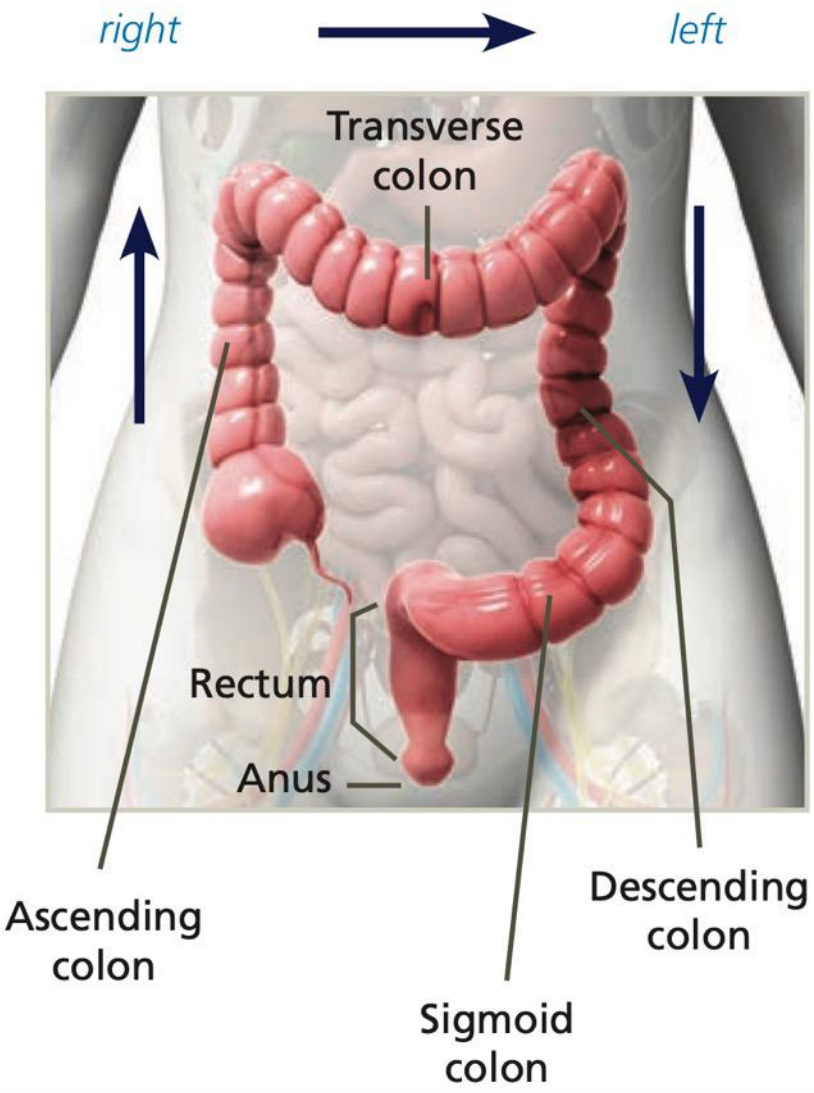


https://www.pinterest.ca/pin/191684527862553378/

- Posture on the pot: 35º hip flexion
- Relax the tummy
- Deep, diaphragmatic breathing

https://www.evidentlycochrane.net/feet-up-constipation/

Abdominal Self-Massage for Constipation



- Abdominal propulsive massage for constipation
- Research has shown that self-massage 10-15 min, 5x/week can be helpful in managing constipation

Harrington, 2006, Lamas, 2010

Instructions at:

- https://youtu.be/Hp-bXOTuQck
- https://www.bidmc.org/-/media/files/beth-israel-org/centers-and-departments/rehabilitation-services/otpt-pelvic-floor-abdominal-massage.pdf

Yoga or Exercise for Constipation

- There are yoga positions to ease gas and constipation
- Be careful!
  - Twisting the spine too much can be bad for your back
  - Some poses may be too challenging for you
- Very gentle YouTube:
  - https://youtu.be/RVv7sxDGnpg
  - https://youtu.be/Hp-bXOTuQck

Breathing handout

Diaphragmatic Breathing for Gut Care

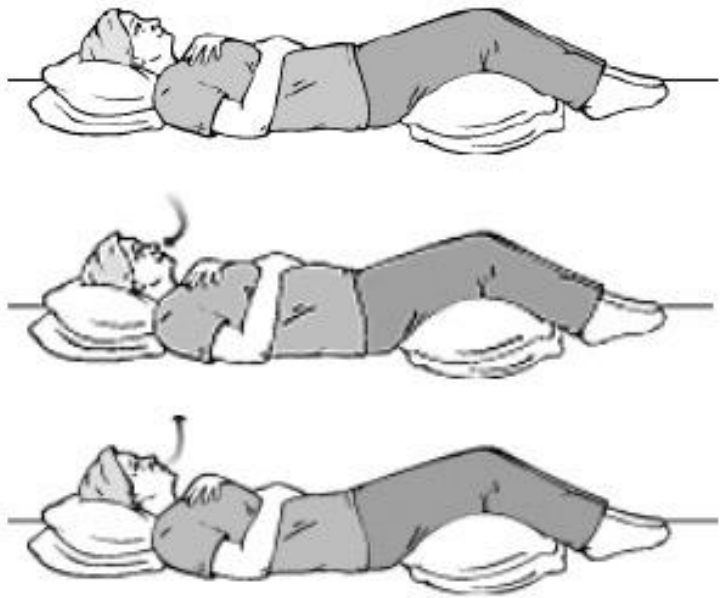
HSD 109: Breathing Dysfunctions in HSD

For Constipation

- Helps with bowel movement
- Massages stomach and intestines to reduce urgency, bloating, constipation
- Deep breathing (deep inhale followed by forceful exhale) may also help stimulate bowel movement
- https://www.uofmhealth.org/conditions-treatments/diaphragmatic-breathing-gi-patients

For Diarrhea

- Activates the 'rest & digest' system
- Calms the digestive tract in moments of urgency
- May improve function of the vagus nerve



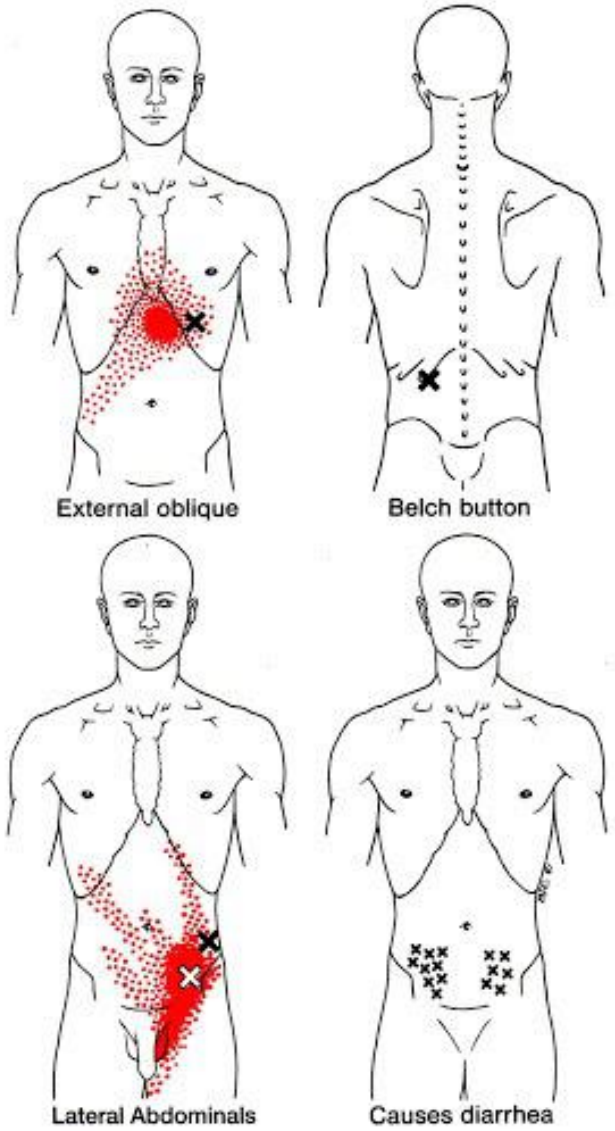
Diaphragm and Gut Function

HSD 109: Breathing Dysfunctions in HSD

- Lack of coordination between diaphragm and abdominal muscles is associated with irritable bowel syndrome (IBS)
  - This may explain the prevalence of low back pain, pelvic pain, and spinal instability in people with IBS
- Dysfunction in the diaphragm increases gastroesophageal reflux
- Decreased diaphragm function increases pain sensitivity in the gut
- Diaphragmatic motion “massages” the vagus nerve, decreasing inflammation and gut-related pain
- (Bordoni, 2018)

Questions?

