CONFORT
Physio et Santé

Presentation by Nina Kliouéva, Nutritionist/Dietician

Hypermobility & Nutrition

» Connective tissue disorders, HSD, EDS «

How nutrition can help manage symptoms

How can this presentation help me?

Make sense of the symptoms experienced on a daily basis

Understand how nutrition can help manage them

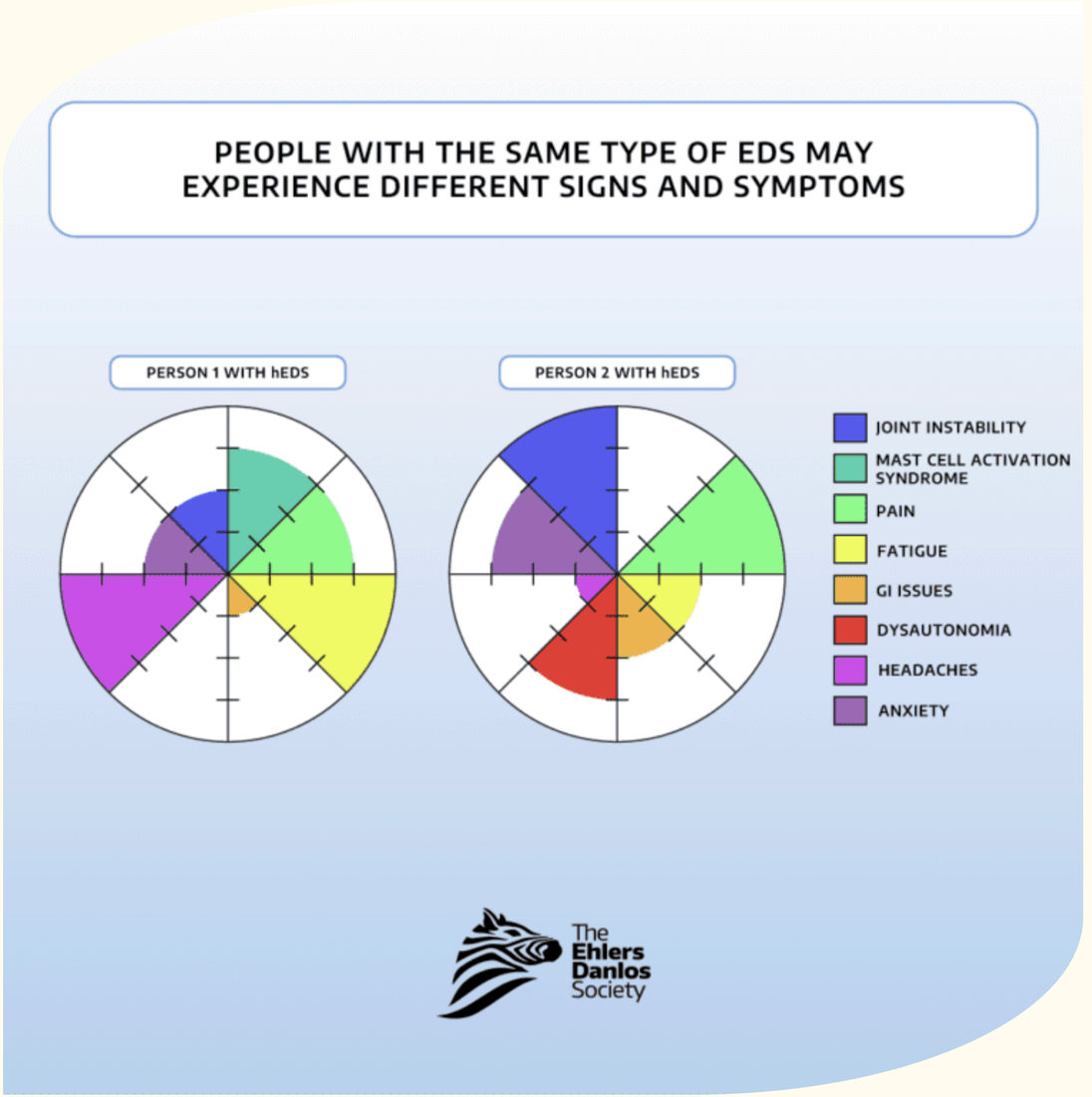
Discover a few nutritional strategies

Know when and why personalized support can help

Two people with the same diagnosis can experience very different realities

- Variable intensity of symptoms
- Different combinations (digestive, pain, fatigue)
- Evolution over time
- Major impact of stress, environment, and diet

There is no one-size-fits-all solution.



Challenge #1 - The Digestive System (Gastrointestinal)

The structural reality: Collagen is present throughout the entire digestive tract. If it is too loose, motility (movement) is affected.

