Live well, eat well: understanding food and diet with IBD

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Diet in Inflammatory Bowel Disease

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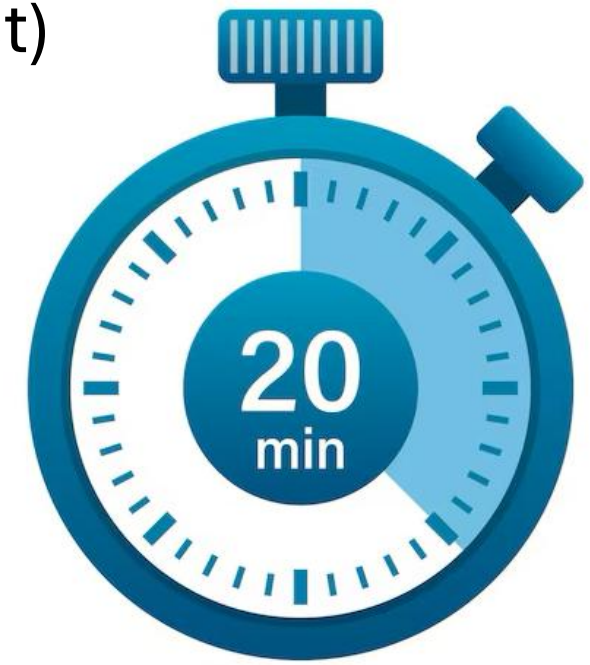
1. My musings on the quality of dietary research and practice
2. Exclusive Enteral Nutrition (EEN)
3. Special diets in IBD (CDED, CD-Treat, SCD, MedDiet)
4. Ultra-processed foods and food additives in IBD
5. New diet guidelines published



The reasons that foods and diets can affect IBD

And why this makes it so difficult for us all to research!

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Food or Diet has a physiological effect

The special food or special diet contains "good things" and less "bad things" that have been shown to help my IBD

For example,
More fibre, probiotics
Less sugar, fat, UPFs, additives

+

Food or Diet has a placebo effect

"My gastro said the diet was good"
"The dietitian listened to my concerns"
"I'd read good things about it online"
"My friend with IBD recommended it"
"I went shopping with less worry"
"I now know what to eat"
"I felt supported"

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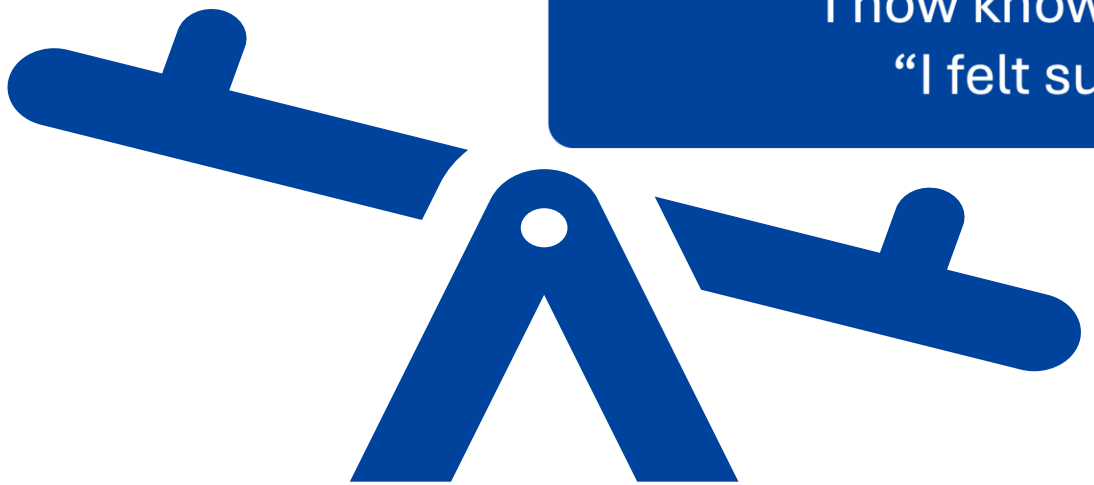
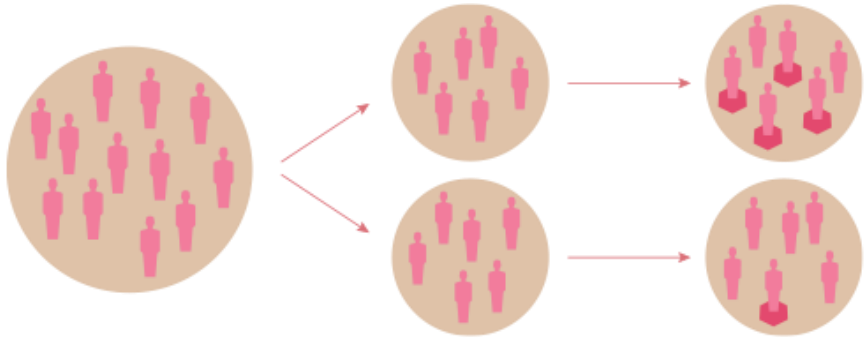


Not all scientific research is equal!