Abdominal Muscle Trigger Points



- Symptoms: diarrhea, bloating, cramps, vomiting, nausea, anorexia, indigestion, reflux, belching
- Caused by: overuse of abs to maintain lumbar stability, excessive exercise, paradoxical respiration, IBS, abs stretched by bloating, stress, ulcers, hernias
- Limited research evidence about TrP
- http://www.triggerpoints.net/muscle/abdominal-obliques

Anterior Abdominal Wall Issues

- Can look like IBS
- Called “anterior wall syndrome” or “anterior cutaneous nerve entrapment syndrome”
- How to test for this:
  - Carnett’s sign
  - (-) is decreased pain
- Treatment:
  - Manual therapy
  - Injections

Shian, 2018

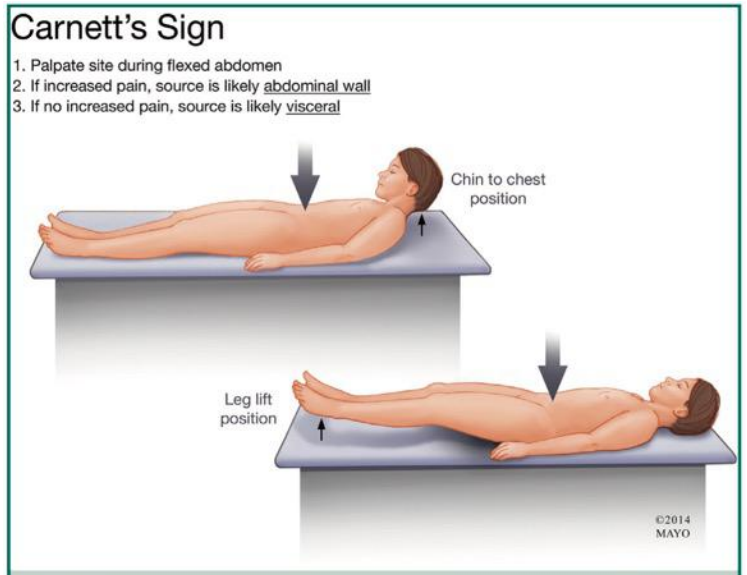
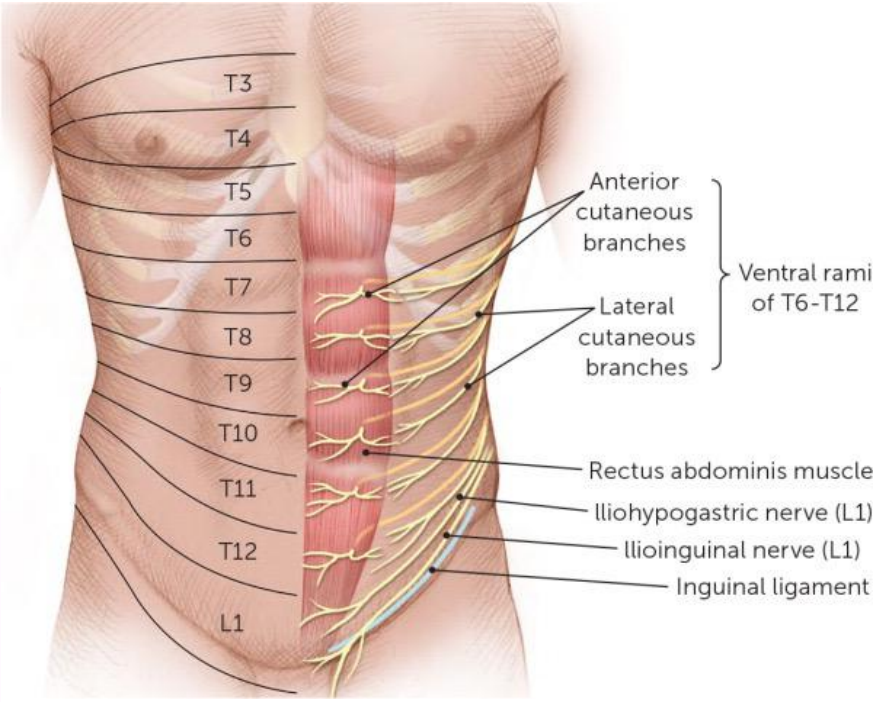
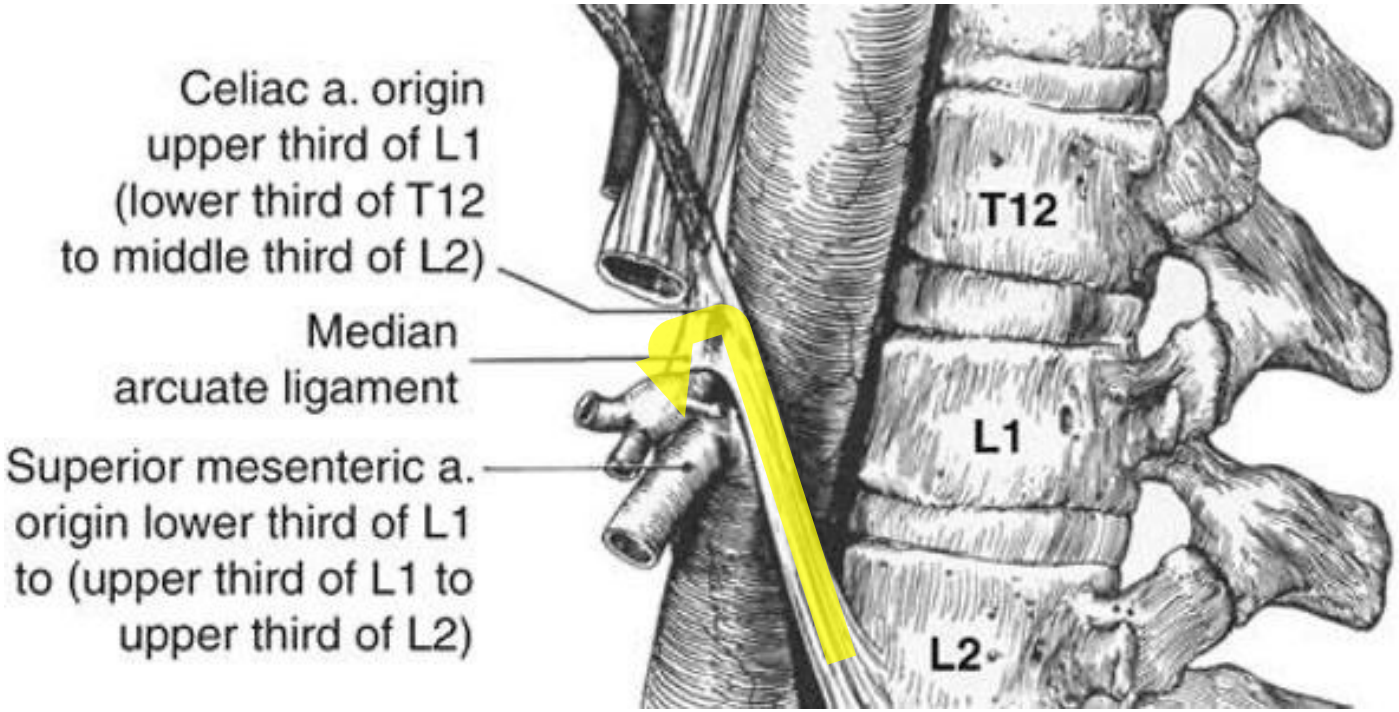


FIGURE 1. Presence of Carnett’s sign can be used to diagnose chronic abdominal wall pain. Used with permission of Mayo Foundation for Medical Education and Research. All rights reserved.



