2026

ACG'S ENDOSCOPY SCHOOL & ACG / LGS REGIONAL POSTGRADUATE COURSE

MARCH 6-8, 2026 | HILTON NEW ORLEANS RIVERSIDE
NEW ORLEANS, LOUISIANA

Register online: **meetings.gi.org**

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2026

ACG'S HEPATOLOGY SCHOOL & ACG / FGS ANNUAL SPRING SYMPOSIUM

MARCH 20-22, 2026 | HYATT REGENCY COCONUT POINT
NAPLES, FLORIDA

Register online: **meetings.gi.org**

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Virtual Grand Rounds

universe.gi.org

Participating in the Webinar

All attendees will be muted and will remain in "Listen Only Mode"

Type your questions here so that the moderator can see them.
Not all questions will be answered but we will get to as many as possible.

A handout with the slides and room to take notes can be downloaded from your control panel.

Moderators:
Laura Manning, MPH, RDN, CSDH

Exit

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ACG Virtual Grand Rounds

Join us for upcoming Virtual Grand Rounds!

Week 08 – Thursday, February 19, 2026
Mental Health Care in IBD
Faculty: Chung Sang (CS) Tse, MD
Moderator: Shirley Cohen-Mekelburg, MD, MS

At Noon and 8pm Eastern

Week 09 – Thursday, February 26, 2026
Best of ACG 2025! Outstanding Science, Expert Discussions
Faculty: Eric C. Swei, MD, MS, Ekta Gutpa, MD, FACG, Omer Shahab, MD, Sangeeta Agrawal, MD, FACG, Hassam Ali, MD, and Neal A. Mehta, MD
Moderator: Vlad Kushnir, MD, FACG
At Noon and 8pm Eastern

Visit **gi.org/ACGVGR** to Register

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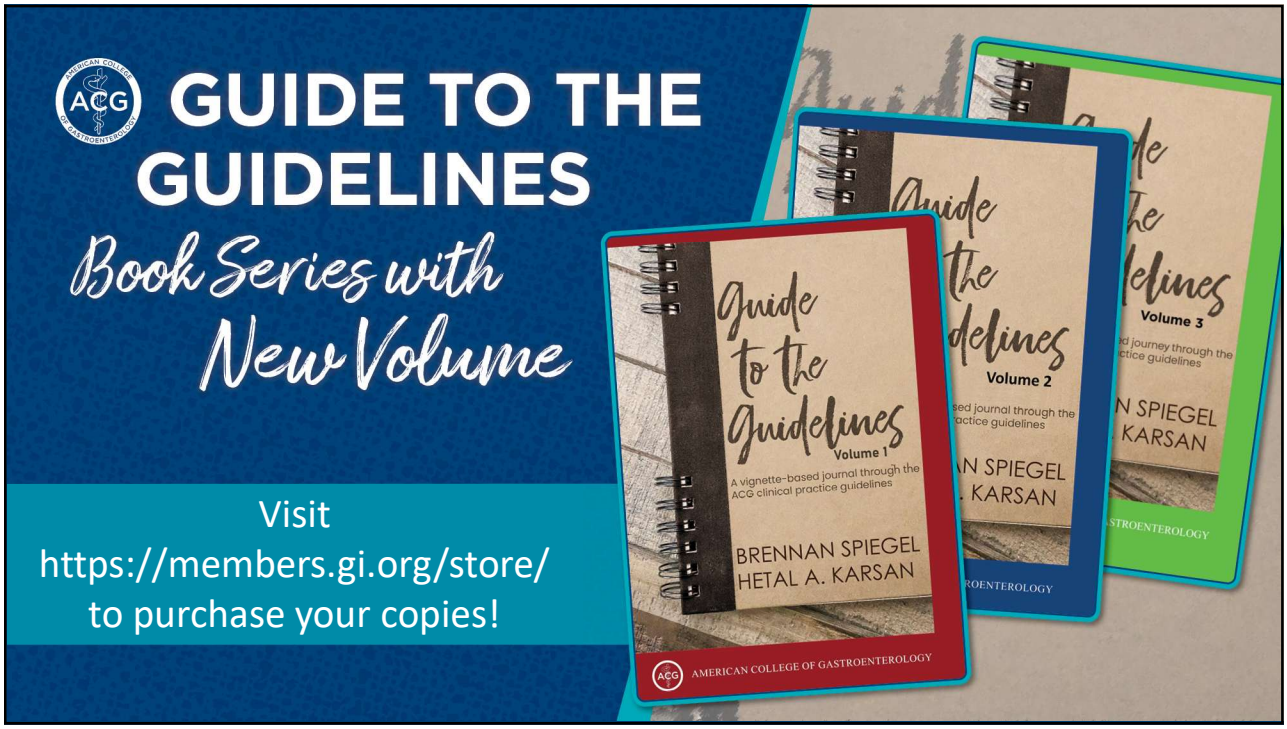

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GI Nutrition Series

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2025 ACG GI Nutrition Care Series

Co-Directors
Lindsey Russell, MD, MSc, CNSC, FRCPC, and
Neha Dilip Shah, MPH, RD, CNSC, CHES

Welcome to the sixth webinar in the ACG GI Nutrition Series .
This new ACG GI Nutrition Series has been developed to provide a strong foundation in nutrition for all members of the GI and hepatology care team.

Visit gi.org/ACGVGR to watch for future talks in this series.

Up Next: Feeding Fundamentals: A Comprehensive Guide to Enteral Nutrition and Feeding Tubes

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GI Nutrition Series

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2025-26 ACG GI Nutrition Care Series

- Micronutrient Deficiencies- Malabsorption
- Nutrition in Specific Patients- Dysmotility/Disorders of Gut Brain Axis
- ACG Clinical Guideline: Malnutrition and Nutritional Recommendations in Liver Disease
- Nutrition in Specific Patients- Mucosal Diseases
- Nutrition in Specific Patients- Surgical Resections
- Nutrition Applications for a GI Practice
- Nutrition Strategies for Patients with Mucosal Diseases; From Celiac, to IBD and Eosinophilic Disorders

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Disclosures

Laura Manning, MPH, RDN, CSDH:
OWYN- Simply Good Foods Co: Consultant

Stephanie L. Gold, MD:
Supported by a Crohn's and Colitis Foundation Career Development Award; Nutritional Therapy for IBD: Board Member.

**All of the relevant financial relationships listed for these individuals have been mitigated*

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Mount Sinai

Nutrition Strategies for Patients with Small Bowel Diseases

Stephanie Gold, MD

Assistant Professor of Medicine
Director, iNourish Program
The Dr. Henry D. Janowitz Division of Gastroenterology
Icahn School of Medicine at Mount Sinai
New York, NY

Laura Manning, MPH, RDN, CSDH

Clinical dietitian at Mount Sinai Hospital

New York, NY

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Updates in Nutritional Assessments and & Interventions for:

- Inflammatory Bowel Disease (Crohn's Disease)
- Celiac Disease
- Radiation Enteritis
- Eosinophilic Enteritis
- Autoimmune Enteritis

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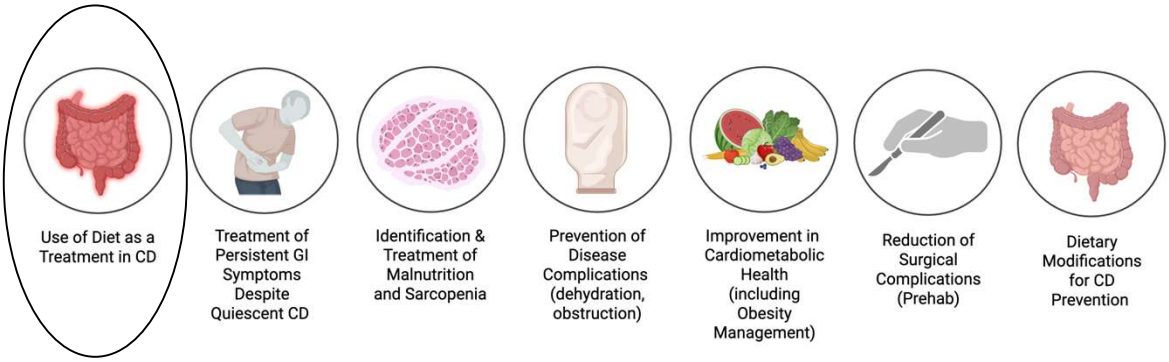
Nutrition & IBD



What am I Hoping to Accomplish with Diet in a Patient with IBD?

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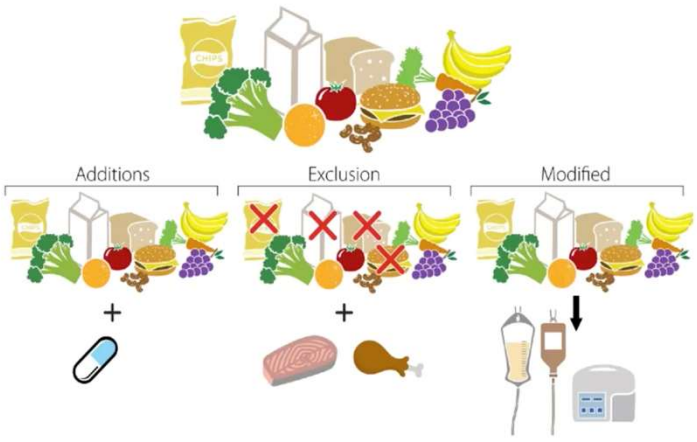
Diet as a Treatment for IBD

How can we use diet to treat IBD?