Intervention studies



Observational studies

Experience and opinion

Exclusive enteral nutrition in Crohn's

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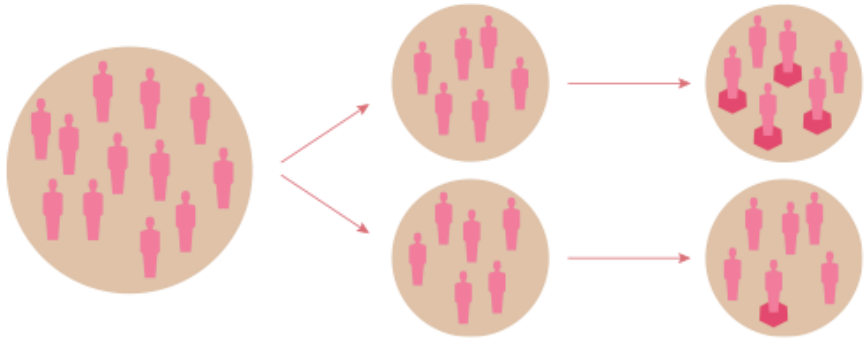

			Remission Rate			
	Analytical Approach[a]	Trials/Patients	EEN	Corticosteroids	Risk of Remission in EEN	*P* Value
Children	Intention to treat	2/57	83 (24/29)	61 (17/28)	1.35 (0.92–1.97)	.13
Adults	Intention to treat	6/352	45 (87/194)	73 (116/158)	0.65 (0.52–0.82)	.0002

Narula, Cochrane Database 2018; 4

EEN is difficult to tolerate, how can we obtain the benefits but through diet?

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Reduce to partial enteral nutrition alongside eating some food

Crohn's
Disease
Exclusion
Diet

Replace all EEN with food

CD-Treat

Reduce: partial enteral nutrition with Crohn's disease exclusion diet (CDED)

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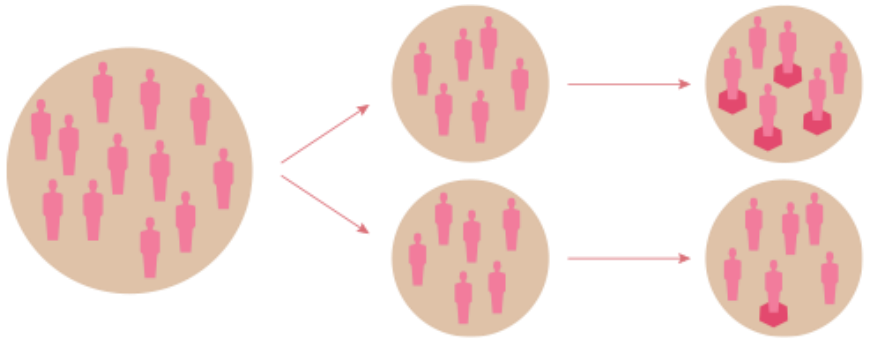
CDED excludes:

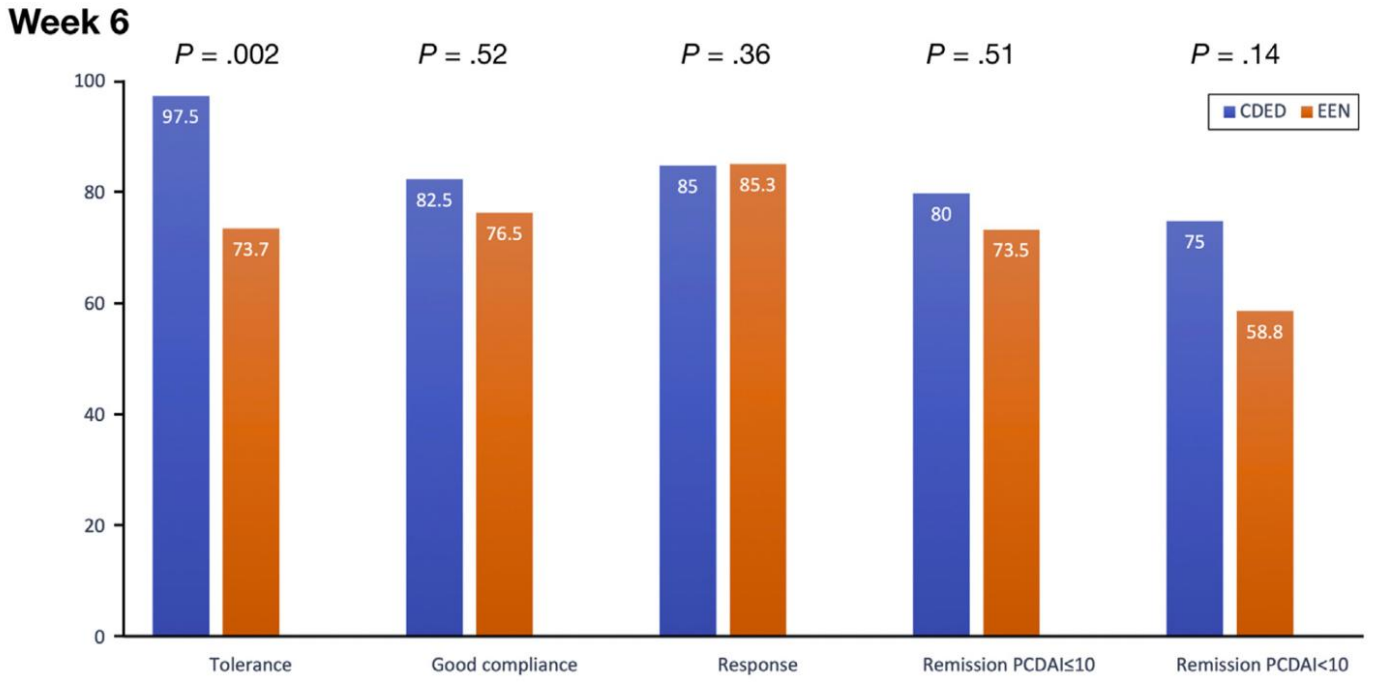
Gluten
Dairy products
Animal fat and Processed meats
Emulsifiers
Baked goods and breads
Canned foods
Packaged products
(increase specific fruits & vegetables)