Median Arcuate Ligament Syndrome (MALS)



- The median arcuate ligament (MAL) presses on the celiac artery and nerve plexus.
- Symptoms: upper abdominal pain after eating, fatigue after eating, nausea, vomiting, constipation or diarrhea, exercise intolerance, weight loss.
- Often presents in adolescence, especially in young women..

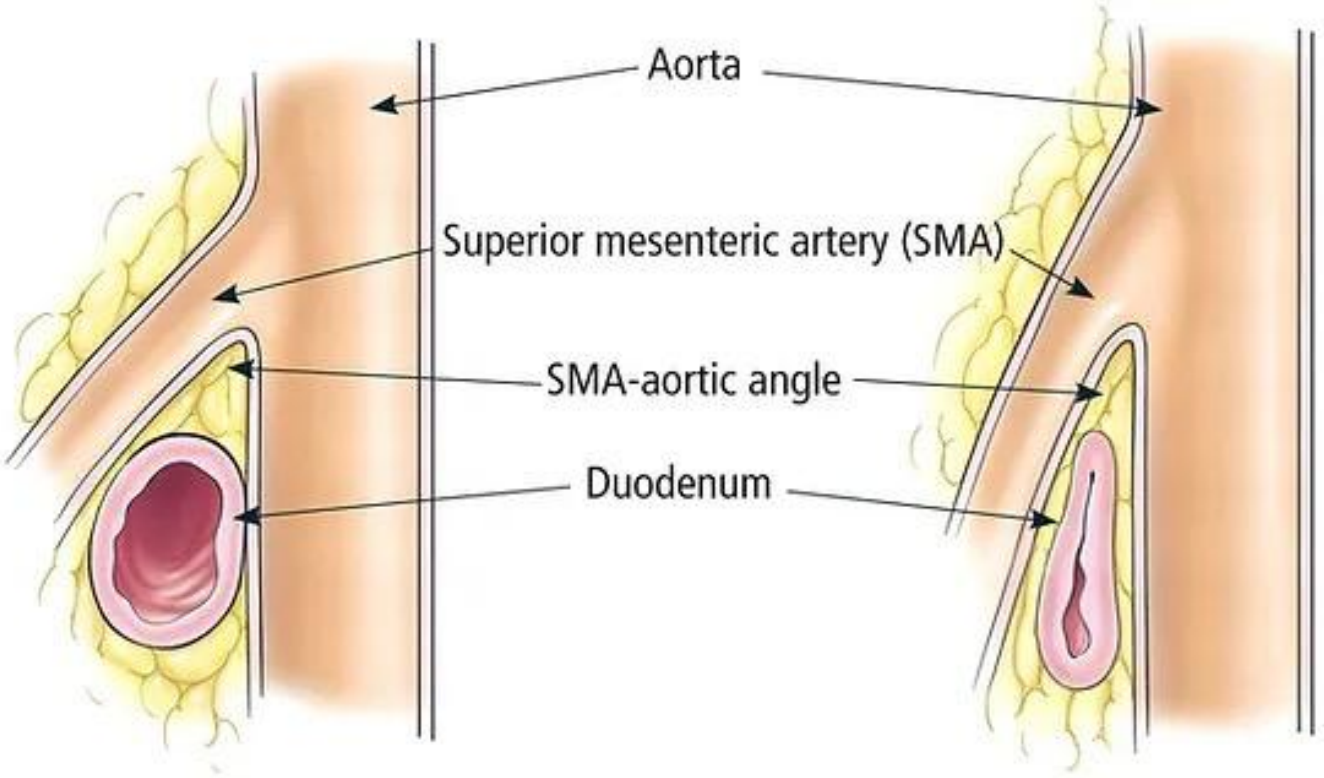
https://malsawareness.com/what-is-mals%3F

- More common in EDS & POTS.
- Treatment: Surgical

Huynh, 2019

Tests for MALS:
- Catheter angiography
- Doppler ultrasound
- CT

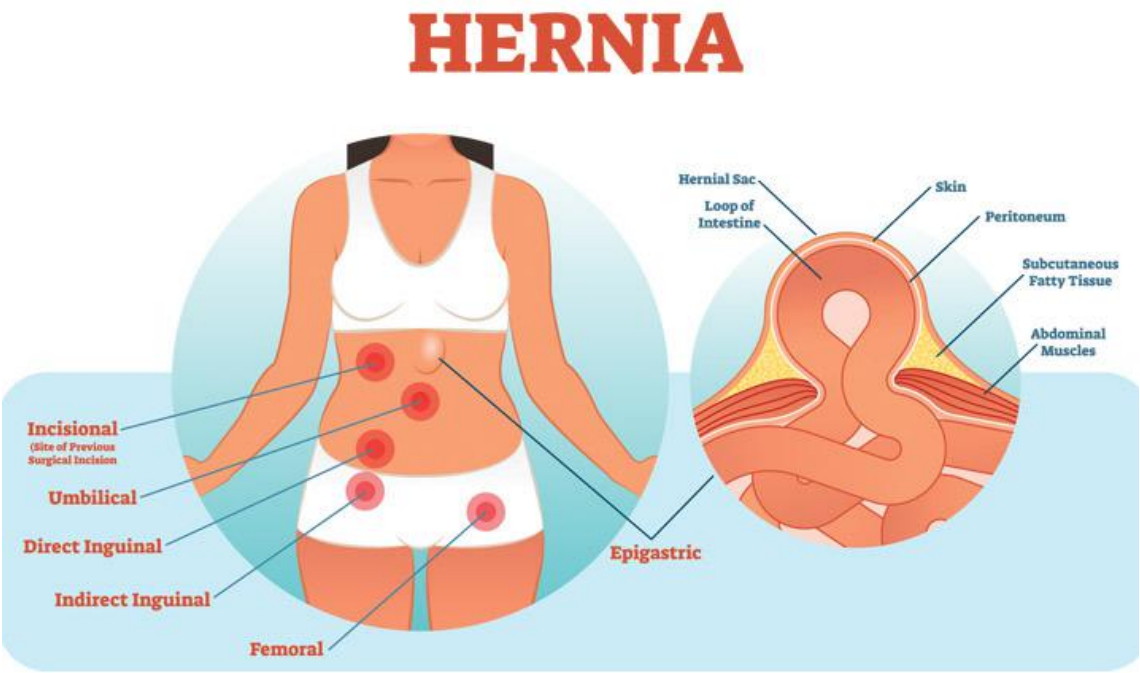
Superior Mesenteric Artery Syndrome



YouTube explanation: https://youtu.be/Vlk1PCGQ_Xo

- Symptoms:
  - Abdominal pain
  - Fullness after minimal food or drink
  - Inability to eat
  - Nausea
  - Vomiting
  - Weight loss
- It is NOT an eating disorder such as anorexia or bulimia!
- How to test for this:
  - CT or x-ray
- Treatment: Surgical