1. Digestive motility disorders
    - Gastroparesis: delayed gastric emptying (nausea, heaviness, reflux)
    - Altered intestinal motility: slowed or disorganized transit

2. Transit disorders
    - Constipation
    - Diarrhea
    - Alternating between the two

3. Esophageal and gastric disorders
    - Gastroesophageal reflux disease (GERD)
    - Early satiety and postprandial discomfort

Aziz Q et al. CGH 2025 ; Topan R et al. Am J Gastroenterol 2024 ; DiFrancisco-Donoghue J et al. J Clin Densitometry 2022

Challenge #1 - The Digestive System (Gastrointestinal) continued...

The structural reality: Collagen is present throughout the entire digestive tract. If it is too loose, motility (movement) is affected.

4. Bloating and abdominal pain
    - Increased fermentation linked to food stagnation
    - Visceral hypersensitivity

5. IBS-type symptoms (Irritable Bowel Syndrome)
    - Abdominal pain
    - Chronic digestive discomfort
    - Irregular transit

6. Variable nutritional absorption
    - Fluctuating assimilation of certain nutrients
    - Possible malabsorption despite a tailored diet

Challenge #2 - Postural Orthostatic Tachycardia Syndrome (POTS)

- In hypermobility, blood vessels are often more stretchy.
- This causes blood to pool more easily in the legs and abdomen, returning less efficiently to the heart and brain.
- In some people, the autonomic nervous system (ANS)—which normally regulates blood pressure, heart rate, and digestion—fails to compensate for this blood redistribution, leading to POTS symptoms.

Symptoms:

- Dizziness when standing up or after meals.
- Tachycardia (fast heart rate).
- Heat intolerance.
- Intense fatigue after meals (blood is diverted for digestion, temporarily leaving the brain).
- Digestive issues.

Aziz Q et al. CGH 2025 ; Bryarly M et al. JACC 2019 ; Sheldon RS et al. Heart Rhythm 2015

Challenge #3 - Pain & Inflammation

- Pain is very common in hypermobility, but it is not always inflammatory.
- It is often multifactorial and widespread, affecting muscles, joints, tissues, and the nervous system.

Possible Contributory Factors

- Intestinal dysbiosis = imbalance of gut bacteria
- Undernutrition or deficiencies
- Mast cell dysfunction (MCAS)

Rondanelli M et al. Nutr Res Rev 2018 ; Steiner L (2025) UND

Challenge #3.1 - Mast Cell Dysfunction (MCAS)

Mast Cell Activation Syndrome (MCAS) = a hyperreactivity of the innate immune system.

Mast cells (immune system cells) are too reactive or too sensitive -> Excessive release of histamine and inflammatory mediators.

Possible Contributory Factors

- Certain foods or meals high in histamine
- Digestion itself
- Stress
- Heat
- Fatigue
- Constipation
- Infections

Possible Symptoms

- Pseudo-allergic reactions after meals
- Bloating, digestive pain
- Brain fog
- Intense fatigue
- Widespread pain
- Redness, flushing, itching (dermatitis)