Exclusive Enteral Nutrition (EEN) vs Partial Enteral Nutrition (PEN) + CDED

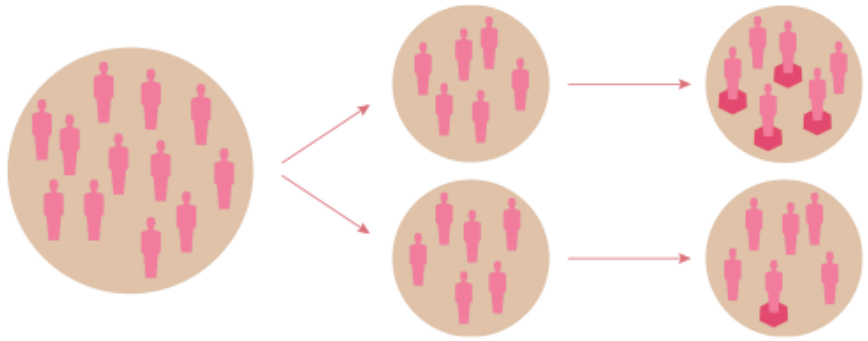
78 children with active Crohn's disease

Primary outcome "tolerance" (did they withdraw or not)



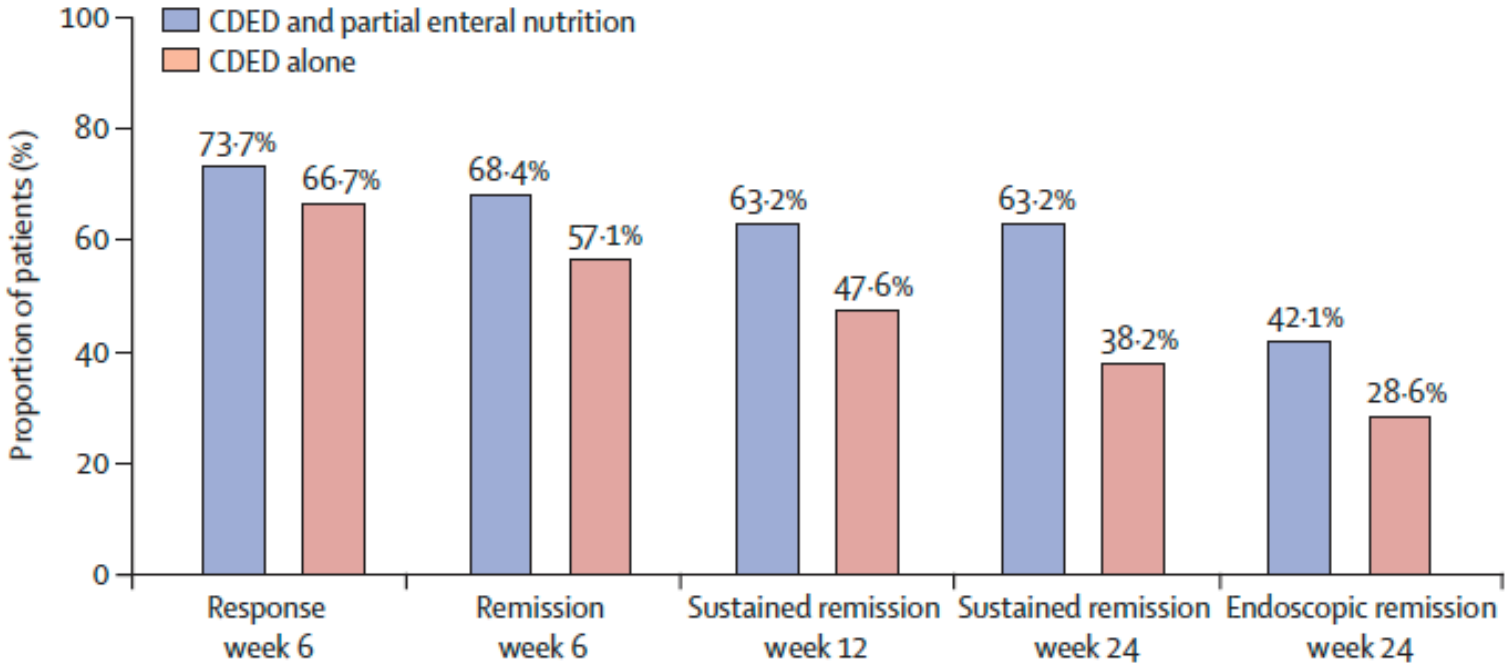
Levine, Gastroenterology 2019; 157: 440–450