Hernias



- Hernias are 2-3x more common in HSD/EDS
- Typically feels like a lump in your abdomen or groin
- Aggravated by coughing or straining (e.g. toileting, lifting)
- May be triggered by surgery, pregnancy, constipation, coughing, heavy lifting, being overweight
- Often asymptomatic, but may be painful
  - Epigastric hernia may cause vomiting
  - Hiatal hernia may cause indigestion, GERD
- Treatment:
  - See your MD to monitor it, or if symptoms severe
  - You can relocate some hernias yourself with gentle pressure
  - Abdominal binders or hernia belts may help hold tissues in
    - Reviewed: https://bestreviews.com/health-wellness/braces/best-hernia-belts
  - Might not need surgical repair: watchful waiting often okay
  - Surgery if severe

Testing

- Physical exam for all except hiatal
- Hiatal: x-ray with contrast shake, endoscopy, manometry

Questions?

POTS and GI Problems

HSD 102: POTS & MCAS

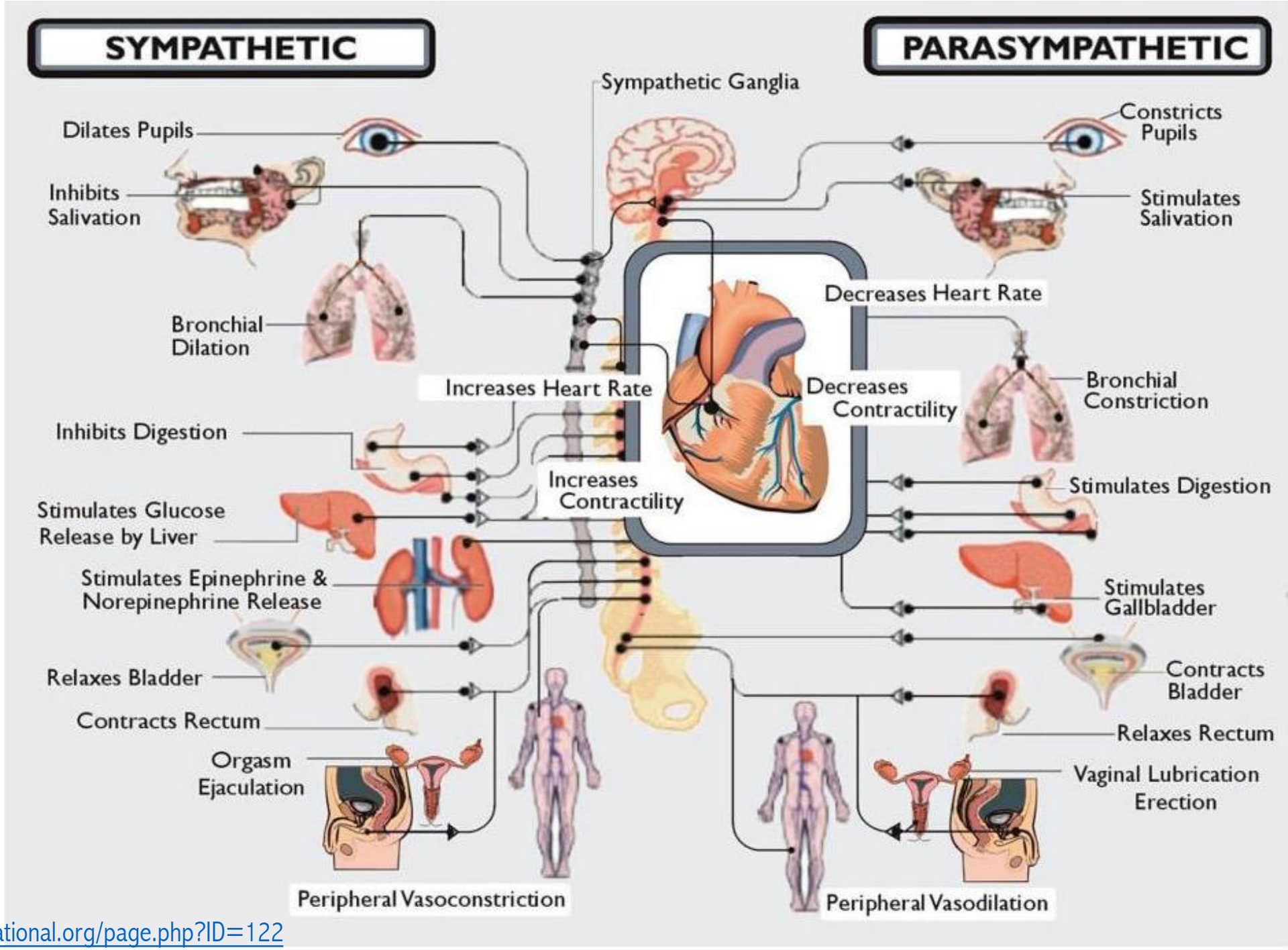
- GI function is regulated by the autonomic system
  - "Dysautonomia" implies improper regulation
- In one study, gastric emptying in people with POTS was:
  - Rapid in 48%
  - Slowed or delayed in 18%
  - Normal in 34%

Chelimsky, 2018

- Other common GI problems in POTS:
  - Nausea, abdominal pain, early satiety, vomiting