- Add food or supplements to the current diet
- Take away specific foods or food groups from the diet
- Modify the dietary components (such as with enteral or parenteral formula support)



Lewis JD. Inflamm Bowel Dis. 2017; 23: 181-191

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Diet as a Treatment for Crohn's Disease

	Therapeutic Diet	Induction or Maintenance	Notes
	EEN	Induction	Not sustainable- need an exit plan!
	Biologic + PEN	Induction & Maintenance	Good clinical and biomarker data- limited endoscopic data.
Mediterranean Style Diets	CDED + PEN	Induction & Maintenance	Formula + whole foods
Mediterranean Style Diets	CD-TDI (LyfeMD®)	Induction & Maintenance	Mediterranean style diet, whole foods (no formula), app based
Mediterranean Style Diets	Tasty&Healthy®	Induction & Maintenance	Mediterranean style diet, no formula, gradual re introduction, no mandatory foods (=EEN!)
	PEN	Maintenance	Not effective for induction, consider combination therapy with a biologic
	SCD	Induction & Maintenance	DINE Study- SCD restriction not superior to Mediterranean diet!
	Mediterranean Diet	Maintenance	No data for induction. Excellent diet for patients in remission, overall cardiometabolic health

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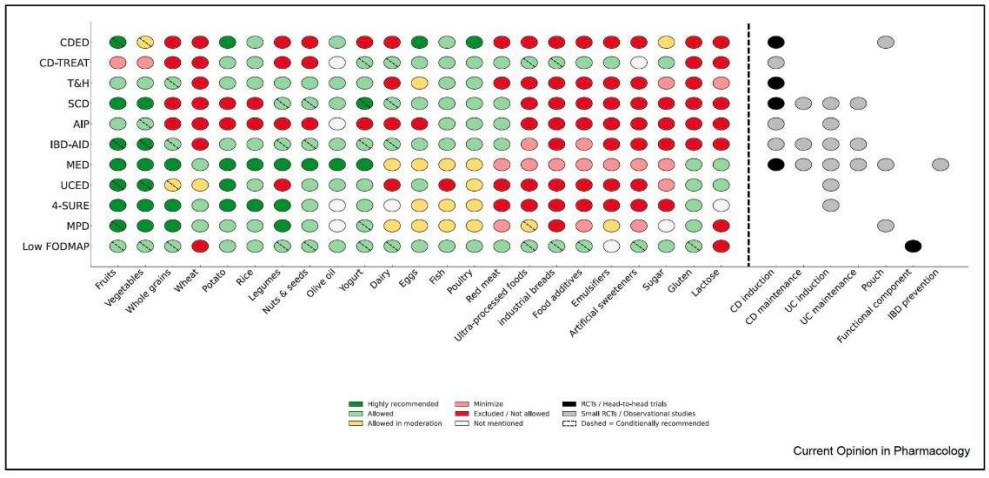
Diet as a Treatment for Crohn's Disease



Godny et al. Nutritional Composition of Diets for Inducing and Maintaining Remission in Inflammatory Bowel Diseases: From Bedside to Plate. Current Opinion in Phamacology. February 2026

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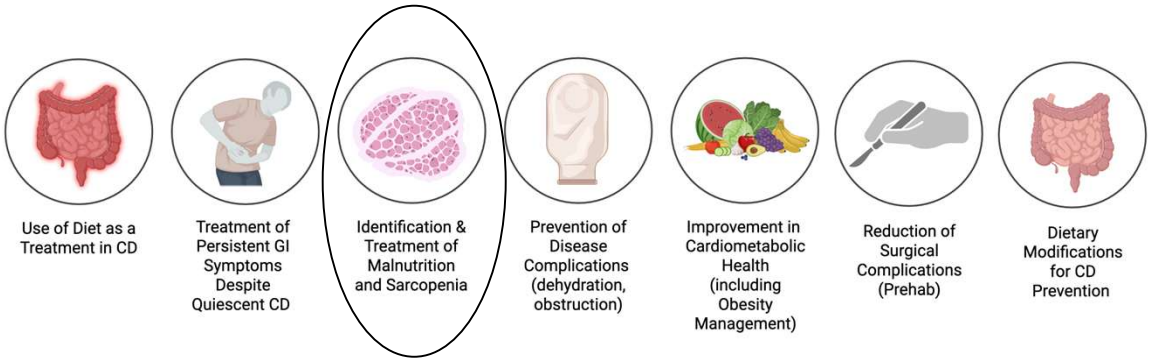
Nutrition & IBD



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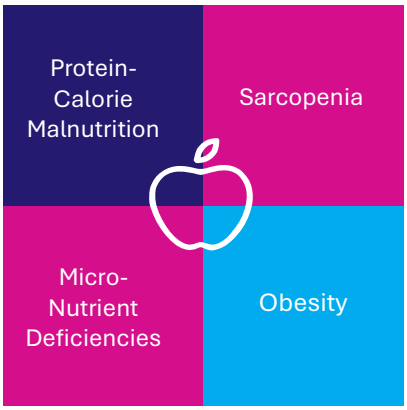
What is Malnutrition?

"The lack of proper nutrition"

Protein Calorie Malnutrition
Classically defined as "under nutrition"

Micro-Nutrient Deficiencies
Also known as "hidden hunger"
Deficiencies in vitamins/minerals/electrolytes



Sarcopenia
Defined as a loss of muscle mass or function

Obesity
Generally defined as BMI ≥ 30

Malnutrition is NOT: 1) an isolated anthropometric measure, appearance of a patient, low albumin etc.

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Malnutrition in IBD

Prevalence of Malnutrition in IBD:

20-80% of patients with IBD

- CD>UC
- Inpatients (70%) >Outpatients (30%)
- Active disease > Quiescent disease
- Ileostomy/Jejunostomy
- Restrictive diets
- Food Insecurity

Impact of Malnutrition on IBD Outcomes:

Poor clinical outcomes in IBD

- Increased disease flares/poor response to biologics
- Increased rates of infection
- Longer hospital stays
- Prolonged recovery time after surgery
- Reduced quality of life
- Higher healthcare costs

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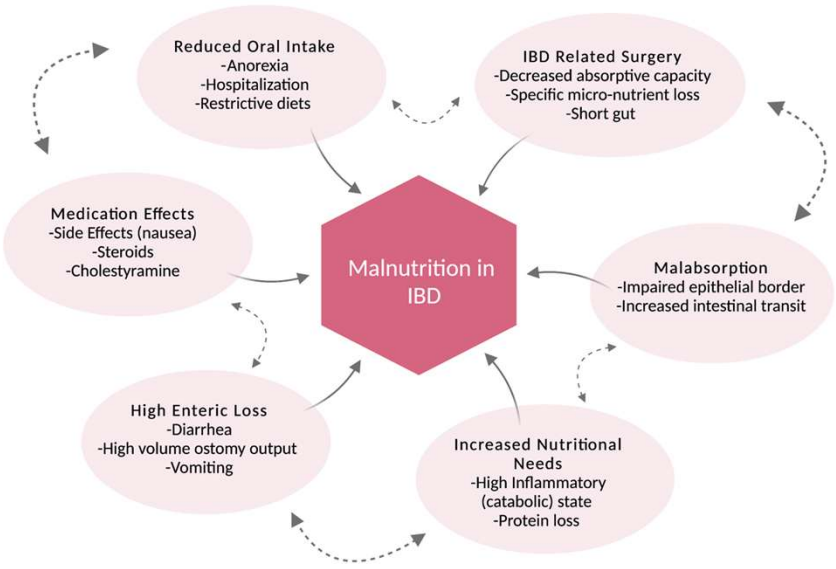
Etiology of Malnutrition in IBD



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Who Should be Screened for Malnutrition?

ESPEN 2023

What is the risk of malnutrition in IBD; what are the consequences?

Recommendation 4.

Patients with IBD are at risk and therefore should be screened for malnutrition at the time of diagnosis and thereafter on a regular basis.

Grade of recommendation GPP – Strong consensus 100% agreement.

Recommendation 5.

Documented malnutrition in patients with IBD should be treated appropriately because malnutrition worsens the prognosis, complication rates, mortality, and quality of life.

Grade of recommendation GPP – Strong consensus 100% agreement.

British Dietetic Association 2023

PRACTICE STATEMENT: Screening for nutritional risk may be considered an integral part of inflammatory bowel disease (IBD) care in the IBD multidisciplinary care setting. Agreement 98.2%.

1. Lomer MCE, Wilson B, Wall CL. British Dietetic Association consensus guidelines on the nutritional assessment and dietary management of patients with inflammatory bowel disease. J Hum Nutr Diet. 2023 Feb;36(1):336-377
2. Bischoff SC, Bager P, Escher J, Forbes A, Hébuterne X, Hvas CL, Joly F, Klek S, Krznaric Z, Ockenga J, Schneider S, Shamir R, Stardelova K, Bender DV, Wierdsma N, Weimann A. ESPEN guideline on Clinical Nutrition in inflammatory bowel disease. Clin Nutr. 2023 Mar;42(3):352-379

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Malnutrition Screening Tools

Components	Nutrition Risk Screening 2002 (NRS-2002)	Malnutrition Universal Screening Tool (MUST)	Nutritional Risk Index (NRI)	Malnutrition Inflammation Risk Tool (MIRT)	Saskatchewan Inflammatory Bowel Disease Nutrition Risk (SaskIBD-NR)
BMI	YES	YES	Current Weight	YES	
Weight loss	Prior 6 months	Prior 3-6 months	Usual Body Weight	Last 3 months	Last month
Bloodwork			Albumin	CRP	
Symptoms	No	YES*	No	No	Nausea, vomiting, diarrhea, poor appetite > 2 weeks
Dietary Intake	YES	Acutely ill = no intake >5 days	No	No	YES
Disease Severity	YES	YES*	No	No	No

*Table adapted from Li et al. (2019); World J Gastroenterol. 2019 Jul 28; 25(28): 3823–3837

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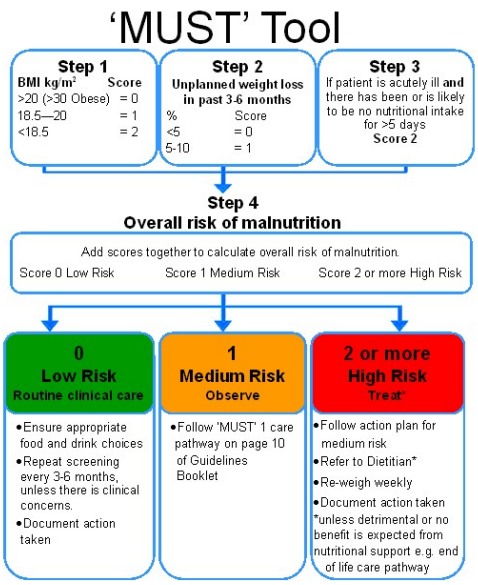
Malnutrition Screening

Malnutrition Universal Screening Tool

- BMI
- Unexplained weight loss
- Acute illness score
  - Modified for IBD patients (IBDQorus)
  - Diarrhea or reduced oral intake x 2 weeks
- Not IBD specific
- Validated in an IBD cohort
- Can be completed by the patient



1. Hwang C, Issokson K, Giguere-Rich C, Reddy S, et al. Development and Pilot Testing of the Inflammatory Bowel Disease Nutrition Care Pathway. Clin Gastroenterol Hepatol. 2020 Nov;18(12):2645-2649
2. Li S, Ney M, Eslamparast T, Vandermeer B, Ismond KP, Kroeker K, Halloran B, Raman M, Tandon P. Systematic review of nutrition screening and assessment in inflammatory bowel disease. World J Gastroenterol. 2019 Jul 28;25(28):3823-3837