Reduce: comparative trial of CDED/PEN vs CDED



CDED + Partial Enteral Nutrition vs CDED

40 adults with active Crohn's treated for 24 weeks



No difference in remission, response, HBI, endoscopic remission, CRP or calprotectin

Yanai. Lancet Gastro Hep. 2022; 7: 49-59

Replace: CD-Treat proof-of-concept

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Recreate EEN through normal diet

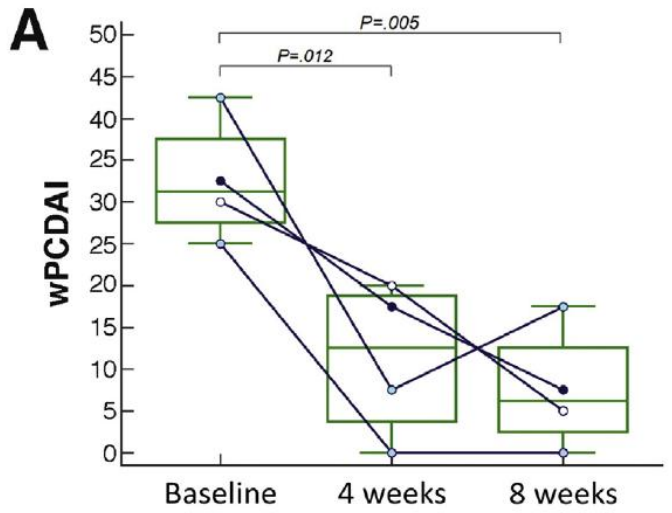
Exclude:
Gluten
Lactose
Alcohol

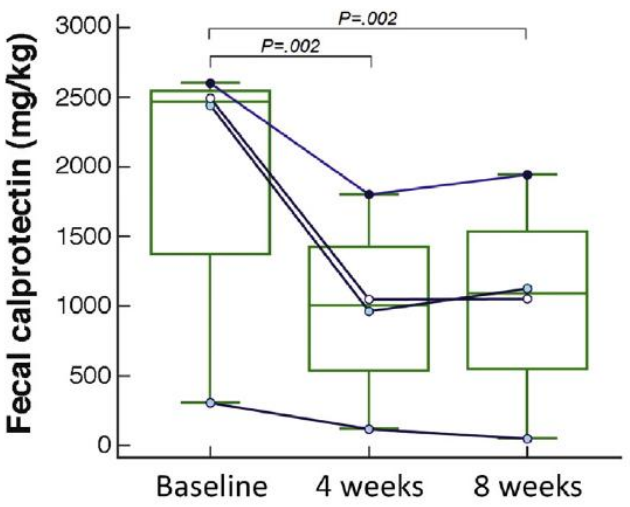
Restrict:
Starch (in favour of protein)
Fibre (c. 50% reduction)

Matching EEN for:
Macronutrients
Micronutrients

Experience and opinion

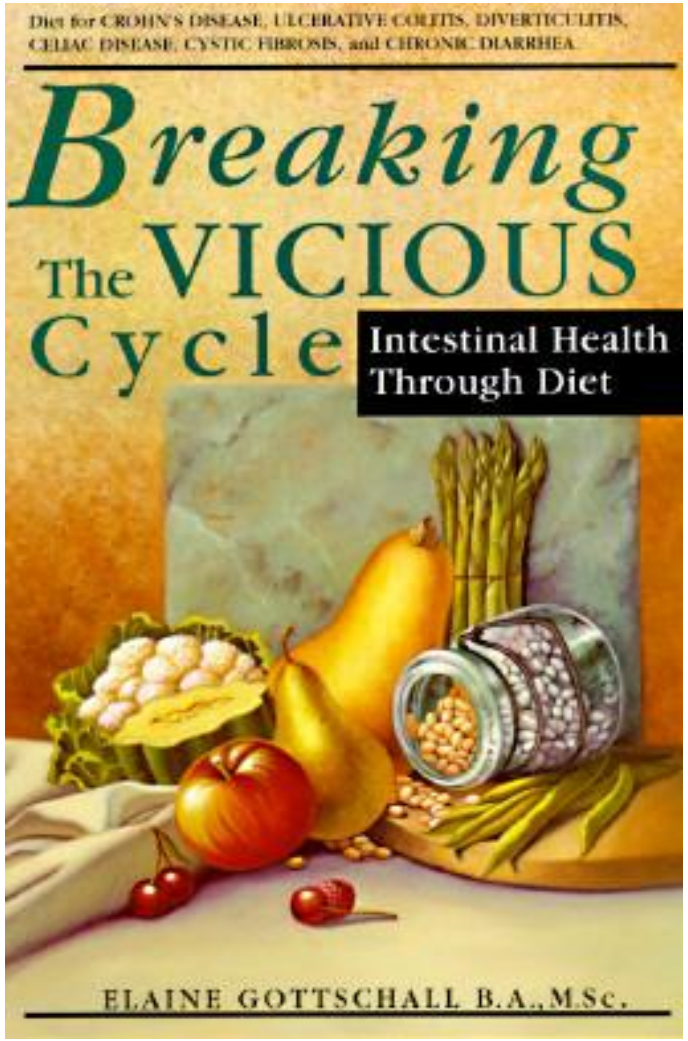
5 children active Crohn's disease,
Pilot study of CD-TREAT
Reduced disease activity (PCDAI)
Reduced faecal calprotectin