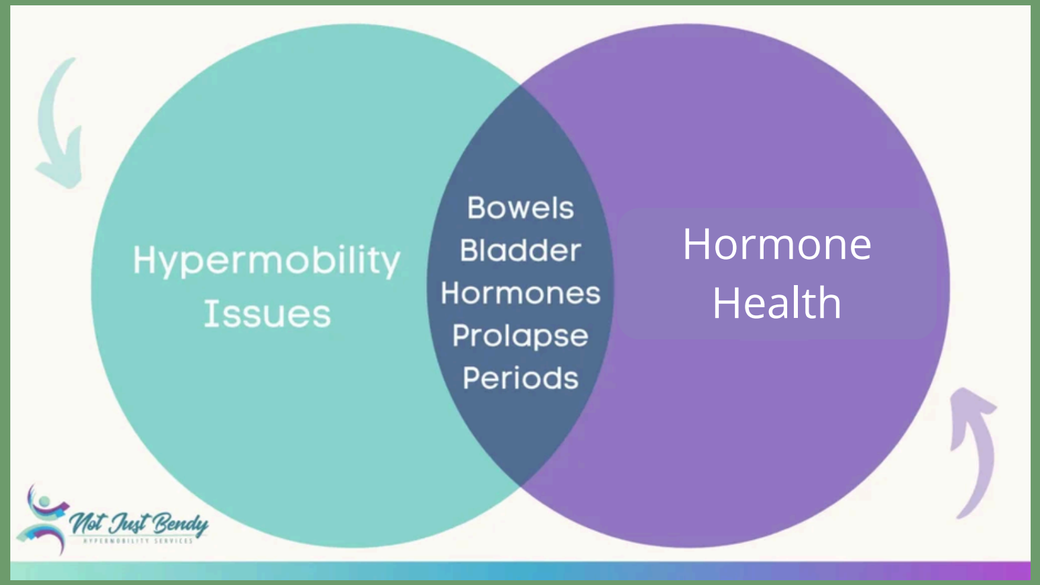
Weinstock LB et al. Dig Dis Sci 2021

Challenge #3.2 - Female Individuals, Hypermobility, Digestion, and Nutrition

Hormonal cycle and digestive symptoms

Hormonal fluctuations (rapid variations in estrogen and progesterone levels) can:

- Influence connective tissue laxity and vascular tone
- Accentuate dysautonomia symptoms (e.g., POTS)
- Disrupt digestive motility -> bloating, constipation, or diarrhea
- Worsen pain and migraines



These effects can also be more pronounced during perimenopause.

Hennessey, S. (2025). Women's Health Issues in Hypermobility. Notjustbendy.com.
Weinstock LB et al. Dig Dis Sci 2021

Challenge #4 - Neurodivergence & ARFID (The Brain-Gut Connection)

- Hypermobility may be associated with **ADHD and/or autism** → this directly influences how the body perceives hunger, digestion, meal organization, and food tolerance.

ARFID (Avoidant/Restrictive Food Intake Disorder):

- This is not "picky eating." It is often a sensory response or a fear of digestive pain.
- Hypersensitivity to textures (soft, slimy, pieces).
- Fear of previously experienced digestive pain.
- Difficulty feeling hunger cues before feeling very unwell (nausea, exhaustion).

What this looks like daily:

- Forgetting to eat or eating very late
- Difficulty planning or preparing meals, or mealtime anxiety
- Need for routines or repetitive foods
- Sensory overload from certain foods
- Nutritional deficiencies

Topan R et al. Am J Gastroenterol 2024 ; Steiner L (2025) UND

PART 2: Nutritional Solutions (Action)

Comprehensive approach: we do not treat an isolated symptom

Role of the nutritionist

- *Understand the connections between:*

  digestion <-> nervous system <-> immunity <-> energy
- *Search for strategies that relieve multiple symptoms at once*
- *Adapt recommendations to reality (fatigue, pain, neurodivergence)*

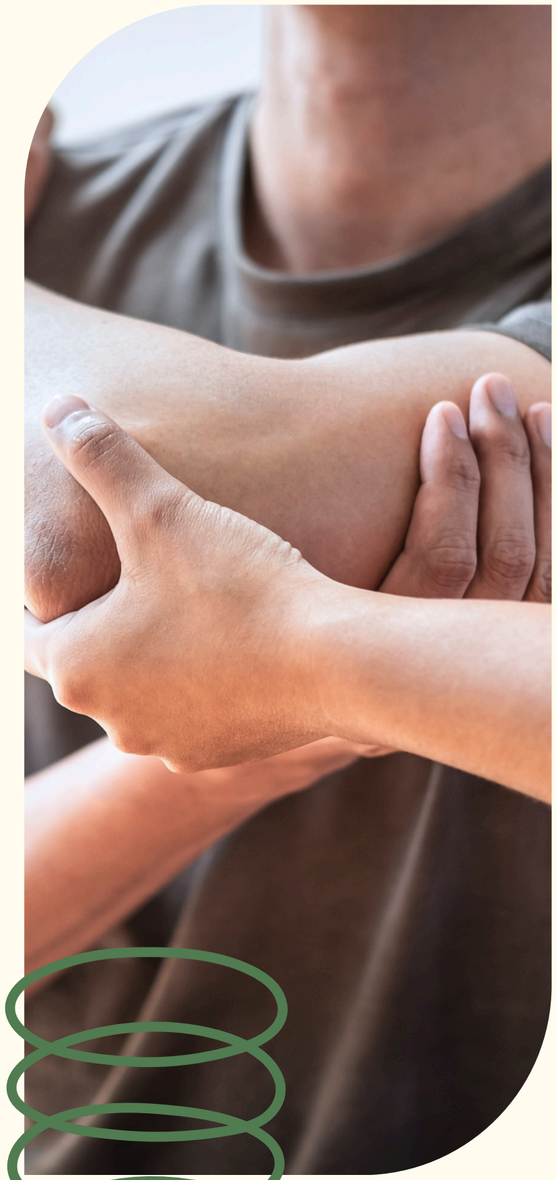
Digestive issues: concrete nutritional strategies

Objectives

- Reduce discomfort
- Make the act of eating feel safe
- Improve nutritional absorption