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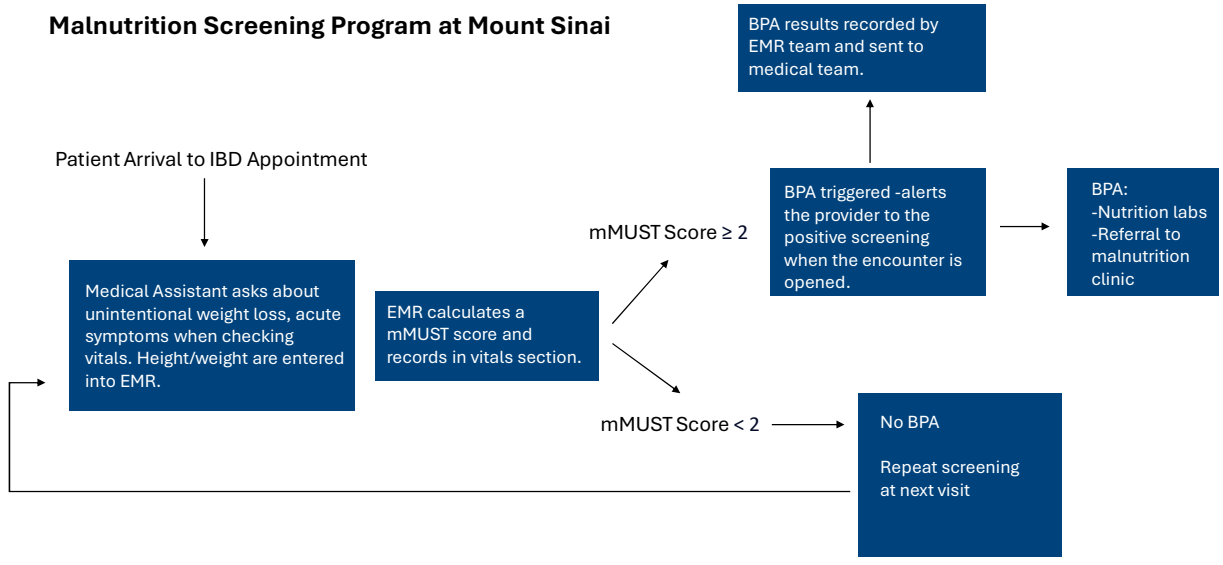
Malnutrition Screening

Malnutrition Screening Program at Mount Sinai



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Micronutrient Deficiencies

- Over 50% of patients with IBD have had at least 1 nutrient deficiency[1]
- Guidelines: "All patients with IBD should be checked for micronutrient deficiencies on a regular basis and specific deficits should be appropriately corrected".[2]
  - How often should patients be screened?
  - Which nutrients should be checked?
  - How to assess nutrient levels in an inflamed patient?
- Micronutrient deficiencies → clinically significant symptoms and disease complications
  - Osteoporosis, anemia, venous thromboembolism.[1]

Micronutrient	Acute Phase Reactant?	Response to Inflammation
Albumin	Yes (Negative)	↓
Ferritin	Yes (Positive)	↑
Copper	Yes (Positive)	↑
Ceruloplasmin	Yes (Positive)	↑
Folate	Yes (Negative)	↓
Selenium	Yes (Negative)	↓
Zinc	Yes (Negative)	↓
Transferrin	Yes (Negative)	↓
Vitamin A	Yes (Negative)	↓
Retinol binding protein	Yes (Negative)	↓
Vitamin B1	No	--
Vitamin B2	No	--
Vitamin B6	Yes (Negative)	↓
Vitamin B12	No	--
Vitamin C	Unknown	?
Vitamin D	Unknown	?
Vitamin E	Unknown	?
Magnesium	Unknown	?

1. Gold SL, Manning L, Kohler D, Ungaro R, Sands B, Raman M. Micronutrients and Their Role in Inflammatory Bowel Disease: Function, Assessment, Supplementation, and Impact on Clinical Outcomes Including Muscle Health. Inflamm Bowel Dis. 2023 Mar 1;29(3):487-501.
2.. Pigneur B, Ruemmele FM. Nutritional interventions for the treatment of IBD: current evidence and controversies. Therap Adv Gastroenterol. 2019 Nov 25;12:1756284819890534.

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Micronutrient Deficiencies

Large Volume Diarrhea/High Output Ileostomy: Zinc, Electrolytes

Draining Fistula: Vitamin A, C, Zinc, Magnesium

Pancreatic Disease, Steatorrhea, Malabsorption: Vitamins A, D, E and K, Zinc, Copper

Ileal Resection: Vitamins B1, B6, B9, and B12

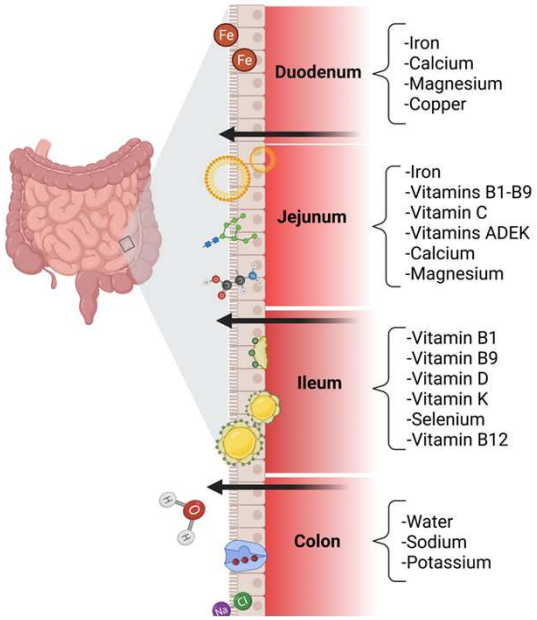
Celiac Disease (or GF diet): Iron, Vitamin D, Copper, B12, Folate, Zinc

Post Bariatric Surgery: Fat soluble (A, D, E and K), B vitamins, Vitamin C, Selenium, Copper, Zinc, Magnesium, Phosphorous

Gastroparesis: Vitamin B12, D, Iron

Low Fruit/Vegetable Intake (or carnivore diet): Vitamin C

Obesity: Vitamins A, D, E, C, Iron, Zinc, Magnesium, Selenium and Potassium



Gold SL, Manning L, Kohler D, Ungaro R, Sands B, Raman M. Micronutrients and Their Role in Inflammatory Bowel Disease: Function, Assessment, Supplementation, and Impact on Clinical Outcomes Including Muscle Health. Inflamm Bowel Dis. 2023 Mar 1;29(3):487-501.

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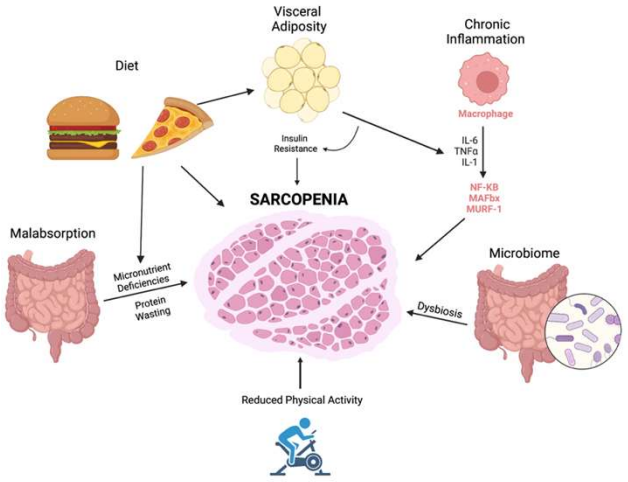
Sarcopenia & Crohn's Disease

Recent meta-analysis: 52% of patients with CD had sarcopenia

Muscle loss in CD is secondary to:

- Decreased oral intake (low protein)
- Chronic systemic inflammation
- Microbiome changes
- Medication effects (ex/ steroids)
- Reduced physical activity
- Visceral adiposity & adipokine signaling
  - Creeping fat?
- Atrophy vs. myosteatosis



Gold SL, Raman M, Sands BE, Ungaro R, Sabino J. Review article: Putting some muscle into sarcopenia-the pathogenesis, assessment and clinical impact of muscle loss in patients with inflammatory bowel disease. Aliment Pharmacol Ther. 2023 Jun;57(11):1216-1230.

Dhaliwal A, Quinlan JI, Overthrow K, Greig C, Lord JM, Armstrong MJ, Cooper SC. Sarcopenia in Inflammatory Bowel Disease: A Narrative Overview. Nutrients. 2021 Feb 17;13(2):656.

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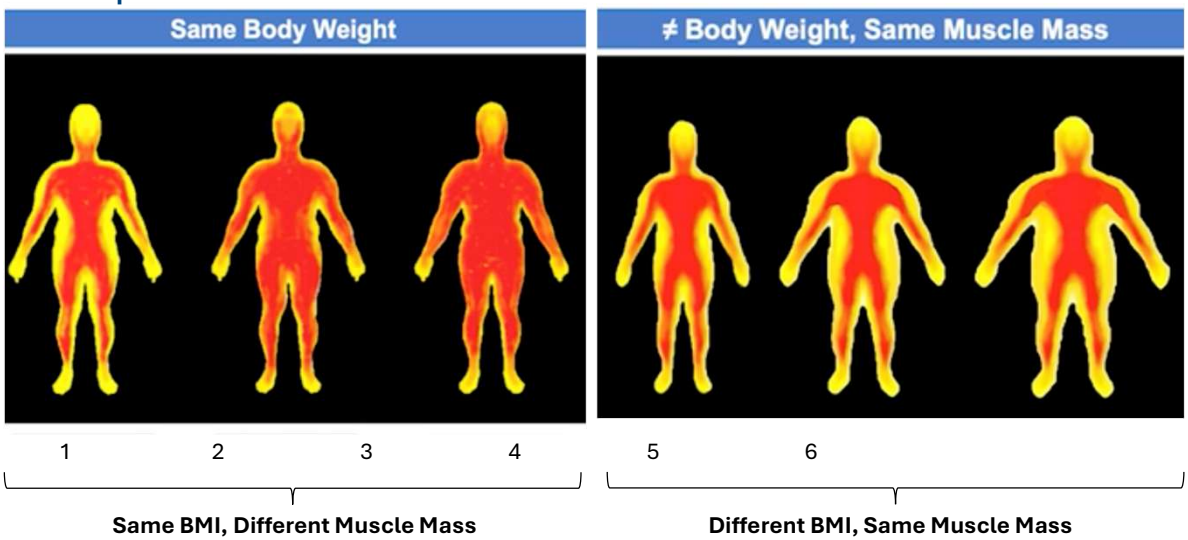
Sarcopenia ≠ BMI



Prado, Body Composition and Health Talk, Abbot Nutrition Health Institute (ANHI).