Svolos. Gastroenterology. 2019; 156: 1354–1367

Specific carbohydrate diet (SCD)



Exclude	Include
Grains e.g. wheat, barley, corn, rice	Almond flour Coconut flour
Added sugar	Honey
Milk products	Fermented yogurts

Experience and opinion

Specific carbohydrate diet vs Mediterranean diet

A Randomized Trial Comparing the Specific Carbohydrate Diet to a Mediterranean Diet in Adults With Crohn's Disease

James D. Lewis,[1,2,3,4] Robert S. Sandler,[4,5] Carol Brotherton,[6] Colleen Brensinger,[3] Hongzhe Li,[2,3] Michael D. Kappelman,[5] Scott G. Daniel,[7] Kyle Bittinger,[7] Lindsey Albenberg,[7] John F. Valentine,[4,8] John S. Hanson,[4,9] David L. Suskind,[10,11] Andrea Meyer,[12] Charlene W. Compher,[13] Meenakshi Bewtra,[1,2,3,4] Akriti Saxena,[1,4] Angela Dobes,[14] Benjamin L. Cohen,[4,15,16] Ann D. Flynn,[4,8] Monika Fischer,[4,17] Sumona Saha,[4,18] Arun Swaminath,[4,19] Bruce Yacyshyn,[4,20] Ellen Scherl,[4,21] Sara Horst,[4,22] Jeffrey R. Curtis,[23] Kimberly Braly,[3] Lisa Nessel,[3] Maureen McCauley,[3] Liam McKeever,[3] Hans Herfarth,[4,5] and the DINE-CD Study Group

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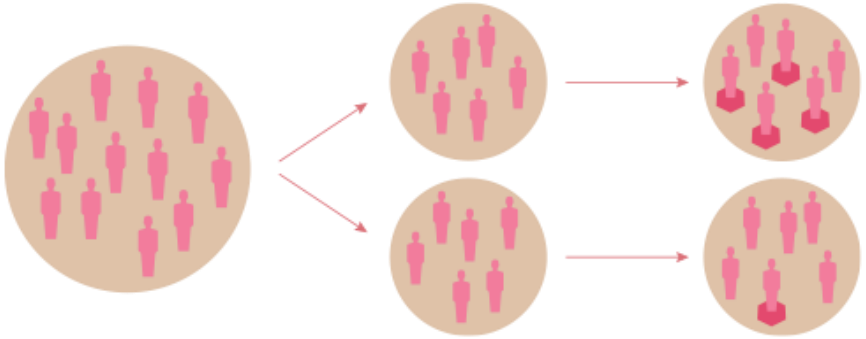


191 adults with mild-to-moderate Crohn's disease
(CDAI 150-400, but objective inflammation not essential)