Possible strategies (depending on the individual)

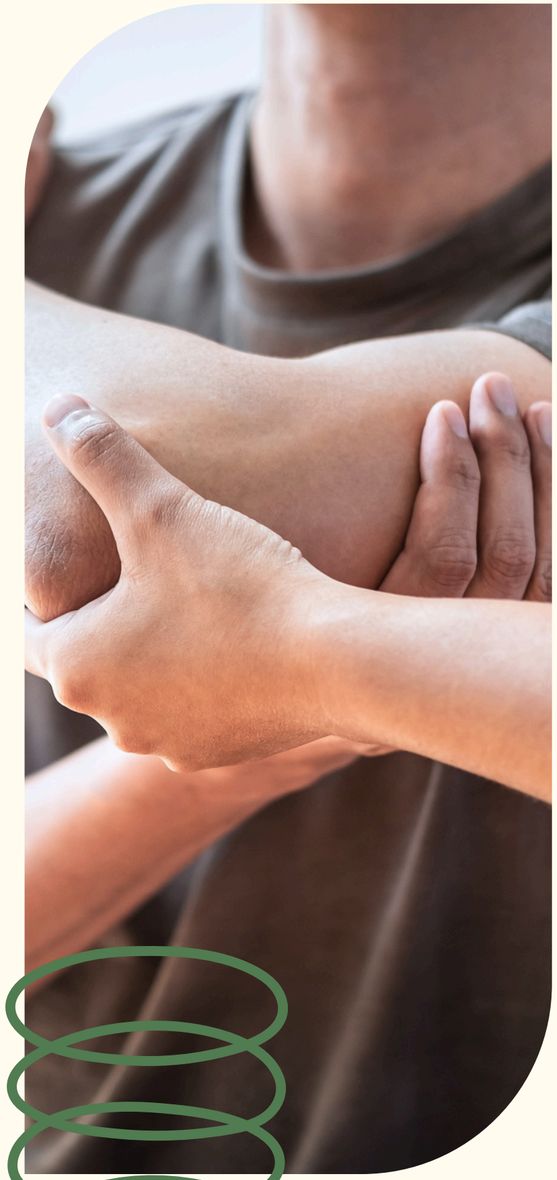
- Start with how we eat:
  - Regular meals, a calm pace, listening to hunger and fullness cues. Limit actions that bloat the gut (eating quickly, drinking while eating, chewing gum, carbonated beverages).
- Test digestive irritants: Alcohol, fat, caffeine, spices...
- Adjust fiber gradually
- Observe to better understand (symptom journal)
- Targeted approaches if necessary: FODMAPs or other specific strategies



Digestive issues: Gastroparesis (slowed gastric emptying)

- Objective: Reduce nausea, bloating, reflux, and postprandial discomfort without undernutrition.

- What helps the most:
  - Cooked, soft, blended foods:
    - Soups, purees, compotes, smoothies
    - Ripe fruits, well-cooked vegetables
    - Eggs, fish, tofu, dairy products
    - Liquid meals
  - Pace, volume & time of day:
    - Small portions
    - Eat slowly, chew thoroughly
    - Space meals 3–4 hours apart
  - Tailored fiber & fats



Key Nutrients

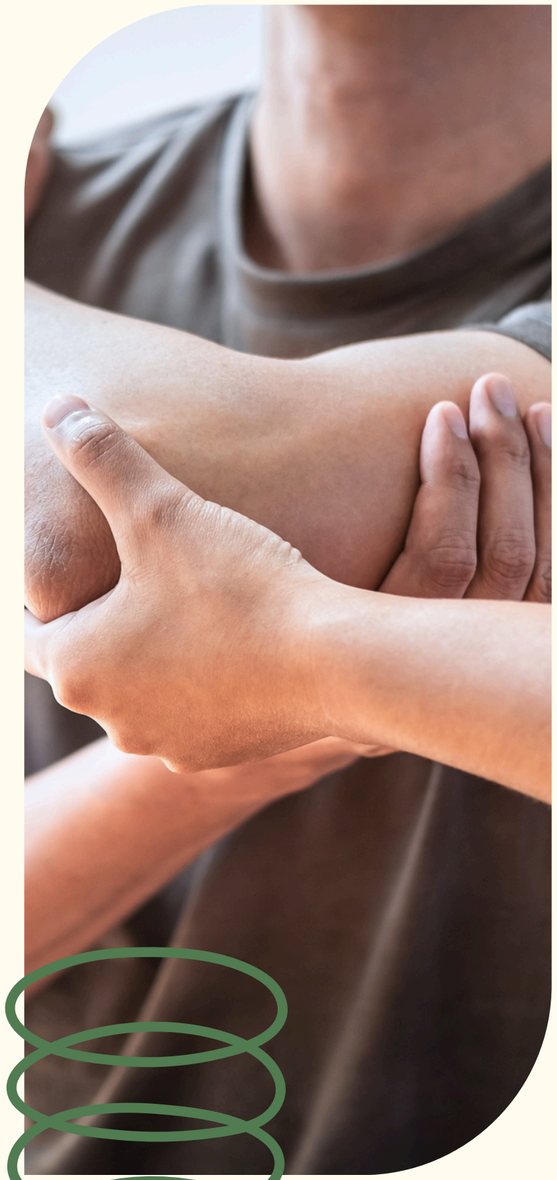
Why is it important?
In individuals with hEDS or HSD, digestive issues are common (bloating, diarrhea, constipation, poor absorption).