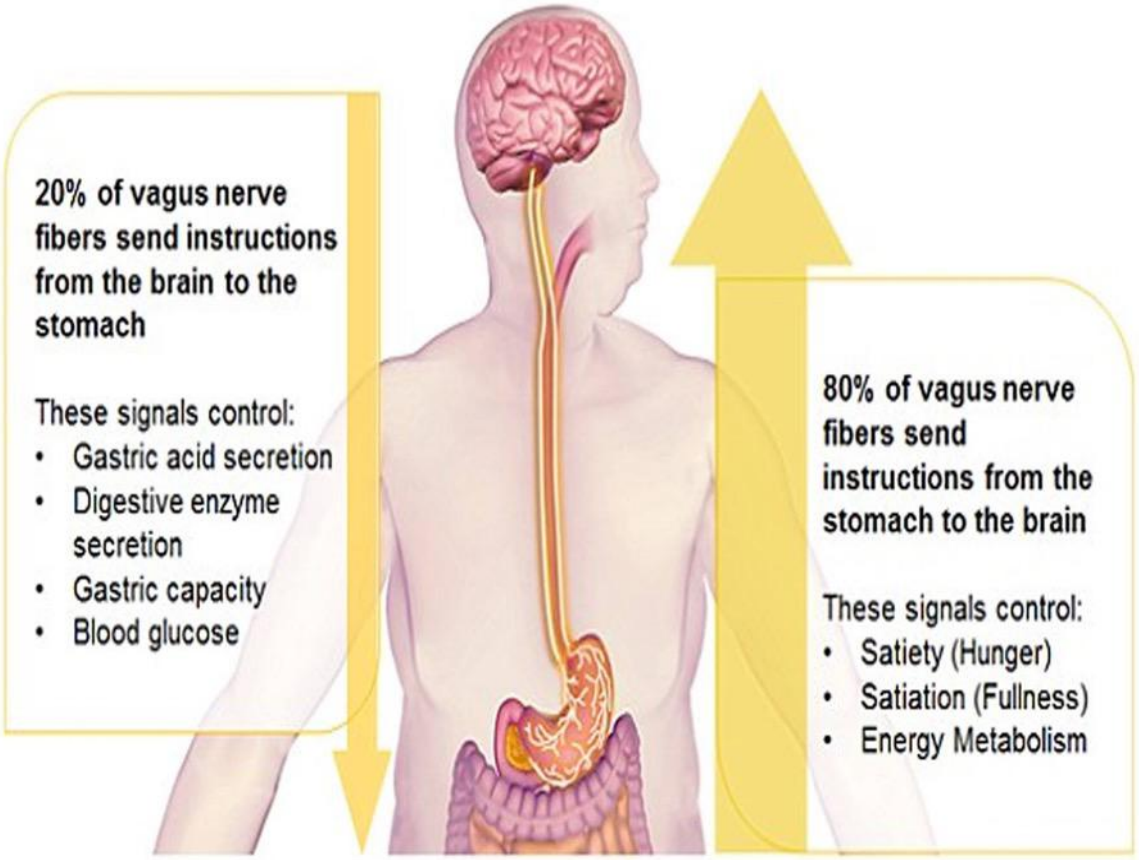
Mehr, 2019

The Autonomic Nervous System



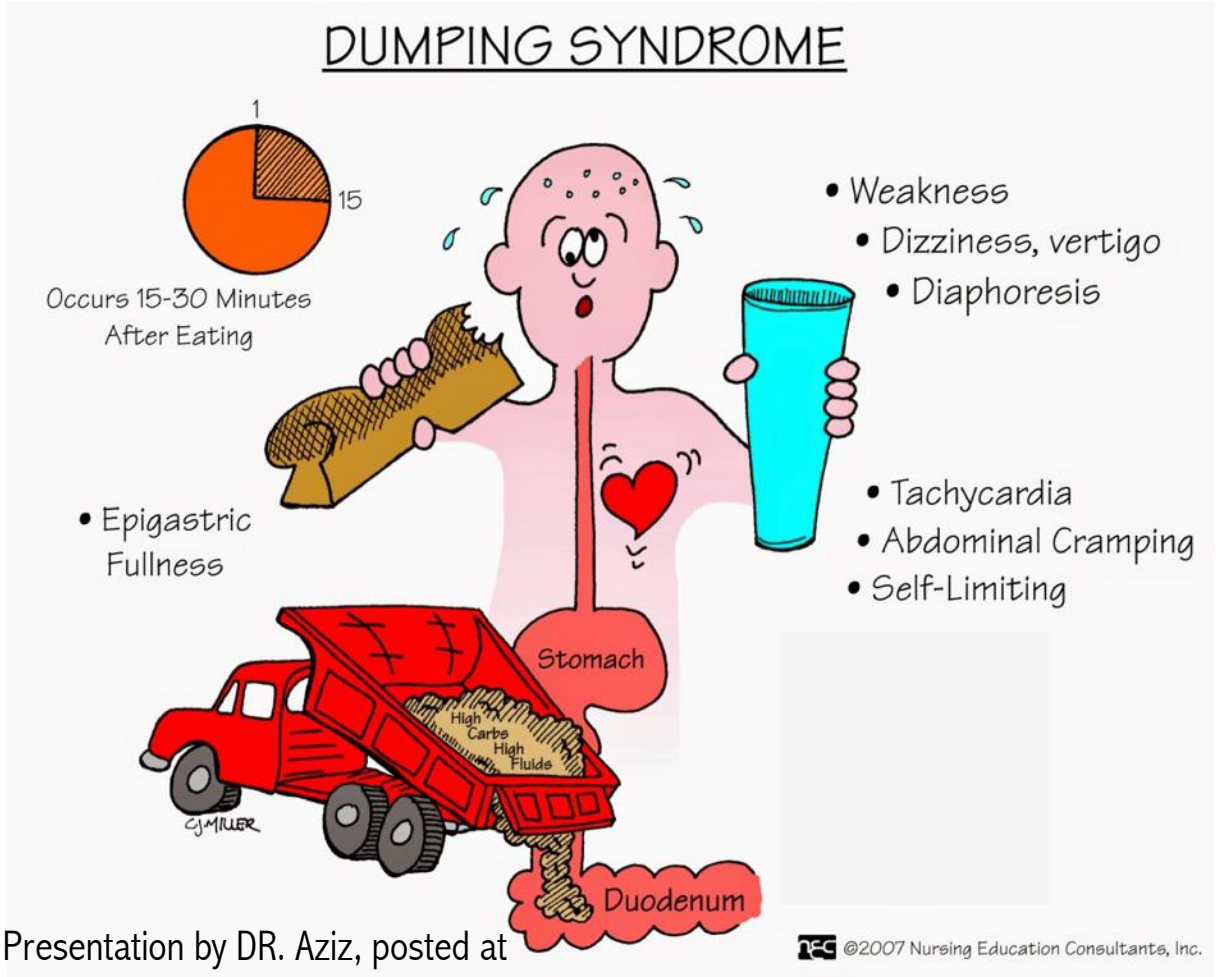
http://www.dysautonomiainternational.org/page.php?ID=122

Vagus Nerve and GI Regulation



- Vagus nerve controls parasympathetic function
- Sympathetic and parasympathetic activity are inversely related
- Vagus nerve function is disrupted in POTS (Anjum, 2018)
- Stress can aggravate the gut, and the gut can cause distress (Konturek, 2011)

Dumping Syndrome



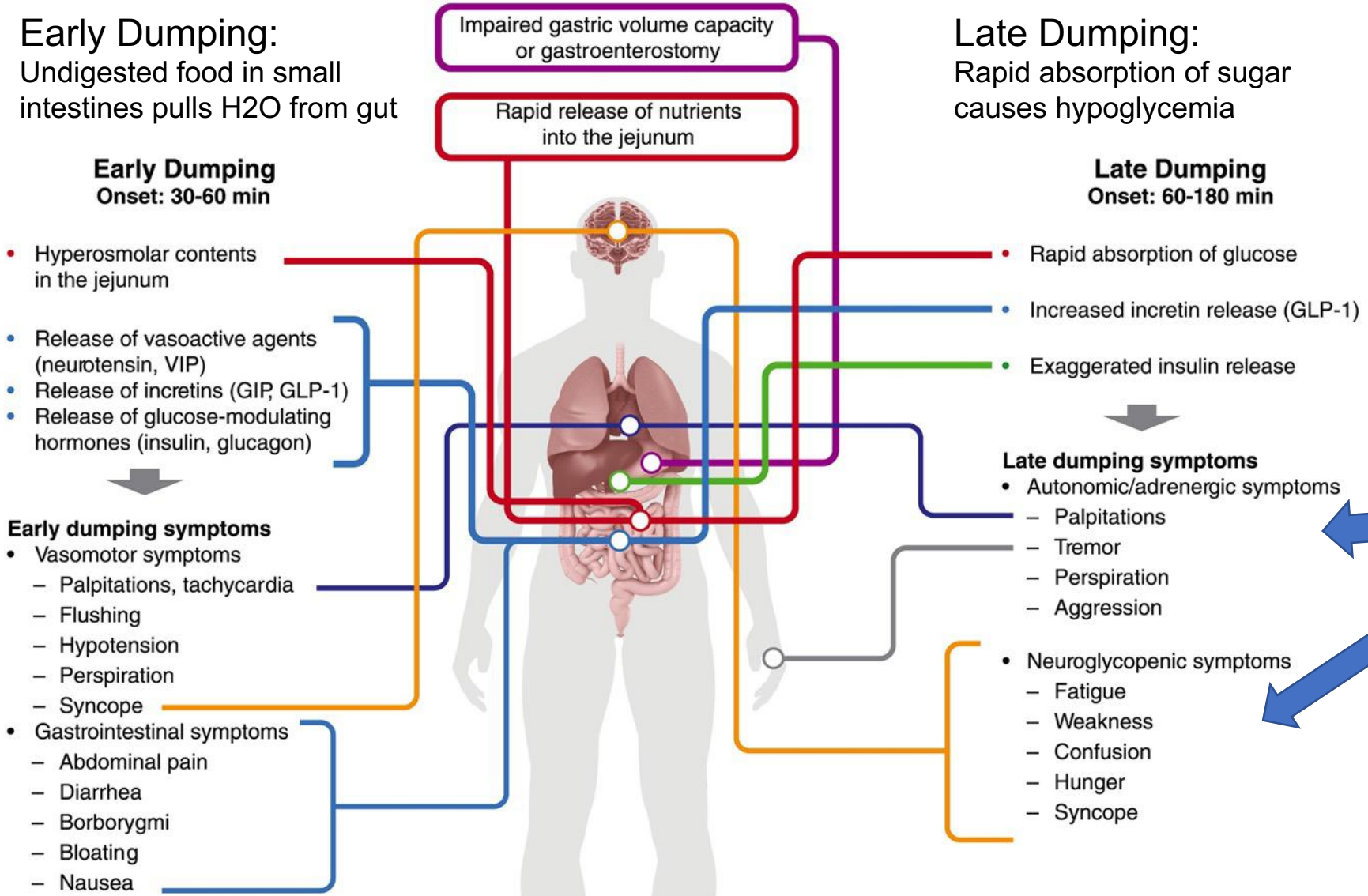
Presentation by DR. Aziz, posted at www.potsuk.org https://www.potsuk.org/UserFiles/File///Qasim_Aziz_Gut_complications_sep_17.pdf