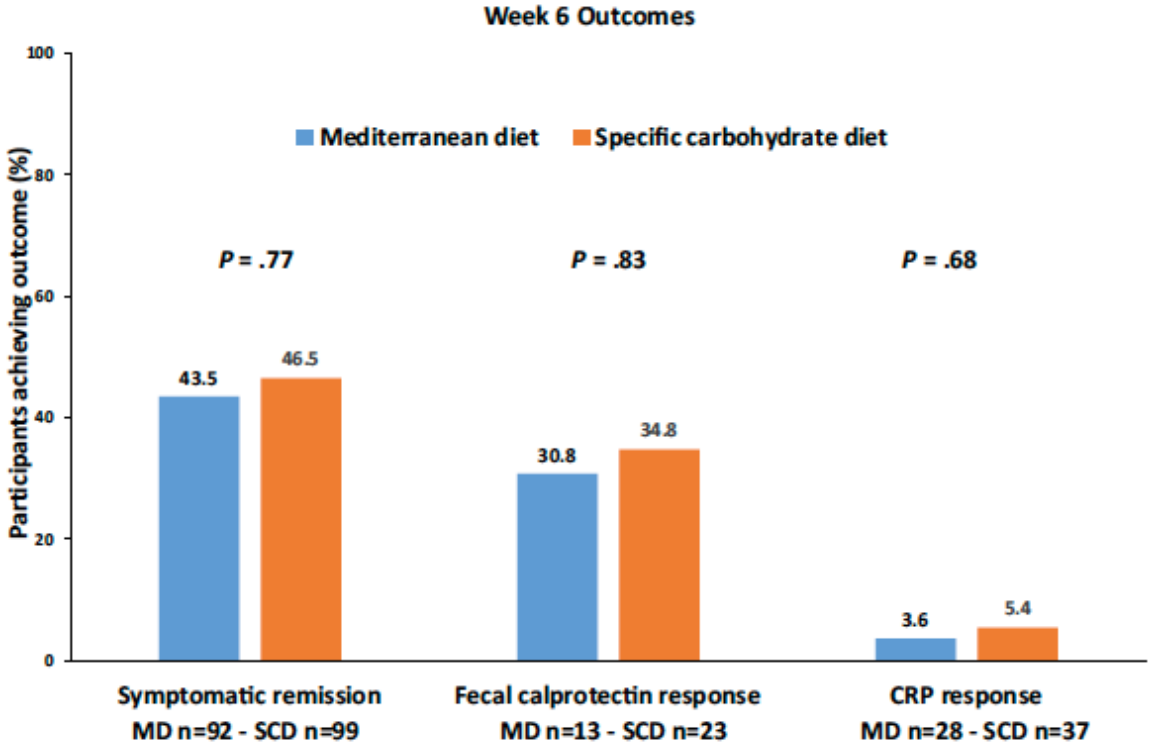
SCD vs Mediterranean diet for 12 weeks
Feeding trial

Remission at 6 weeks (CDAI<150)