Result: The body absorbs certain essential nutrients less effectively, which can lead to:

- Bone fragility (weaker bones)
- A higher risk of fractures
- More fatigue, joint pain, and muscle pain

Proteins are therefore essential for:

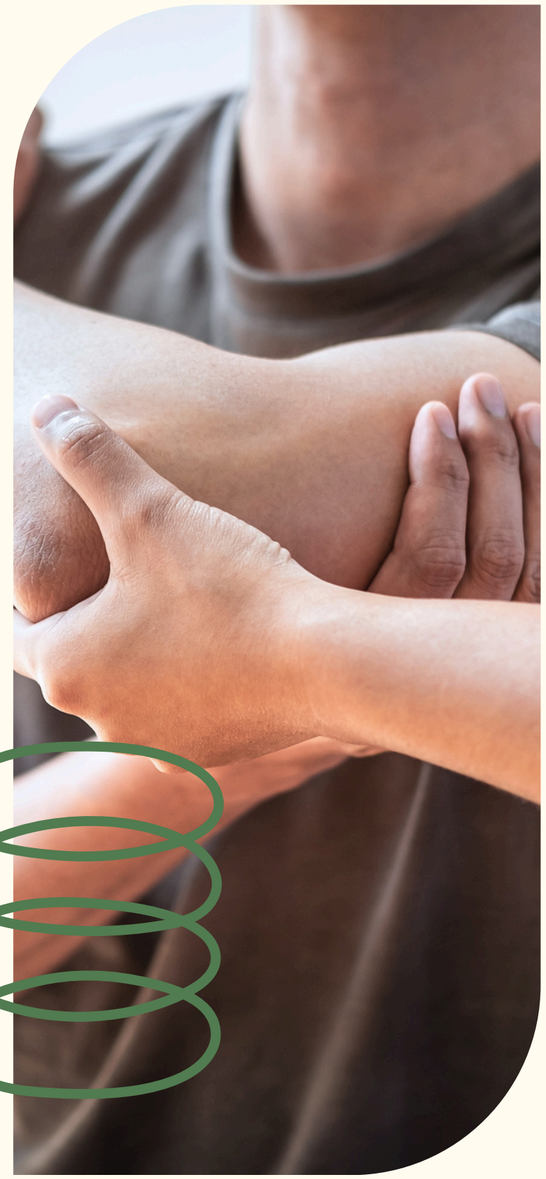
- Bones, muscles, tissue repair
- Distributing protein throughout the day to ease digestion



Key Nutrients

Micronutriment	Why? (Justification)	Connection with hypermobility / chronic pain
Vitamin D	Regulates inflammation, supports immunity and bone health	Frequently low; associated with pain, fatigue, bone fragility
Magnesium	Anti-inflammatory effect, neuromuscular relaxation	Helps with cramps, muscle pain, fatigue, sleep disorders
Vitamin C	Major antioxidant, essential for collagen	Crucial for connective tissues, ligaments, repair
Zinc	Regulates inflammation and tissue repair	Supports healing, immunity, collagen

Intake is personalized: it is based on diet, digestive tolerance, and, if necessary, blood tests for critical nutrients.



DiFrancisco-Donoghue J et al. J Clin Densitometry 2022 ; Alsakarneh S et al. Aliment Pharmacol Ther 2025 ; Steiner L (2025) UND

Collagen, is it essential?