- Also called rapid gastric emptying, dumping syndrome occurs when food, especially sugar, moves from your stomach into your small bowel too quickly.
- Late dumping syndrome starts 1-3 hours after a high-sugar meal. Low blood sugar aggravates POTS
- How to test:
  - Gastric emptying test or Smart Pill
- https://www.mayoclinic.org/diseases-conditions/dumping-syndrome/symptoms-causes/syc-20371915

Early vs. Late Dumping

Early Dumping:
Undigested food in small intestines pulls H2O from gut

Late Dumping:
Rapid absorption of sugar causes hypoglycemia



- Dumping syndrome aggravates POTS symptoms.
- Rx: Avoid high sugar & carbohydrate meals

https://onlinelibrary.wiley.com/doi/full/10.1111/obr.12467
Van Beek, 2016

Managing Dumping Syndrome

- Diet
  - Eat more frequent, smaller meals, such as 6-8 small meals; this decreases the amount of food entering the intestines.
  - Eat foods with complex carbohydrates and fiber (whole grains, veggies) and high-protein foods (meat, fish, eggs, nuts, tofu, cheese, unsweetened yogurt). These slow gastric emptying.
  - Avoid foods with sugar and simple carbohydrates (e.g., white bread, juice, fluid milk, honey, sweetened drinks, and anything with added sugar).
  - Avoid drinking large quantities of liquids with meals, but stay hydrated with plenty of fluids between meals.
  - Eat slowly and chew your food well.
  - Added fiber supplements may help.

Canadian Society of Intestinal Research:
https://badgut.org/information-centre/a-z-digestive-topics/dumping-syndrome/

SIBO: Small Intestinal Bacterial Overgrowth

- Symptoms: bloating, gas, flatulence, belching, diarrhea or constipation, abdominal pain, indigestion, nausea, fatigue, 'brain-fog'
- Possibly more prevalent in EDS, due to dysmotility
  - 39% prevalence in EDS
  - 31% prevalence in MCAS
  - Use of proton pump inhibitors to manage MCAS?
- Diagnosed using a hydrogen/methane breath test
- Treated with dietary changes and/or antibiotics
  - Antibiotics address the bacteria, but not the underlying cause
  - Diet suggestions: https://www.verywellhealth.com/the-elemental-diet-for-sibo-and-ibs-1945000

Uy, 2021; Rao, 2019; Weinstock, 2018

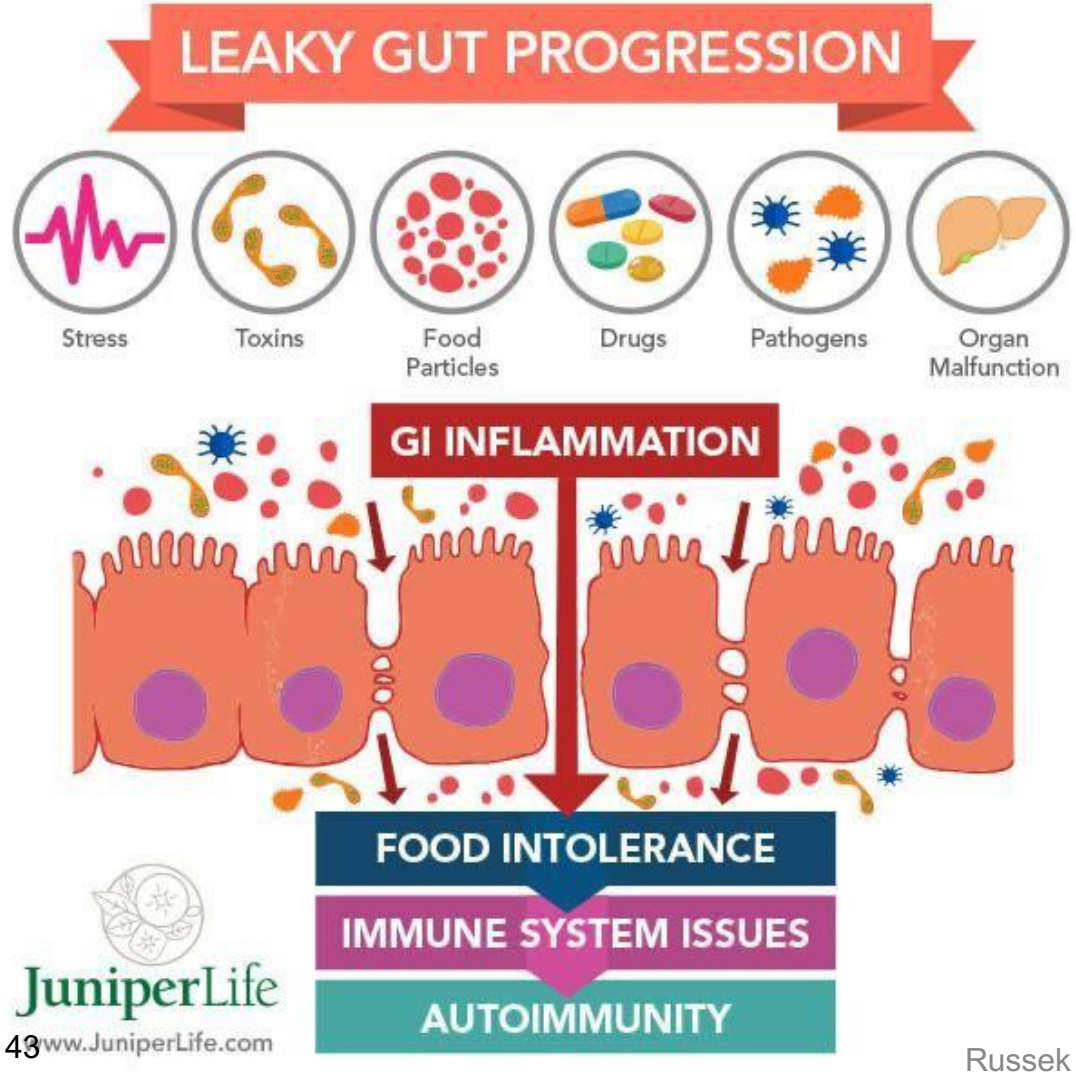
Questions?