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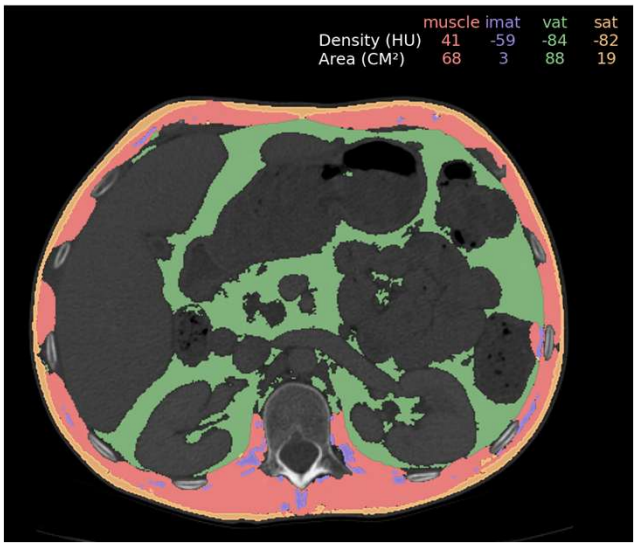
Sarcopenia Assessment

- Gold standard: CT or MRI (skeletal muscle area or psoas muscle area at L3)
  - Direct measure of muscle mass
  - Consider: cost, time for manual segmentation, radiation (CT)
- DEXA (muscle mass)
- Handgrip (muscle function)
- BIA (muscle mass)
- SARC-F (questionnaire)
- Ultrasound (muscle mass)
  - Muscle area/circumference
  - Pennation Angle
  - Myosteatosis



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Malnutrition Interventions

Weight Restoration

- Use of oral nutrition supplements (Kate Farms, OWYN, Boost, Ensure)
- Small, frequent meals/snacks
- Calorie dense food choices (nut butters, avocado, pasta, bread, starchy vegetables, olive oil)
- High calorie smoothies (1,000+ calories/smoothie)

Treatment of Micronutrient deficiencies

- Consider alternate formulation of supplementation when c/f malabsorption
  - Nasal, sublingual, IM, SubQ, transdermal
- Chewable MV tablet
- Treatment of known deficiencies

Treatment of Sarcopenia

- High protein (~1.5 grams/kg if no renal disease)
- Resistance training 2-3 x weekly
- Consider omega 3 supplementation
- Treatment of vit D deficiency

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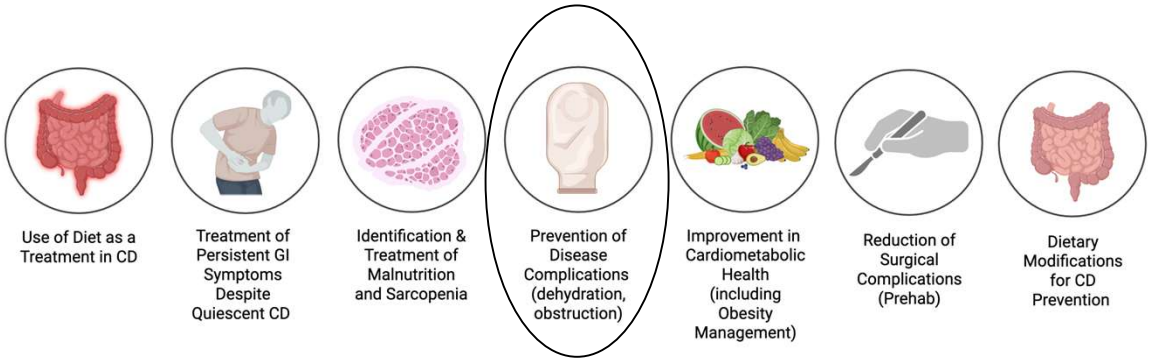
Nutrition & IBD



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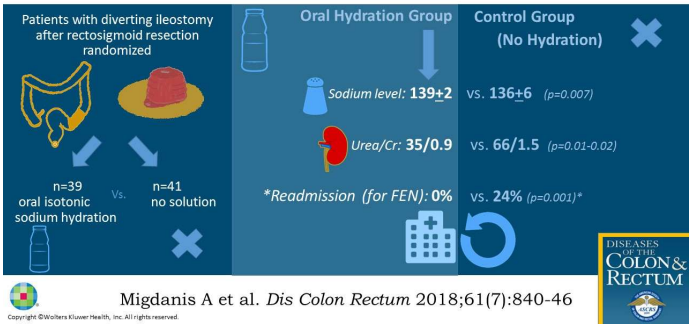
Dehydration Prevention in Crohn's Disease

- Highest risk of dehydration in patients with an **ileostomy**, acute **post surgical** period, **SBS**
- Is your patient dehydrated? Monitor **urine output!**
- Do not want patients limiting their oral intake (specifically fluid intake) to reduce the stool or ostomy output!
- **Goal: 1 – 1.2 L of urine output daily**
- Watch for symptoms of dehydration- thirst, orthostatic symptoms, AKI, kidney stones etc.
- Normal ostomy output:
  - Jejunostomy: 6000 ml/day
  - Ileostomy: 1,000-1200ml/day
  - Colostomy: 200-600 ml/day

Oral Hydration Solution Prevents Electrolyte Disturbances and Reduces Readmissions after Diverting ileostomy: a RCT



Migdanis A et al. *Dis Colon Rectum* 2018;61(7):840-46

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Dehydration Prevention in Crohn's Disease

Ideal Fluids	In Moderation	Avoid
Dripdrop®	Gatorlyte®	Large volumes of water
LiquidIV®	G2 Gatorade® + Salt	Fruit juice (even if fresh)
Homemade ORS	Milk	Sweetened beverages/popsicles
Diluted tomato juice	Broth/Broth based soups	Energy drinks
Sips of fluids throughout the day	Water in moderation	Coffee, tea
Low sugar ONS		High sugar ONS
		Sodas
		ETOH

Parish et al. Nutrition Issues in Gastro 2015

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Obstruction Prevention

Texture Modification Strategies

- Purely mechanical- all about small particles!
- NOT for all patients with IBD:
  - Ileostomy
  - Known stricture
  - Recent SBO due to stricture
  - Recent luminal surgery (anastomotic swelling)
- Post operative diet: <4 weeks
- No foods are fully restricted!
- Do not recommend a low/no fiber diet
- Chewing is crucial
- Soluble fiber is important for microbial diversity and stool consistency – do not restrict

Brand figures from https://www.quakeroats.com/

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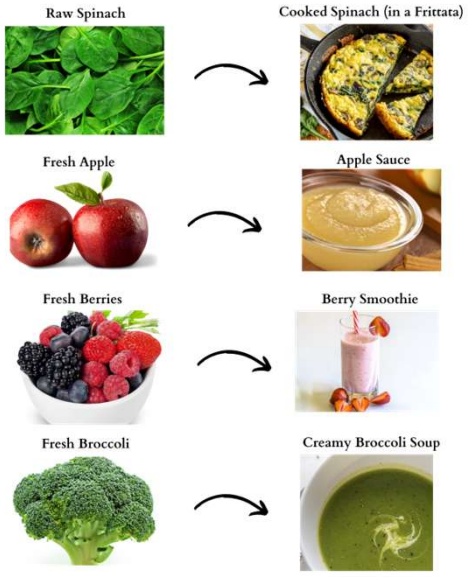
Obstruction Prevention

Texture Modification 101: "The Smoother the Better"

- Peel and cook all vegetables
  - Puree vegetables into a soup
- Peel all Fruit. Should be very ripe/soft.
  - Puree fruit into a smoothie
- Avoid whole nuts → instead have smooth nut butters
- Avoid whole/fresh/frozen corn → instead have corn flour
- Avoid popcorn and seeds
- Avoid dense breads (ex/bagels) instead have sliced bread
- Avoid fatty meats- focus on ground meat or soft, moist chicken, fish (slow cooked is great!)
- Avoid hard greens such as kale unless in a smoothie/pureed into a soup.

Provide recipes for patients – soups and smoothies
Highlight foods to include rather than exclude



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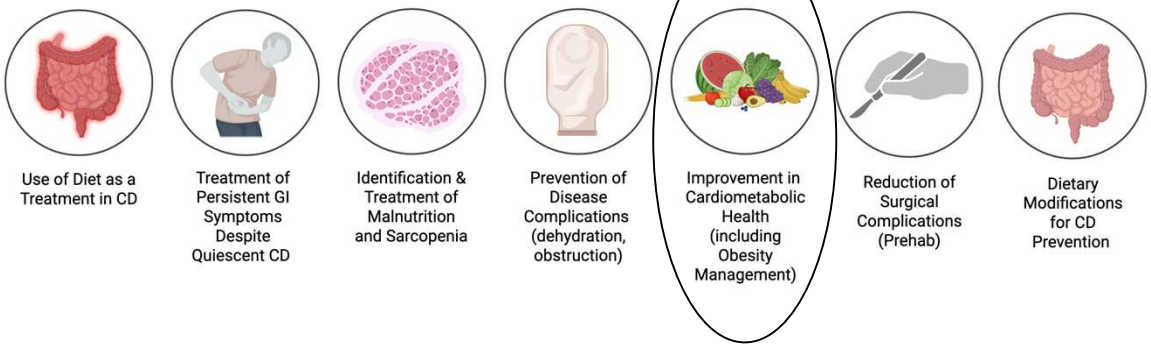
Nutrition & IBD



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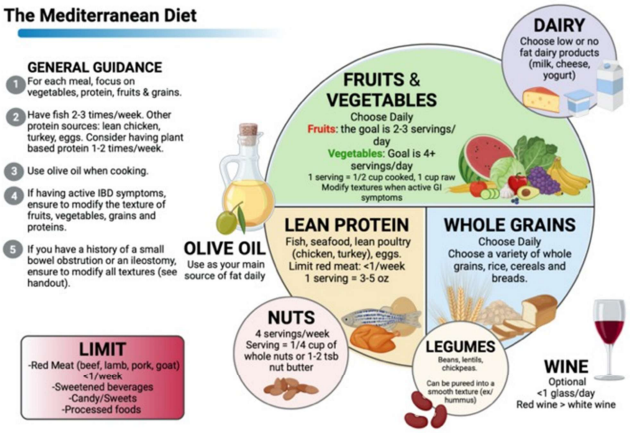
Overall Wellness & Cardiometabolic Health

Patients should be encouraged to follow a **Mediterranean Diet**. What does this mean?