Specific Carbohydrate Diet **43.5%**

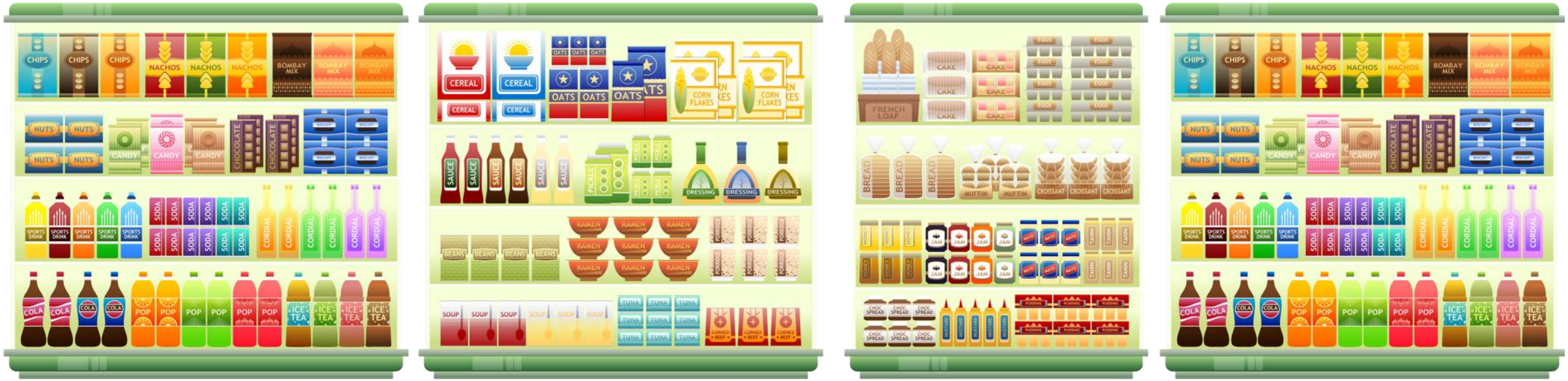
Mediterranean diet **46.5%**

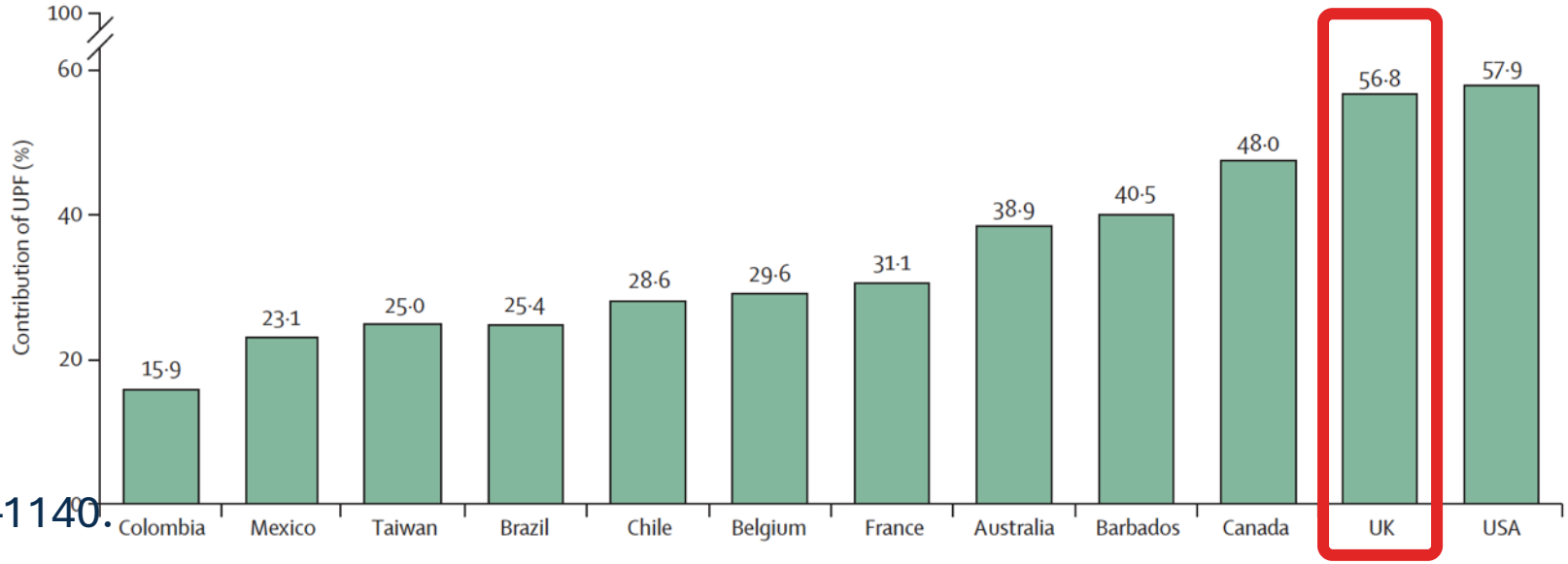
No difference in symptom response, calprotectin response, weight loss at any time



Lewis, Gastroenterology, 2021;161:837–852

Ultra-processed foods





Srour, Lancet Gastro Hep, 2022; 7: 1128-1140.

UPF and risk of IBD

Study Population

1,068,425 participants

13,594,422 person-years of follow-up

5 cohort studies

Narula et al (2021)
Meyer et al (2022)
Vasseur et al (2021)
Lo et al (2022)
Chen et al (2022)

Exposure

Ultra-processed Foods

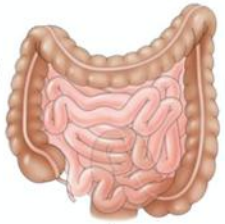
NOVA Classification 4

High Consumption vs. Lower Consumption

Outcome

Ulcerative Colitis (UC)

N = 1934



Crohn's Disease (CD)

N = 916

Increased risk of developing CD
Pooled HR: 1.71
95%CI: 1.37-2.14, I^2=0%, χ^2 p=0.74

No increased risk of developing UC
Pooled HR: 1.17
95%CI: 0.86-1.61, I^2=73%, χ^2 p=0.01

Clinical Gastroenterology and Hepatology

Crohn's Disease: 71% higher risk of developing Crohn's Disease

Ulcerative Colitis: No greater risk of developing Ulcerative Colitis

Narula, Clin Gastro Hep, 2023; 21: 2483-2495

What does a 71% increased risk look like?

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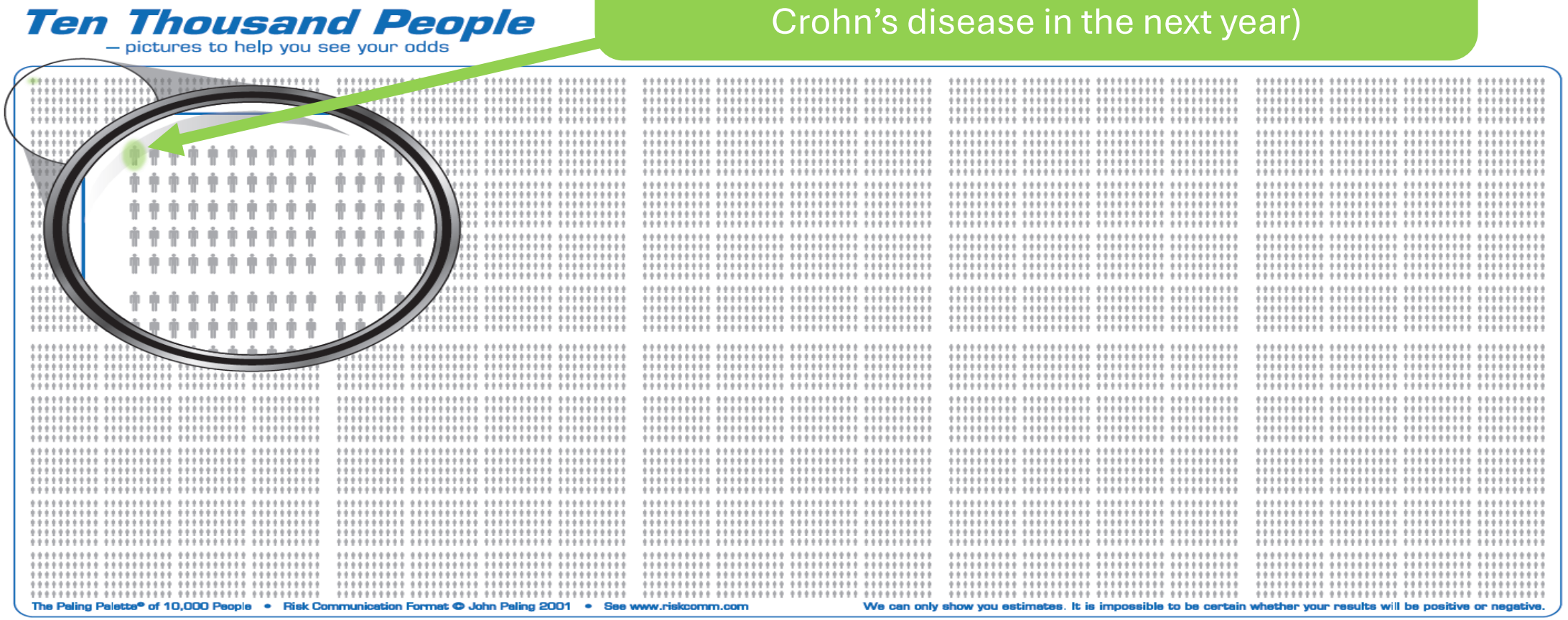
Risk of developing Crohn's disease among 10,000 people in the UK (about 1 person might develop Crohn's disease in the next year)