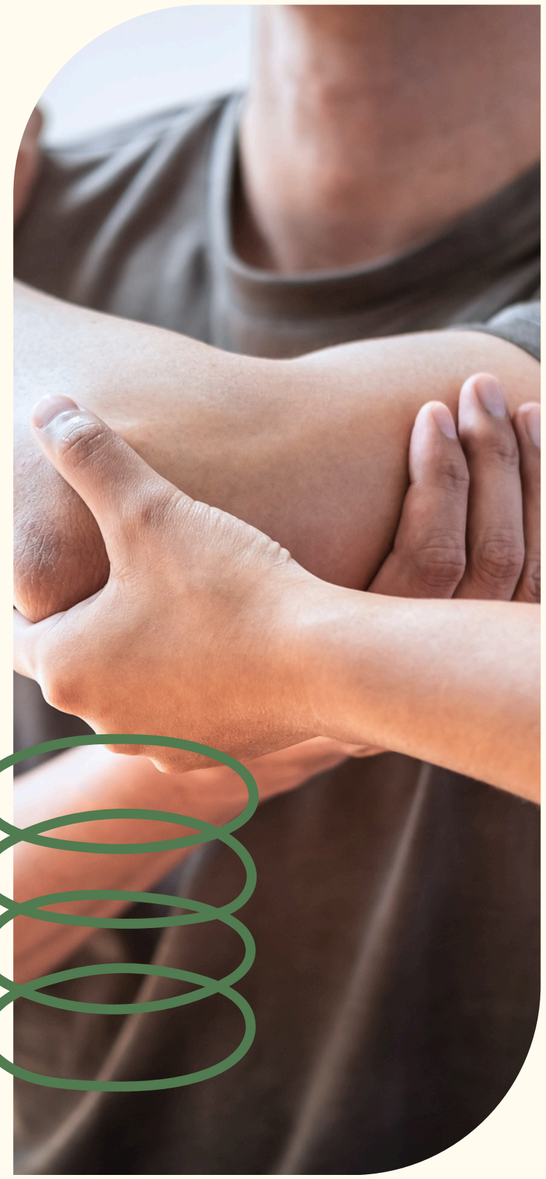
- In hEDS / HSD, the collagen defect is genetic. Dietary intake or supplements do not correct the root cause.
- To date, the effectiveness of collagen remains debated in the literature.
- Certain types of collagen might help reduce joint pain in some individuals.

Bone broth = Unreliable as a therapeutic strategy:

- Low and highly variable collagen intake
- Content depends on cooking time, bones used, etc.

Type II Collagen (UC-II®)

- Studied for joint pain and function
- May act via an anti-inflammatory mechanism (oral tolerance)
- Symptomatic effect, not structural

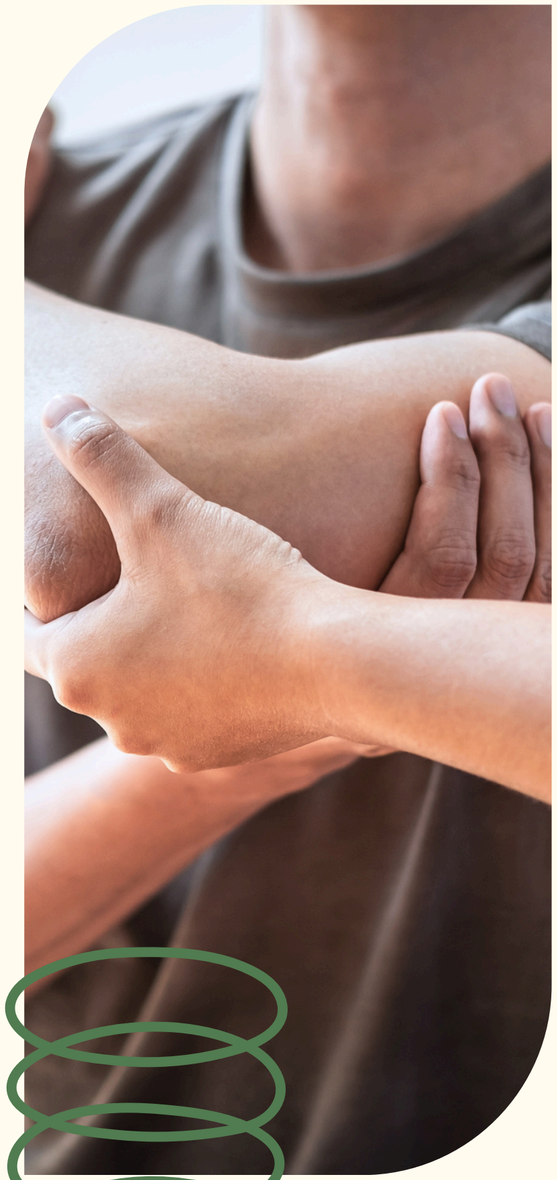


Steiner L (2025) UND

Managing Fatigue

- Chronic fatigue affects up to 75% of patients, linked to pain, POTS, and GI issues.