- A diet full of plentiful fruits and vegetables
- Whole grains
- Focus on plant-based proteins and fish (>2 times/wk)
- Other protein sources: chicken, turkey, eggs, low fat dairy
- Olive oil as the main fat
- Limiting red meat <1 time per week (beef, pork, goat, lamb etc.)
- Limiting processed foods, added sugars, refined grains, alcohol



Adapted from ECU The ScholarSHIP Mediterranean Diet Patient Handout

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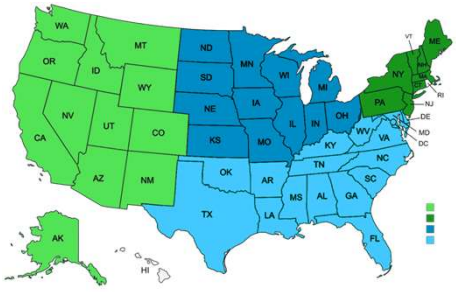
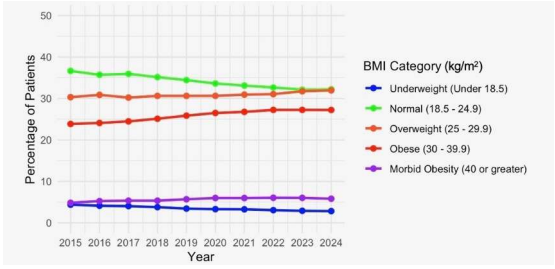
Overweight and Obesity in IBD

- Obesity Epidemic:
  - NEJM projected >50% of US population will suffer from obesity (BMI ≥ 30) by 2030, 1 in 4 with severe obesity (BMI ≥ 35)
  - Not limited to the US! In 2022, 1 in 8 people worldwide were living with obesity and since 1990 the rates of obesity: x2 in adults, x4 in adolescents
- High prevalence in patients with IBD: ~33% of IBD patients in the US with concomitant obesity and ~67% of IBD patients in the US with overweight or obesity.
- Obesity is associated not only with worsened cardiometabolic disease but also poor IBD outcomes





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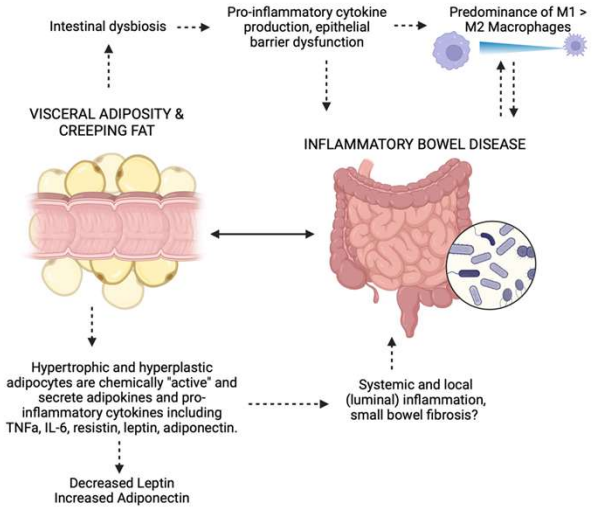
Impact of Obesity on IBD Outcomes

Obesity is associated with:

- More severe IBD phenotypes
- More frequent flares of disease
- Higher rates of surgery
- Increased need for hospitalization
  - Longer length of stay
  - Higher hospitalization costs
- Poor response to biologics (TNFa)
  - ?Unclear if similar effect on small molecules
- Higher rates of surgical complications
  - Longer operative times, more blood loss, increased length of resection as well as higher rates of post operative leak and infection

Visceral Fat > BMI



Kim et al. 2023 World J Gastroenterology
Peraza et al. 2024. Current Treatment Options in Gastroenterology

37

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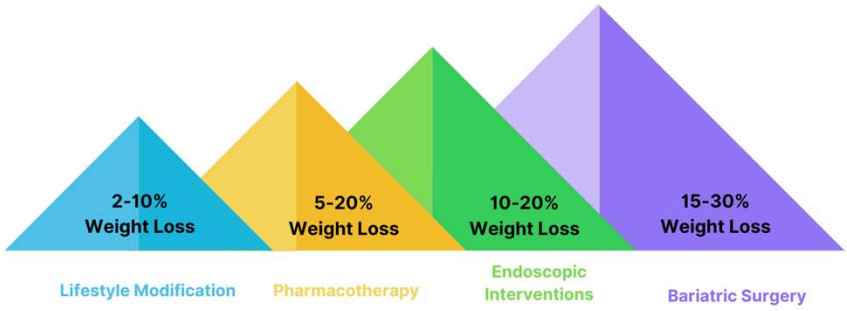
Obesity Management



INDICATIONS				
BMI 25-26.9 kg/m2	+			
BMI 27-29.9 kg/m2	+	with comorbidities		
BMI 30-34.9 kg/m2	+	+	+	
BMI 35-39.9 kg/m2	+	+	+	with comorbidities
BMI >40kg/m2	+	+	+	+

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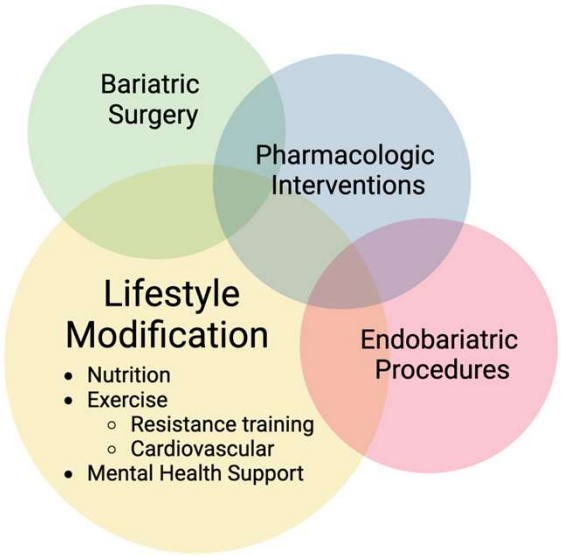
Obesity Management



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Weight Loss Medications

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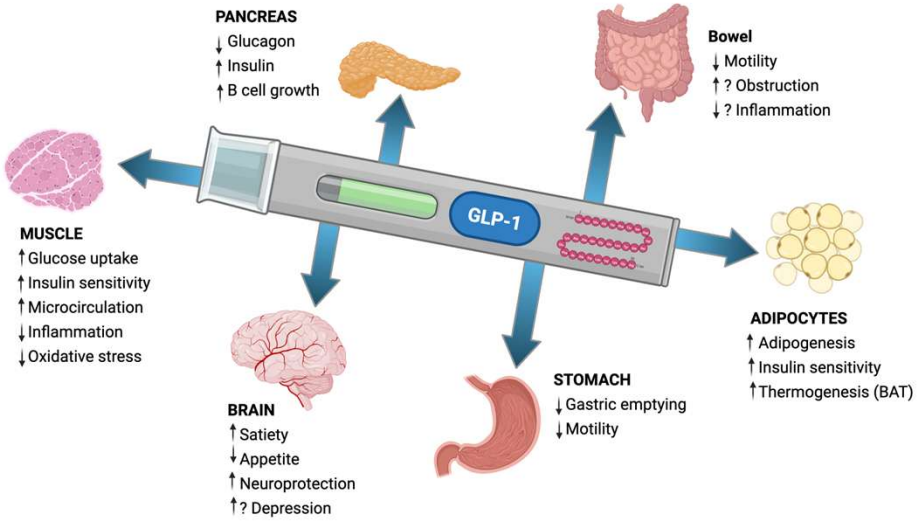
Weight Loss Medications



41

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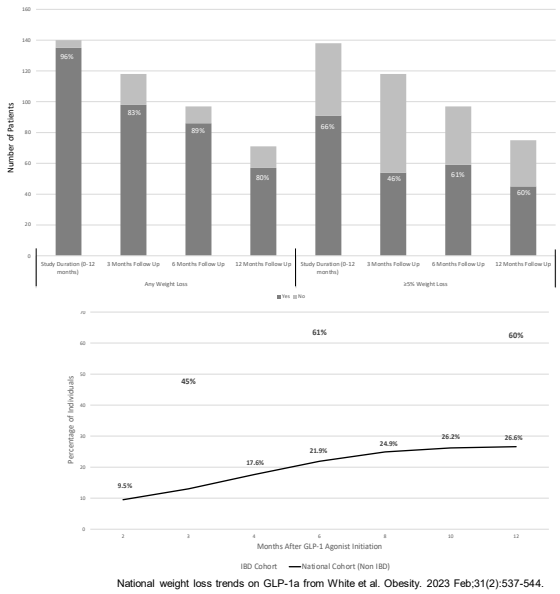
GLP1-RA Use in Patients with IBD

Safety:
- Similar to the general population
- Take advantage of SE profile- anti motility
- No episodes of pancreatitis, bowel obstruction/perforation in IBD to date
- Reduced efficacy of OCPs, currently contraindicated in pregnancy

Efficacy:
- More effective for weight loss than general population?
- >20% weight loss at 12 months
- Low dose may be sufficient!

Impact on IBD Outcomes:
- Anti motility
- Joint pain
- Anti inflammatory?



National weight loss trends on GLP-1a from White et al. Obesity. 2023 Feb;31(2):537-544.

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Nutrition & IBD Conclusions

- Consider dietary interventions for induction and/or maintenance of remission (identify the right patient and right diet; treat to target assessment).
- Screen all patients for malnutrition (mMUST)
- Provide early treatment for malnutrition including sarcopenia, micronutrient deficiencies, weight loss.
- Reduce risks of dehydration with oral rehydration solutions
- Discuss obstruction prevention in those high-risk using texture modification strategies
- Discuss the impact of overweight and obesity with IBD patients. Provide effective treatment strategies- lifestyle modifications alone may not be sufficient.

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Objectives

Talk Objectives:

1) Learn about updated nutrition recommendations for patients with celiac disease and eosinophilic disorders.

2) Review current guidelines on nutrition recommendations for patients with mucosal diseases.

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Celiac Disease (CeD)

- Autoimmune condition characterized by immune-mediated damage to the small intestine occurring after consuming gluten (wheat, barley, rye) in genetically susceptible individuals.
- Affects 1.4% of the population world-wide [1]
- Treatment: Gluten free diet with lifelong adherence with the goal to reach mucosal healing [2]
- A common cause of malabsorption [3]

1.Singh P, Arora A, Strand TA, et al. Global prevalence of celiac disease: systematic review and meta-analysis. Clin Gastroenterol Hepatol 2018;16:823–836.
2. Rubio-Tapia A, Rahim MW, See JA, et al. Mucosal recovery and mortality in adults with celiac disease after treatment with a gluten-free diet. Am J Gastroenterol 2010;105(6):1412–20.
3. Di Sabatino A, Corazza GR. Coeliac disease. Lancet 2009;373(9673): 1480–93.

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CeD and Malnutrition[1,2]

Common in those newly dx and established disease due to:

- Poor nutrient absorption from inflammatory cell infiltration of the epithelium and lamina propria, duodenal villous atrophy
- Poor diet quality…

1. Verma AK. Nutritional deficiencies in celiac disease: current perspectives. Nutrients 2021;13:4476
2. Brown I, Bettington M, Rosty C. The role of histopa- thology in the diagnosis and management of coeliac disease and other malabsorptive conditions. Histopa- thology 2021;78:88–105.

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Celiac Disease: Manifestations

GI

- Chronic recurrent diarrhea
- Abdominal distention
- Anorexia
- Failure to thrive
- Weight loss
- Abdominal pain
- Constipation
- Vomiting
- Irritability

Non-GI

- Dermatitis herpetiformis
- Dental enamel hypoplasia
- Osteopenia/Osteoporosis
- Delayed growth
- Delayed puberty
- Iron def anemia
- Hepatitis
- Arthritis
- Epilepsy

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Gluten Free diet- Impact

- Future health
- Social and professional life
- Fear of symptoms
- Alienation from health services
- Access to GF foods
- Fear of social events
- Fear of travel
- Gluten exposure
- Relationships
- Work/Sick days
- Physical appearance
- Cost
- Label reading struggles

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CME

American College of Gastroenterology Guidelines Update: Diagnosis and Management of Celiac Disease

Alberto Rubio-Tapia, MD[1], Ivor D. Hill, MD[2], Carol Semrad, MD[3], Ciarán P. Kelly, MD[4], Katarina B. Greer, MD, MS[5], Berkeley N. Limketkai, MD, PhD, FACG[6] and Benjamin Lebwohl, MD, MS[7]

Am J Gastroenterol 2023;118:59–76.