Mast Cell Activation and Gut Issues

HSD 102: POTS & MCAS

- Mast cells serve an important protective function in the gut
- Activated mast cells can irritate all portions of the GI tract
- They can alter gut permeability, which changes what can get through
  - ”Leaky Gut Syndrome”
- Histamine increases gut motility (activity) making food pass through the gut more quickly
  - Normally, histamine in the gut is broken down by DAO (diamine oxidase)

Leaky Gut Syndrome



- The gut lining becomes leaky and more things, including chemicals and bacteria, can get through
- This activates the immune system, which is designed to protect us from invaders
- This can trigger MCAS and food sensitivities
- Symptoms develop 30-60 minutes from eating

Diamine Oxidase Deficiency (DAO)

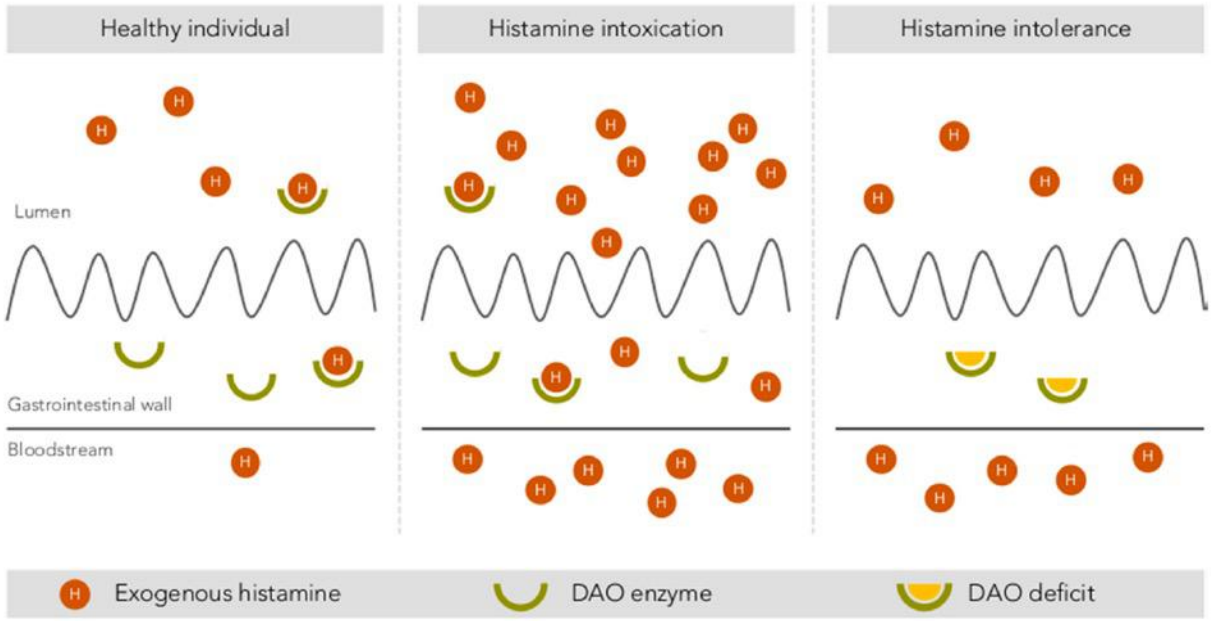


Figure 3. Intestinal degradation of histamine by the DAO enzyme in three different situations: in a healthy individual, with histamine intoxication and with histamine intolerance. Adapted from [13].

Comas-Baste, 2020

- Histamine is one of many chemicals released by mast cells
- There is no definitive diagnostic criterion for histamine intolerance.
- DAO normally breaks down histamine in the gut
- Leads to excessive histamine absorbed through the gut into the blood
  - Leads to systemic problems (i.e., other organ systems)

DAO Deficiency

- Some people have genetically defective DAO
  - Common in gluten and lactose sensitive people
  - People with chronic migraines tend to have deficient DAO
- Some medicines inhibit DAO
- DAO supplements before meals seem to help many people
  - Note: DAO is also a recommended treatment for migraines (Izquierdo-Casas, 2019)
- There is a blood test for DAO, but it is not readily available.
- Note – Lam, 2023 article states that there is insufficient evidence to show that DAO is a problem in the trifecta.

Medications that Affect DAO activity and Can exacerbate Histamine Intolerance:

- **NSAIDS- Pain relief**
  - Ibuprofen
  - Aspirin
- **Antidepressants**
  - Cymbalta
  - Effexor
  - Prozac
  - Zoloft
- **Immune modulators**
  - Humira
  - Enbrel
  - Plaquenil
- **Diabetic Medication**
  - Metformin
- **Antiarrhythmics**
  - Propanolol
  - Metaprolol
  - Cardizem
  - Norvasc
- **Antihistamines**
  - Allegra
  - Zyrtec
  - Benadryl
- **Histamine (H2) blockers**
  - Tagamet
  - Pepcid
  - Zantac
- Anti-anxiety
  - Diazepam (Valium)

https://www.drhagmeyer.com/dao-deficiency-how-to-activate-the-enzyme-that-reduces-histamine-intolerance-and-mcas-symptoms/

Managing MCAS/Histamine Intolerance

Managing MCAS

Check Your Meds

- Avoid intake:
  - Avoid high histamine or histamine-releasing foods
  - Avoid medications that aggravate mast cells
- Improve breakdown:
  - Take DAO supplements before meals
- Counteract histamine effects:
  - Take antihistamine medications

Dietary Recommendations

- FODMAP for IBS in general, especially HSD issues
  - Low fermentable oligosaccharide, disaccharide, monosaccharide and polyol (FODMAP)
  - Evidence that it decreases pain, bloating, diarrhea, constipation in people with HSD (Fragkos, 2019)
- Low histamine diet for histamine intolerance, especially MCAS issues
  - Growing evidence, especially for MCAS or histamine intolerance
- Heidi Collins EDS diet
  - Anecdotal evidence
- Elimination diets are not intended for long-term use
  - They are often not nutritionally sound
  - Once the gut is stabilized, begin adding foods back in
- Work with a knowledgeable dietician, if possible

Low FODMAP Diet

A low FODMAP diet may help people with gastrointestinal problems like bloating, gas, or irritable bowel syndrome (IBS).

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Avoid

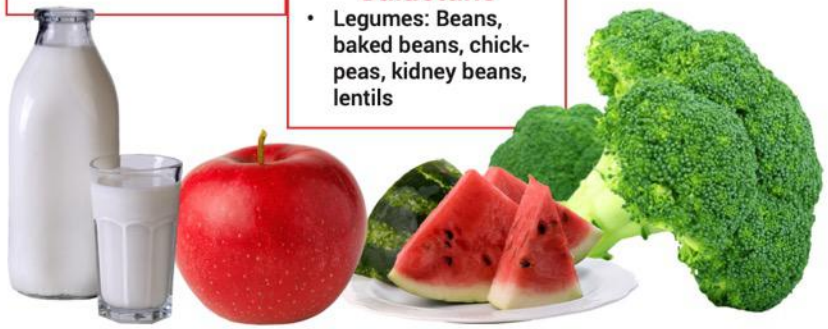
Excess Fructose
- Fruit: apple, mango, nashi, pear, canned fruit in natural juice, watermelon.
- Sweeteners: fructose, high fructose corn syrup, corn syrup, honey.
- Concentrated fructose: concentrated fruit, large servings of fruit, dried fruit, fruit juice.