- Strategy for fatigue:
  - Divide meals: Small, frequent portions (every 3–4h) for constant energy and to avoid postprandial crashes.
  - Include protein and complex carbohydrates: Support sustained energy (normal blood sugar) and limit reactive hypoglycemia (sugar crashes), which mimic anxiety attacks and worsen POTS.
  - Hydration + electrolytes: Crucial to counter exhaustion linked to dysautonomia (POTS).



Voermans, N. C., Knoop, H., van de Kamp, N., Hamel, B. C., Bleijenberg, G., & van Engelen, B. G. (2010).

Hydration and Electrolytes - Why it's crucial

Benefits of regular hydration:

- Maintains blood pressure and venous return to the heart/brain.
- Improves energy, digestion, and concentration.
- Reduces dizziness and fatigue linked to POTS.

Electrolyte	Role	Suggested Dose (POTS)
Sodium	Increases blood volume	10–12 g of salt = 4000-6000 mg/day, depending on the individual
Potassium	Supports nerves/muscles	Variable
Magnesium	Reduces fatigue	Variable

Aziz Q et al. CGH 2025 ; Sheldon RS et al. Heart Rhythm 2015 ; Jeannie Di Bon (2025)

Modulating pain & inflammation

- Pain ≠ always inflammation
- But low-grade inflammation can amplify:
  - muscle pain
  - fatigue
  - nerve hypersensitivity

Rondanelli M et al. Nutr Res Rev 2018

- Concrete focus areas
  - Flexible, Mediterranean-style dietary pattern
  - Prioritize foods rich in:
    - colorful fruits and vegetables
    - dietary omega-3s
    - polyphenols
    - and more