2. We suggest setting a goal of intestinal healing as an end-point of GFD therapy. We advocate for individualized discussion of goals of the GFD with the patient beyond clinical and serological remission.

3. We suggest against routine use of gluten detection devices in food or biospecimens among patients with CD.

4. There is insufficient evidence to recommend for or against the use of probiotics for the treatment of CD.

5. We recommend consumption of **gluten-free oats** in the diet of those with CD. Gluten contamination of oats, variable toxicity in different varieties of oats, and the small risk for an immune reaction to the oat protein avenin requires monitoring for oat tolerance..

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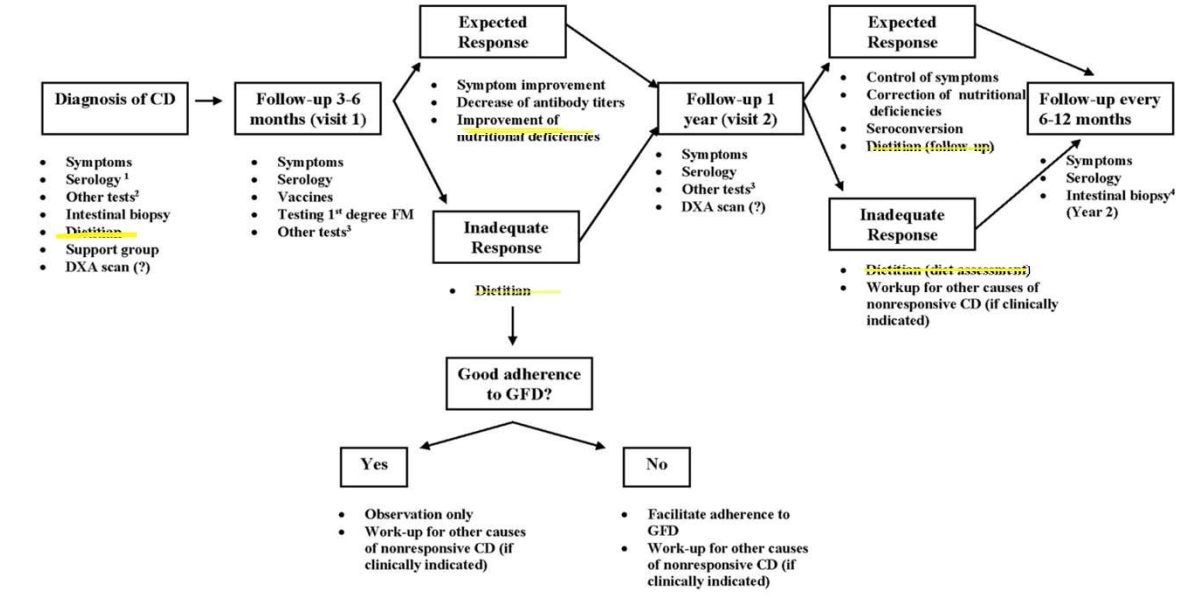
Approach to Monitoring CD



Am J Gastroenterol 2023;118:59–76. https://doi.org/10.14309/ajg.0000000000002075; published online September 21, 2022

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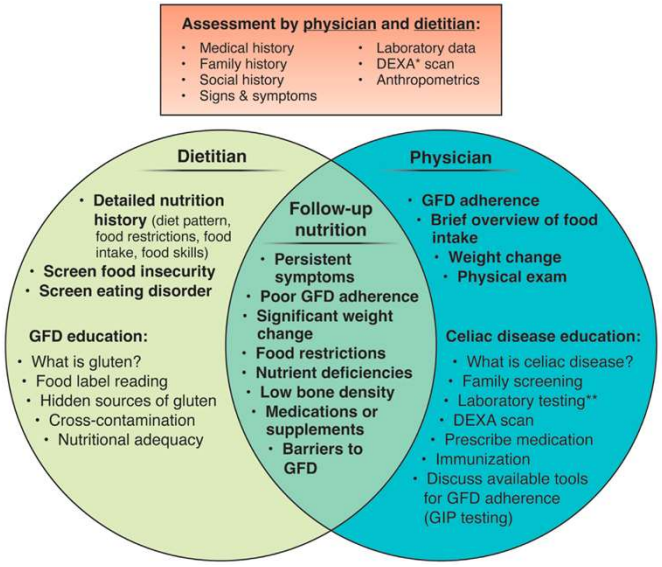
Multidisciplinary Care Approach

Referral to LCSW, GI Psychologist



Pinto-Sanchez et al Gastroenterology 2024;167:116–131

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CeD: Medical Nutrition Therapy

1. **Comprehensive nutritional assessment**
2. Nutrition counseling on GF diet guidelines
3. Determine:

-Pts access to GF foods and possible socioeconomic barriers

-Abilities related to: label reading, menus, food prep, avoidance of cross contamination

-Willingness to adhere to GF diet

-Quality of life, psychosocial impact

3. Collaboration with medical team, family and caregivers

4. Continued follow up on symptoms, labs, micronutrient repletion, weight restoration, and adherence to diet

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CeD: Prevalence of micronutrient deficiencies in adults

At time of dx and at 1 yr (1-7)

Nutrient	Diagnosis, %	1-y, %
Adults		
Iron/ferritin	6–82	59
Vitamin D	5–88	50
Folate	11–75	No data available
Zinc	67	30
Copper	15	17
Vitamin B6	15	37
Magnesium	13–17	No data available
Vitamin B12	5–19	20
Vitamin A	7.5	No data available

1. Jivraj A, Hutchinson JM, Ching E, et al. Micronutrient de- ficiencies are frequent in adult patients with and without celiac disease on a gluten-free diet, regardless of duration and adherence to the diet. Nutrition 2022;103–104:111809.
2. Harper JW, et al. Anemia in celiac disease is multifactorial in etiology. Am J Hematol 2007;82:996–1000.
3. Kemppainen TA, et al. Nutritional status of newly diagnosed celiac disease patients before and after the institution of a celiac dis- ease diet—association with the grade of mucosal villous atrophy. Am J Clin Nutr 1998;67:482–487.
4. Posthumus L. Duodenal histopathology and laboratory deficiencies related to bone metabolism in coeliac disease. Eur J Gastroenterol Hepatol 2017; 29:897–903.
5. Kostecka M, et al. An evaluation of nutritional status and problems with dietary compliance in Polish patients with celiac disease. Nu- trients 2022;14:2581.
6. Wierdsma NJ, et al. Vitamin and mineral deficiencies are highly prevalent in newly diagnosed celiac disease pa- tients. Nutrients 2013;5:3975–3992.
7. .Hallert C, et al. Evidence of poor vitamin status in coeliac patients on a gluten-free diet for 10 years. Aliment Pharmacol Ther 2002;16:1333–1339.

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Characteristics of Gluten-Free *manufactured food*[1]*:*

Higher in:
- Saturated fats
- Sugar > increased glycemic index
- Sodium
- Possible increased exposure to heavy metals (rice>arsenic)
- Cost

Lower in:
- Fiber
- Micronutrients (fortification)

Pinto-Sanchez et al Gastroenterology 2024;167:116–131

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Possible nutritional consequences with GF diet[1]

Nutrient	Contributing factor
↑Fat	Decreased grain intake, increased fat in GF foods
↓Carbohydrates	Decreased grain intake overall, low palatability, cost of GF
↓Fiber	Decreased whole grains, fruit, vegetable intake
↓Calcium	Decreased dairy intake, secondary lactose intolerance→ temporary
↓Iron	Low intake of grains and those that are fortified (ex: cereals, breads, pasta)
↓Folate	Low intake of grains and those that are fortified
↓Niacin	Low intake of grains and those that are fortified
↓B12	Decreased dairy intake, secondary lactose intolerance→ temporary, fortification in grains and grain-based foods
↓Phosphorous	Decreased dairy intake, secondary lactose intolerance→ temporary,
↓Zinc	Low intake of grains and those that are fortified

1.Thompson, T. Academy of Nutrition and Dietetics Pocket guide to Gluten Free Strategies for Clients with Multiple Diet Restrictions. 2nd Ed. Academyof Nutrition and Dietetics. 2016:42-43.

55

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CeD: Low bone mineral density

➢Occurs in 75% of pts[1]

-mucosal enteropathy in small bowel decreases calcium absorption

-secondary hypoparathyroidism stimulates osteoclasts to degrade bone mineralization- osteoporosis

-inflammatory cytokines increase osteoclasts

1. Lucendo, A.J.; Garcia-Manzanares, A. Bone mineral density in adult coeliac disease: An updated review. *Rev. Esp. Enferm. Dig.* **2013**, *105*, 154–162
2. ACOG Committee on Clinical Practice Guidelines–Gy- necology. Management of postmenopausal osteopo- rosis: ACOG Clinical Practice Guideline No. 2. Obstet Gynecol 2022;139:698–717

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Recommendations:

- Baseline bone density exam (DEXA) at time of dx

or before the age of 30-35 in those with prev dx

- ➢ Calcium: 1000-1200mg/d (3-4 servings of dairy/day)[1,2]
- ➢ Vit D: 600-800IU/d
- ➢ Protein 1g/kg bw/d
- ➢ Weight bearing exercise

- Referral to Endocrine specialist for pt with + osteopenia, osteoporosis for co-management

1. Duerksen D, et al. Management of bone health in patients with celiac disease: Practical guide for clinicians. Can Fam Physician. 2018 Jun;64(6):433-438
2. LeBoff M et al. The clinician's guide to prevention and treatment of osteoporosis. Osteoporosis International .2022, 33:2049–2102

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CeD: Test for micronutrient deficiencies[1,2]

Test at initial dx, 3-4 mos. after supplementation then yearly

- CBC
- Iron panel (tsat, ferritin)
- B1, B2, B6, B9 (Folate), B12
- Fat soluble vitamins: A, D, E, K
- Chromium
- Carnitine
- Copper
- Zinc
- Selenium
- Calcium (DEXA)

1.Pinto-Sanchez et al .Nutrition Assessment and Management in CeD . Gastroenterology Vol. 167, Iss. 1
2. Lebovitz, J. Micronutrient considerations for Celiac Disease. Prac Gastro.. October 2023; Vol 47. Issue 10.

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Non-responsive celiac disease (NRCeD)[1]

- Other Considerations:
- Gluten exposure
- IBS-D
- Carbohydrate malabsorption (lactose, fructose, CSID)
- SIBO
- IBD
- Microscopic Colitis
- Pancreatic insufficiency
- Motility disturbances
- Food Allergy

1.Van Mehan F, et al. A Low FODMAP Diet Reduces Symptoms in Treated Celiac Patients With Ongoing Symptoms–A Randomized Controlled Trial. Clinical Gastroenterology and Hepatology Vol. 20, No. 10

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Refractory Celiac Disease (RCeD Type I, II)

*Persistent recurrent of symptoms/ signs of malabsorption (persistent villus atrophy despite following GFD for at least 12-24 mos. [1]

- Rare, occurring .3-.5% of pts with celiac[2]
- Subgroups: Type I, Type II

>Hypoalbumenemia, malnutrition

1. Malamut G, Cellier C. Refractory celiac disease. Gastroenterol Clin North Am 2019;48(1):137–44
2. Malamut G, et al, Advances in Nonresponsive and Refractory Celiac Disease. Gastroenterology 2024;167:132–147.