Lactose
- Milk: milk from cows, goats, or sheep.
- Custard, ice cream
- Yogurt
- Cheese: soft, unripened cheeses like cottage, cream, mascarpone, ricotta

Fructans
- Asparagus
- Beetroot
- Broccoli
- Brussels sprouts
- Cabbage
- Eggplant
- Fennel
- Garlic
- Leek
- Okra
- Onion (all)
- Shallots
- Cereals: wheat and rye in large amounts (e.g. bread, crackers, cookies, couscous, pasta)
- Fruit: custard apple, persimmon, watermelon
- Misc: chicory, dandelion, inulin

Galactans
- Legumes: Beans, baked beans, chickpeas, kidney beans, lentils

Polyols
- Apple
- Apricot
- Avocado
- Blackberry
- Cherry
- Lychee
- Nashi
- Nectarine
- Peach
- Pear
- Plum
- Prune
- Watermelon
- Vegetables: Green bell pepper, mushroom, sweet corn
- Sweeteners: sorbitol (420), mannitol (421), isomalt (953), maltitol (965), xylitol (967)



Enjoy

Fruit
- Banana
- Blueberry
- Boysenberry
- Canteloupe
- Cranberry
- Durian
- Grape
- Grapefruit
- Honeydew melon
- Kiwi
- Lemon
- Lime
- Mandarin
- Orange
- Passionfruit
- Pawpaw
- Raspberry
- Rhubarb
- Rockmelon
- Star anise
- Strawberry
- Tangelo

Misc
- Sweeteners - sucrose, glucose, artificial sweeteners not ending in "-ol", and sugar in small quantities
- Honey substitutes - small quantities of golden syrup, maple syrup, molasses, and treacle

Vegetables
- Alfalfa
- Artichoke
- Bamboo shoots
- Beat shoots
- Bok choy
- Carrot
- Celery
- Choko
- Choy sum
- Endive
- Ginger
- Green beans
- Lettuces
- Olives
- Parsnip
- Potato
- Pumpkin
- Red bell pepper
- Silver beet
- Spinach
- Summer squash (yellow)
- Swede
- Sweet potato
- Taro
- Tomato
- Turnip
- Yam
- Zucchini

Starch
- Gluten free bread or cereal products
- 100% spelt bread
- Rice
- Oats
- Polenta
- Other: arrowroot, millet, psyllium, quinoa, sorgum, tapioca

Dairy
- Milk - lactose-free milk, oat milk, rice milk, soy milk (check for additives)
- Cheeses - hard cheeses, brie, and camembert
- Yogurt (lactose free)
- Ice cream substitutes - gelati, sorbet
- Butter substitutes (e.g. olive oil)

www.gastroconsa.com

Download the FODMAP App

Monash University: https://www.monashfodmap.com/about-fodmap-and-ibs/high-and-low-fodmap-foods/

Food Intolerances 12+
Histamine, FODMAP & IBS Guide
Baliza GmbH
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LOW-HISTAMINE DIET

A buildup of histamine can happen due to an excess of your body's natural production of histamine and from overconsumption of histamine-releasing foods. A low histamine diet will not completely solve a sensitivity or intolerance to histamine or address the root cause, but it can help provide symptom relief. A combination of healing your gut and following a low histamine diet can resolve histamine intolerance for many people.

FOODS TO AVOID

- Alcohol and fermented beverages (especially wine and kombucha)
- Citrus, most berries (including bananas and avocado), and dried fruit
- Fermented foods (kimchi, sauerkraut, yogurt, kefir, etc.)
- Soured foods (sourdough bread, buttermilk, etc.)
- Aged cheese and cow's dairy
- Chocolate, cocoa, and cacao
- Processed, cured, smoked, or leftover meat. Meat should be as fresh as possible.
- Vinegar and vinegar containing foods (pickles, relishes, etc.)
- Teas (green, black, mate)
- Spinach, eggplant, and tomatoes
- Artificial food colorings and preservatives
- Seafood (fin or shellfish, in any preservation such as canned, smoked, etc.)
- Spices such as curry, cayenne, chili, cloves, cinnamon, and nutmeg
- Yeast
- Pineapple and papaya

FOODS TO TRY INSTEAD

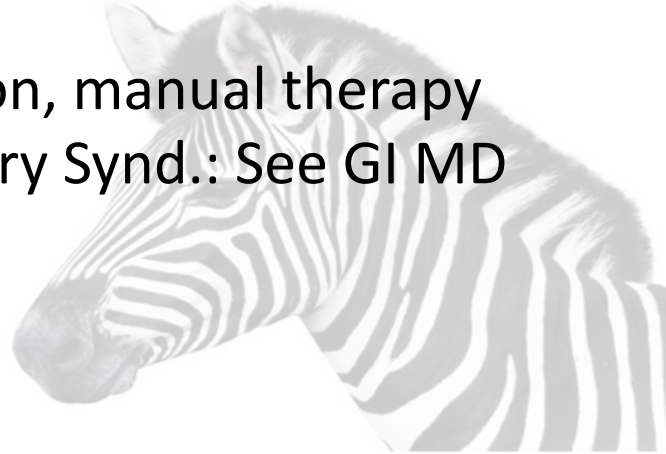
- Olive oil and coconut oil
- Freshly cooked meat
- Fresh caught seafood (avoiding fin or shellfish)
- Cooked eggs (be mindful of the whites if you are particularly sensitive)
- Gluten free grains such as rice, quinoa, and buckwheat
- Fresh fruits (excluding berries, avocado, citrus, bananas, pineapple, and papaya)
- Dairy-free milks
- Leafy herbs and greens (excluding spinach)
- Freshly ground spices (avoiding curry, cayenne, chili, cloves, cinnamon, and nutmeg)
- Pure nut butters
- Carob as an alternative to cocoa
- Coconut products (coconut oil, coconut butter, coconut meat, coconut milk)
- Hemp, chia, and flax seeds
- Fresh vegetables (excluding spinach and tomatoes)
- Herbal teas

CLEANEATINGKITCHEN.COM

https://www.cleaneatingkitchen.com/getting-started-low-histamine-diet/

Summary

- The gut is affected in all 3 components of the “Terrible Trifecta”
  - Possibly in different ways
  - We have probably not sorted out the differences
- Symptoms can sometimes be managed if you understand what imbalances contribute to the problem
  - Constipation/gastroparesis: positioning on toilet, diet, exercise, abdominal massage
  - Diarrhea: address triggers of Dumping Syndrome and MCAD/histamine intolerance
  - Small Intestinal Bacterial Overgrowth: antibiotics acutely, then managing delayed gastric emptying and diet (e.g., FODMAP)
  - Anterior Abdominal Wall Synd.: exercise, activity modification, manual therapy
  - Median Arcuate Ligament Synd. & Superior Mesenteric Artery Synd.: See GI MD
- It is very complicated!



Resources

- EDS specialist nutrition course: https://nasarnutrition.com/eds-nutrition-pain-protocol/
  - Bonnie Nasar, RDN (Registered Dietitian Nutritionist) also provides telehealth consultations
- Mast cell activation food information and cookbook: https://www.mastzellaktivierung.info/en/downloads.html
- See Monash University website, and their FODMAP app with food listings and recipes. https://www.monashfodmap.com/about-fodmap-and-ibs/high-and-low-fodmap-foods/
- A helpful app: ***Food Intolerances: Histamine, FODMAPs & IBS Guide***. It has a strawberry logo. (https://apps.apple.com/us/app/food-intolerances/id419098758)

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Questions?