Rondanelli M et al. Nutr Res Rev 2018

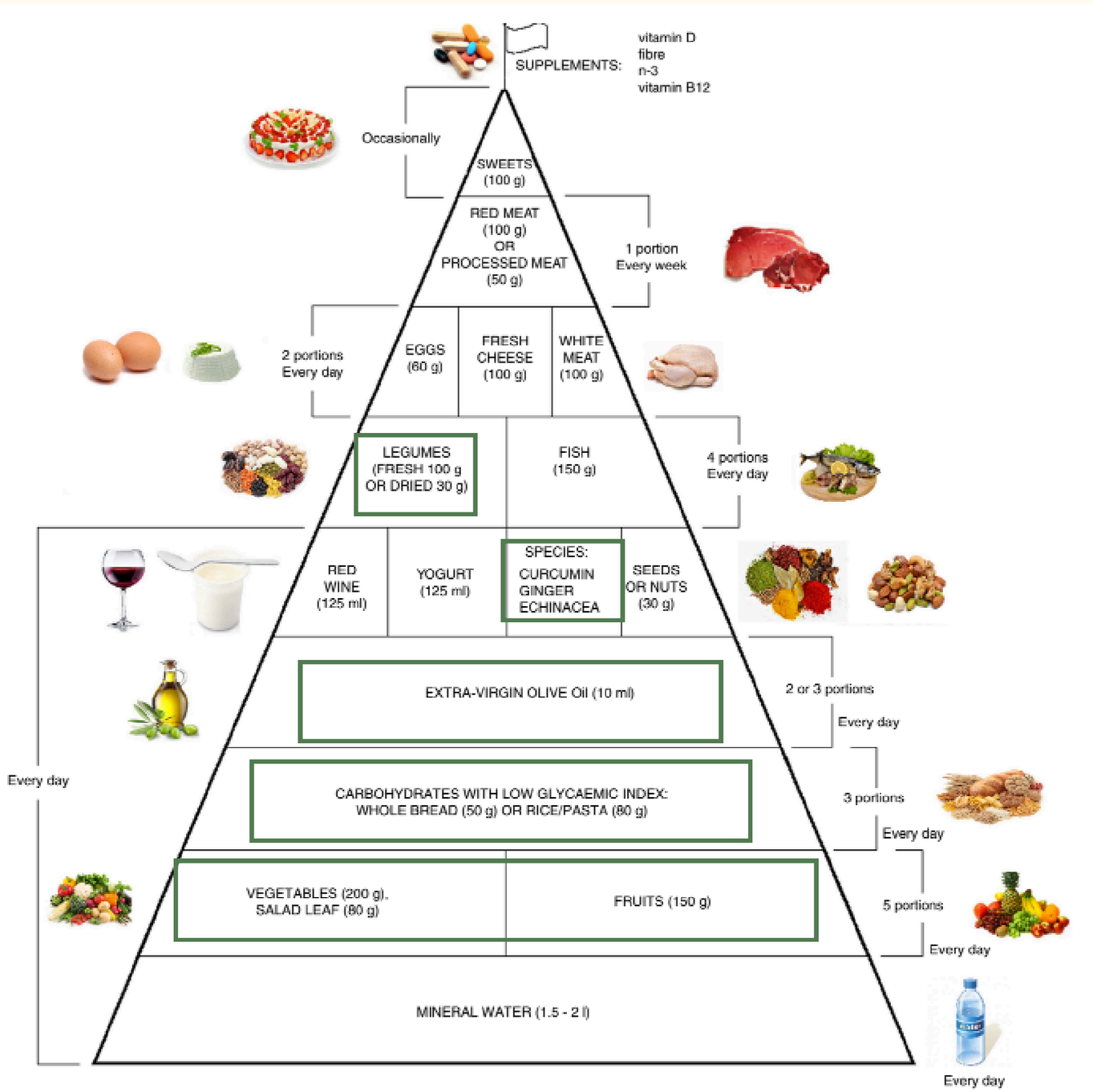
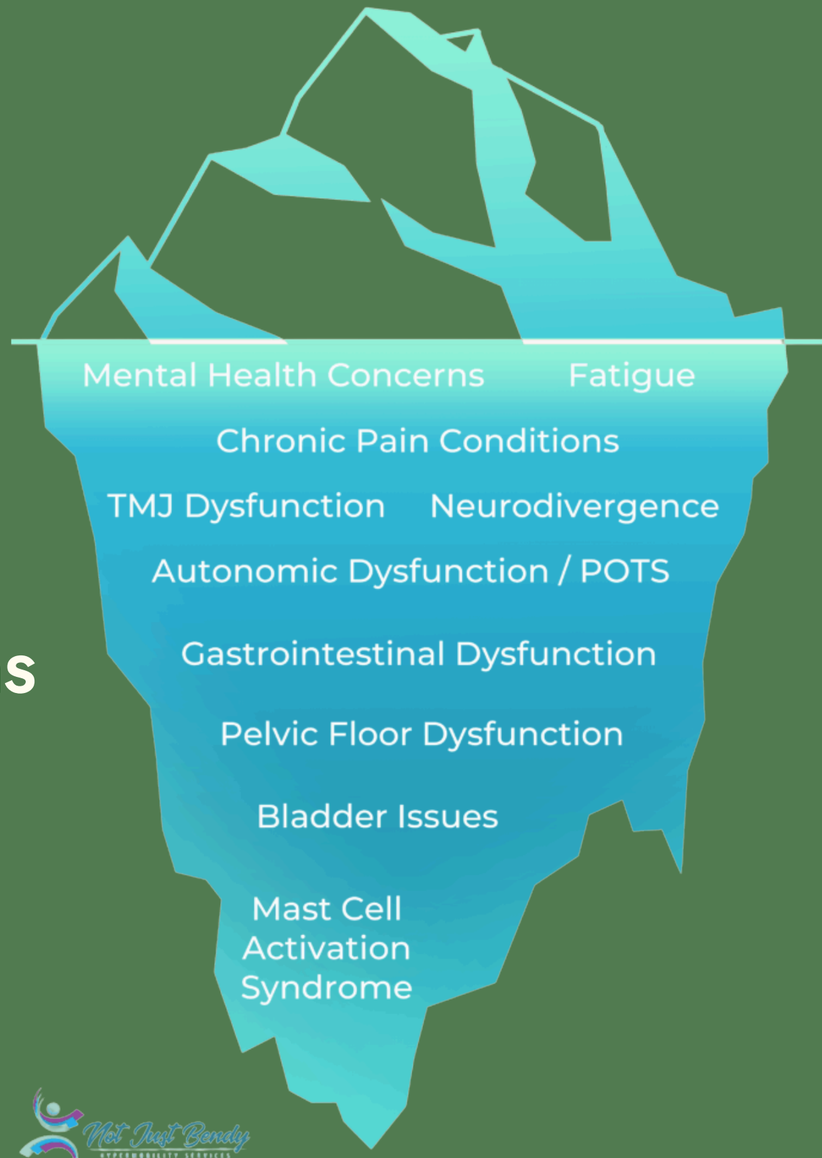


Fig. 2. Food pyramid for the dietary management of chronic pain. It is recommended to take whole grains daily (three portions of lower-glycaemic index grains, for example whole rice or Basmati rice or Doongara rice or rolled oats).

Summary

- Hypermobility is complex and systemic
- There is no universal diet
- Nutrition can significantly reduce symptoms
- Personalization is indispensable
- Undernutrition worsens all symptoms



What now?

Tailored nutritional support allows for:

- A comprehensive assessment
- Consideration of real symptoms
- Respect for lifestyle and functional capacity
- A progressive and safe approach

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