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RCeD- nutritional considerations[1]

BPA 6: *Complete a detailed nutritional assessment with investigation of micronutrient and macronutrient deficiencies in patients diagnosed with refractory celiac disease.* ***Check albumin*** *as an independent prognostic factor.*

BPA 7:*Correct deficiencies in macro- and micronutrients using oral supplements and/or enteral support*. *Consider* ***parenteral nutrition*** *for patients with severe malnutrition due to malabsorption.*

1.Green P, et al. AGA Clinical Practice Update on Management of Refractory Celiac Disease: Expert Review. Gastroenterology, Vol 163(5) 2022,P1461-1469.

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Mucosal diseases

- Radiation Enteritis
- Eosinophilic Gastrointestinal Diseases
- Autoimmune Enteropathy

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Radiation Enteritis (RE)

- Inflammation and damage of the intestinal mucosa after radiation resulting in the loss of absorptive capacity.
- Acute and Chronic
- Resulting in:

-diarrhea

-malabsorption

-impaired bile salt metabolism

-obstructions

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RE Management Guidelines- ESPEN 2023[1]

- In patients with chronic radiation enteritis, EN may be used if oral nutrition, including use of oral nutrition supplements, is inadequate
- In malnourished radiation enteritis patients, home PN (HPN) should not be delayed, if oral nutrition/ EN is obviously inadequate
- In chronic RE, the PN regime should follow the same criteria for HPN of patients with other causes of CIF
- No recommendations can be made for or against the use of glutamine to prevent or treat RE

1. Pironi, L et al. ESPEN Guidelines on chronic intestinal failure in adults- Update 2023. Clinical Nutrition 42 (2023) 1940-2021.

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RE Treatment:

Symptomatic and Nutritional management:

- Diarrhea: Dietary modifications/ anti-motility agents/ bile acid sequestrants/ electrolyte correction
- Obstructions: food with texture modifications for safety[2]
- Supplements: Probiotics?[3] Glutamine? [4]
- Determine need for alternate means of nutrition: EN/TPN for those unable to maintain optimal nutrition via PO

1. Webb GJ, Brooke R, De Silva AN. Chronic radiation enteritis and malnutrition. Journal of digestive diseases. 2013;14(7):350-357.
2. Loge L et al. Radiation enteritis: Diagnostic and therapeutic issues. Journal of Visceral Surgery, 2020-12-01, Volume 157, Issue 6, p. 475-485.
3. Acharya M, et al. Bacterial supplementation in mitigation of radiation-induced gastrointestinal damage. Life Sciences 353, 2024. p.122921.
4. Cao D.D, et al. Therapeutic role of glutamine in management of radiation enteritis: a meta-analysis of 13 randomized controlled trials. Oncotarget 2017; 8: p. 30595-30605

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Non EoE Eosinophilic Gastrointestinal Disorders (EGID):

Eos Gastritis (EoG)/ Eos Enteritis (EoN)

- Food allergy-driven atopic inflammatory disease, similar to EoE [1]
- Symptoms correspond to the layer that is involved: abdominal pain, nausea, vomiting, diarrhea, and early satiety
- Severe disease can result in weight loss, malabsorption, malnutrition, anemia from bleeding ulcerations or protein losing enteropathy (PLE)[2]
- *Nuritional concerns: calories, protein, calcium, vit D, iron, other vitamins, minerals- depending on food groups avoided*

1.Dellon E.S. et al. International Consensus Recommendations for Eosinophilic Gastrointestinal Disease Nomenclature. Clin. Gastroenterol. Hepatol. Off. Clin. Pract. J. Am. Gastroenterol. Assoc. 2022;20:2474–2484.e3. doi: 10.1016/j.cgh.2022.02.017
2. Chehade M, et al. Dietary Management of Non-EoE Eosinophilic Gastrointestinal Diseases. Immunol Allergy Clin N Am 44 (2024) 383–39

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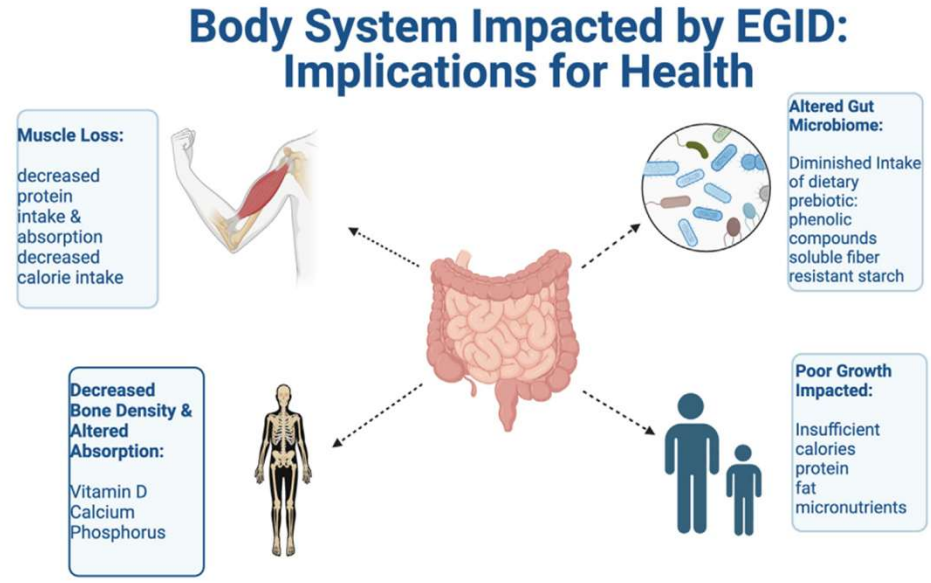

Chehade M, et al. Dietary Management of Non-EoE Eosinophilic Gastrointestinal Diseases. Immunol Allergy Clin N Am 44 (2024) 383–396

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EoG/EoN and use of a diet therapy

Diet therapy is not well studied-Use of elimination diets and elemental diets can be considered[1]

- Food Elimination Diet: (SFED) dairy, wheat, egg, soy, peanuts/tree nuts, fish/shellfish[2]
- Elemental Diet- may be best for severe/ refractory cases[3]
- Allergy testing not recommended to direct food elimination[1]
- Collaborative approach of diet therapies and patient preference is ideal

1.Visaggi, Pierfrancesco et al. Epidemiology, Natural History, and Treatment of Eosinophilic Gastrointestinal Diseases. Gastroenterology, 2025- article in press
2. Dellon M et al. ACG Clinical Guideline: Diagnosis and Management of Eosinophilic Esophagitis. Am J Gastroenterol 2025;120:31–59
2. Rached A, El Haji W. World J Gastrointest Pharmacol Ther 2016 November 6; 7(4): 513-523

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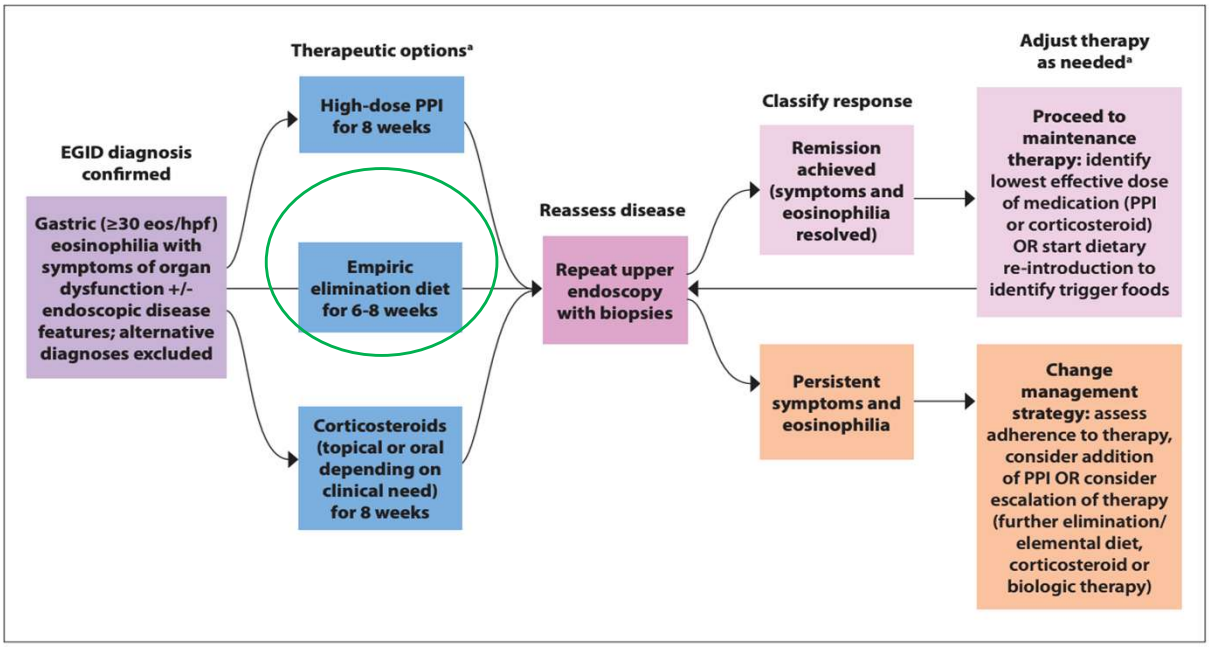

Lam A, Gonsalves N. Eosinophils Beyond the Esophagus: A Review of Non-EoE Eosinophilic Gastrointestinal Diseases. Gastroenterology & Hepatology Volume 21, Issue 8 August 2025

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Food Reintroduction Pathway Following Response to SFED in EoE:

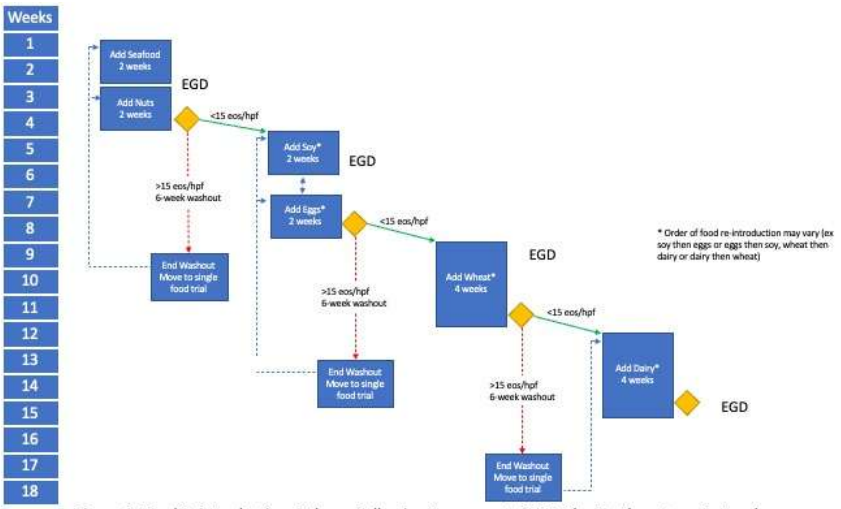

Figure 1: Food Reintroduction Pathway Following Response to SFED: The Northwestern Protocol

Zalewski A, Doerfler B, Krause A, Hirano I, Gonsalves N. Long-Term Outcomes of the Six-Food Elimination Diet and Food Reintroduction in a Large Cohort of Adults With EosinophilicEsophagitis. Am J Gastroenterol. 2022 Dec 1;117(12):1963-1970.

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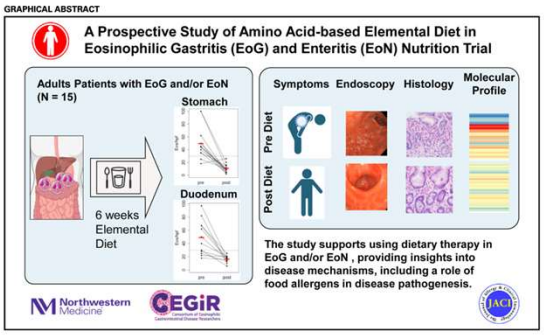
FOOD ALLERGY AND GASTROINTESTINAL DISEASE · Volume 152, Issue 3, P676-688, September 2023

Prospective study of an amino acid–based elemental diet in an eosinophilic gastritis and gastroenteritis nutrition trial

Nirmala Gonsalves, MD [a] · Bethany Doerfler, RD [a] · Angelika Zalewski [a] · ... · Glenn Furuta, MD [g] · Marc E. Rothenberg, MD, PhD [d] · Ikuo Hirano, MD [a] ... Show more

GRAPHICAL ABSTRACT



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Elemental Diet *cont.*

- Prospective study using 6 weeks of an elemental formula
- 15 participants 2017-2019
- Biopsies were obtained and used scoring based on EGREFS/EGHSS/ severity of dyspepsia scores/ cytokine levels/ adherence.
- Average eosinophil count dropped from 50 to 11 eos/hpf in the stomach and from 49 to 16 in the duodenum. Histological remission: stomach (P = .002) and duodenum (P = .001)

1. Gonsalves N, Doerfler B, Zalewski A, Yang GY, Martin LJ, Zhang ,X et al. Prospective study of an amino acid-based elemental diet in an eosinophilic gastritis and gastroenteritis nutrition trial. J Allergy Clin Immunol. 2023Sep;152:676–688

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Elemental diet *cont.*

- Standard of care food reintroductions: one food was added every 3-5 days
- All had recurrent disease to specific food triggers after reintroduction> in the SFED plus: poultry, legumes, oats
- Elemental diet improved histologic, symptomatic, endoscopic, and molecular disease activity>**suggesting a role of food allergies** in EoG/EoGE pathogenesis

Gonsalves N, Doerfler B, Zalewski A, Yang GY, Martin LJ, Zhang ,X et al. Prospective study of an amino acid-based elemental diet in an eosinophilic gastritis and gastroenteritis nutrition trial.J Allergy Clin Immunol. 2023Sep;152:676–688

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Use of Elemental diets?

Devoid of antigens, can be absorbed without active digestion, allowing for rapid absorption

Underutilized due to:

- Poor palatability, bloating, constipation, desire to chew, taste fatigue, weight loss, dizziness (hyponaturemia)
- Cost, Access
- Use of Complete vs Partial Elemental – may be helpful with limited diet

Team approach is needed with an experienced dietitian, especially in the initiation of diet therapy

Nasser J. Elemental Diet as a theraputic modality: a comprehensive review. Digestive Diseases and Sciences (2024) 69:3344–3360.

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CME

ACG Clinical Guideline: Diagnosis and Management of Eosinophilic Esophagitis

Evan S. Dellon, MD, MPH, FACG[1], Amanda B. Muir, MD[2,3,4], David A. Katzka, MD, FACG[5], Shailja C. Shah, MD, MPH[6,7], Bryan G. Sauer, MD, MSc, FACG[8], Seema S. Aceves, MD, PhD[9,10], Glenn T. Furuta, MD[11,12], Nirmala Gonsalves, MD, FACG[13,*] and Ikuo Hirano, MD, FACG[13,*†]

Am J Gastroenterol 2025;120:31–59. https://doi.org/10.14309/ajg.0000000000003194; published online January 2, 2025

Dietary elimination therapy is a treatment option for pts with non-EoE EGIDs as it has been shown to be food allergy driven

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Autoimmune Enteropathy (AIE)

- Immune mediated disorder
- Chronic diarrhea, malabsorption, vomiting, weight loss, villous atrophy
- Differential dx: Celiac/CVID/Crohn's Disease/Intestinal Lymphoma
- Dx criteria: villous atrophy, lack of response to dietary restrictions, presence of anti-enterocyte antibodies, predisposition to autoimmunity without severe immunodeficiency[1]
- Treatment: immuno-suppression, calcineurin inhibitors, anti-TNF therapy, *nutritional support*

1. Christodoulidis G, Agko SE, Kouliou MN, Koumarelas KE, Zacharoulis D. Advances and challenges in diagnosing and managing adult autoimmune enteropathy. World J Gastroenterol. 2025 Jan 14;31(2):99118. doi: 10.3748/wjg.v31.i2.99118. PMID: 39811507; PMCID: PMC11684205.

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AIE: Nutritional management

- Screen for malnutrition
- Dietary modification for increased tolerance
- Provide liquid nutritional supplementation to ensure adequate intake of micro and macronutrients, weight stabilization
- Careful consideration to hydration needs: ORS, IV Fluids
- Alternate means of nutrition/TPN – may be necessary in those unable to manage with PO alone [2]

1.Shihas A. Autoimmune Enteropathy in Adults: Review Article. Adv Dig Med. 2022;9:75–81

2. Montalto M, D'Onofrio F, Santoro L, Gallo A, Gasbarrini A, Gasbarrini G. Autoimmune enteropathy in children and adults. *Scand J Gastroenterol.* 2009; **44**(9): 1029–1036.

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ADULT MALNUTRITION CRITERIA

Diagnosis	Severe Protein Calorie Malnutrition			Malnutrition of Moderate Degree		
Criteria (at least 2 must be present)	Acute Injury/ Illness	Chronic Illness Environmental	Social/ Behavioral/ Circumstances	Acute Injury/ Illness	Chronic Illness Environmental	Social/ Behavioral/ Circumstances
Weight loss	>2% x 1 week, >5% x 1 month, >7.5% x 3 months	>5% x 1 month, >7.5% x 3 months, >10% x 6 months, >20% x 12 months	>5% x 1 month, >7.5% x 3 months, >10% x 6 months, >20% x 12 months	1-2% x 1 week, 5% x 1 month, 7.5% x 3 months	5% x 1 month, 7.5% x 3 months, 10% x 6 months, 20% x 12 months	5% x 1 month, 7.5% x 3 months, 10% x 6 months, 20% x 12 months
Energy Intake	<50% energy intake compared to estimated energy needs ≥ 5 days	<75% energy intake compared to estimated energy needs ≥1 mo.	<50% energy intake compared to estimated energy needs ≥1 mo.	<75% energy intake compared to estimated energy needs > 7 days	<75% energy intake compared to estimated energy needs ≥ 1 mo.	<75% energy intake compared to estimated energy needs ≥ 3 mo.
Body fat	Moderate depletion	Severe depletion	Severe depletion	Mild depletion	Mild depletion	Mild depletion
Muscle mass	Moderate depletion	Severe depletion	Severe depletion	Mild depletion	Mild depletion	Mild depletion
Fluid accumulation	Moderate to Severe	Severe	Severe	Mild	Mild	Mild
Corresponding ICD-10 Code	E43 Unspecified severe protein-calorie malnutrition	E43 Unspecified severe protein-calorie malnutrition	E43 Unspecified severe protein-calorie malnutrition	E44 Moderate protein-calorie malnutrition	E44 Moderate protein-calorie malnutrition	E44 Moderate protein-calorie malnutrition

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https://www.upstate.edu/nutrition/pdf/Adult_Malnutrition_Classification.pdf

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Dietary modifications to optimize tolerance:

1. Encourage balanced meals that contain all food groups
2. Choose fiber type: increase soluble fiber foods over insoluble
3. Modify particle size: peel, cook, blend (ie: soups and smoothies)
4. Minimize highly fermentable food choices
5. Use of enzymes when needed (ie: lactase enzymes)
6. Choose cooking methods: lower fat versions (bake, broil, grill)
7. Determine meal volume and timing: Small frequent meals/ alternate liquids and solids
8. Add oral nutrition supplements if needed for extra calories and nutrients
9. Optimize hydration: use of ORS as needed
10. Minimize mealtime stressors and distractions

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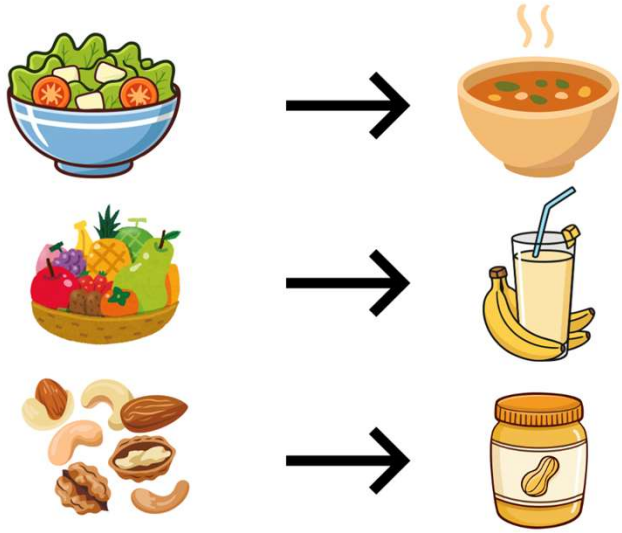
Texture Modifications



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Summary

- Celiac disease- frequent follow ups after dx is recommended to monitor pt response to diet, micronutrient needs with a multidisciplinary approach.
- Radiation Enteritis- Dietary management of obstructions may be needed. Modification in food textures can help to increase food tolerance and safety.
- Eosinophilic Enteritis- Elimination and elemental diets can be part of treatment, collaborative approach helpful with pts.
- Autoimmune Enteritis- Nutrition evaluation suggested to determine if alternate means of nutrition is needed (hydration, TPN).

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Thank you!

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Questions

Laura Manning, MPH, RDN, CSDH

Stephanie L. Gold, MD

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