Narula, Clin Gastro Hep, 2023; 21: 2483-2495

What does a 71% increased risk look like?

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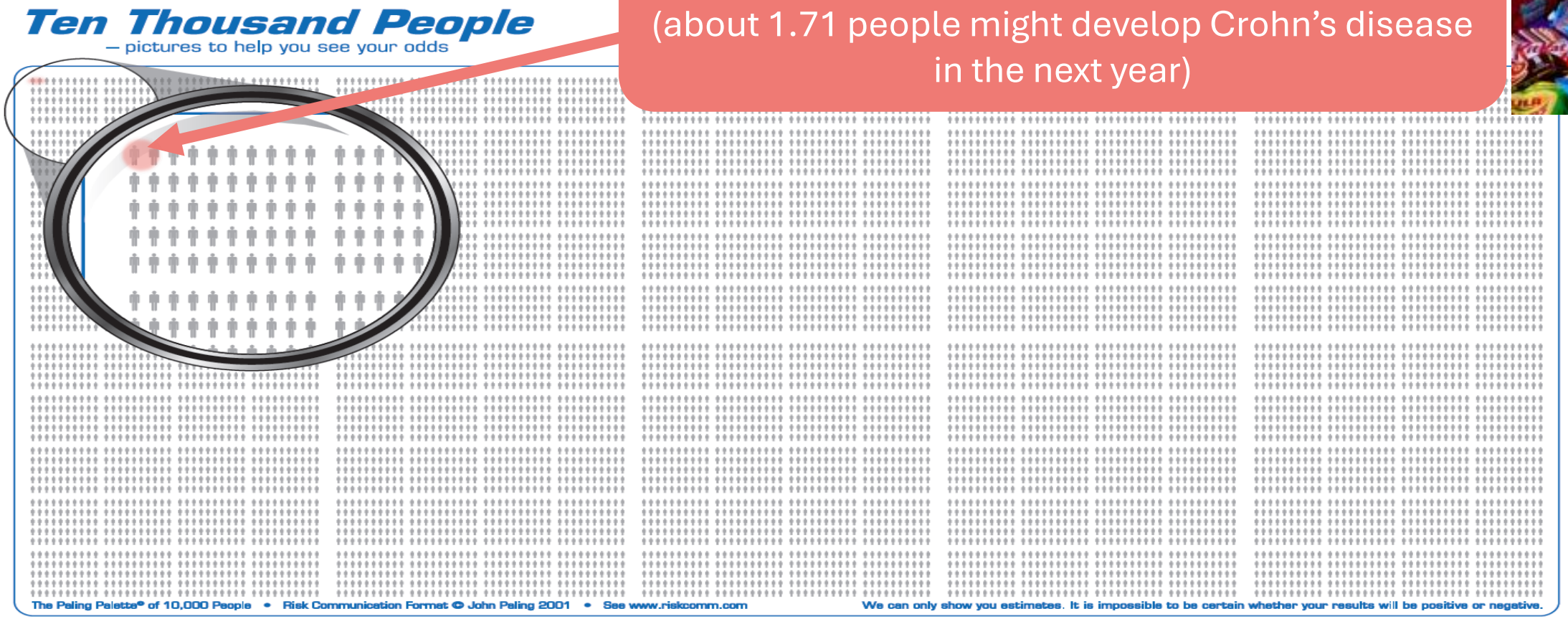
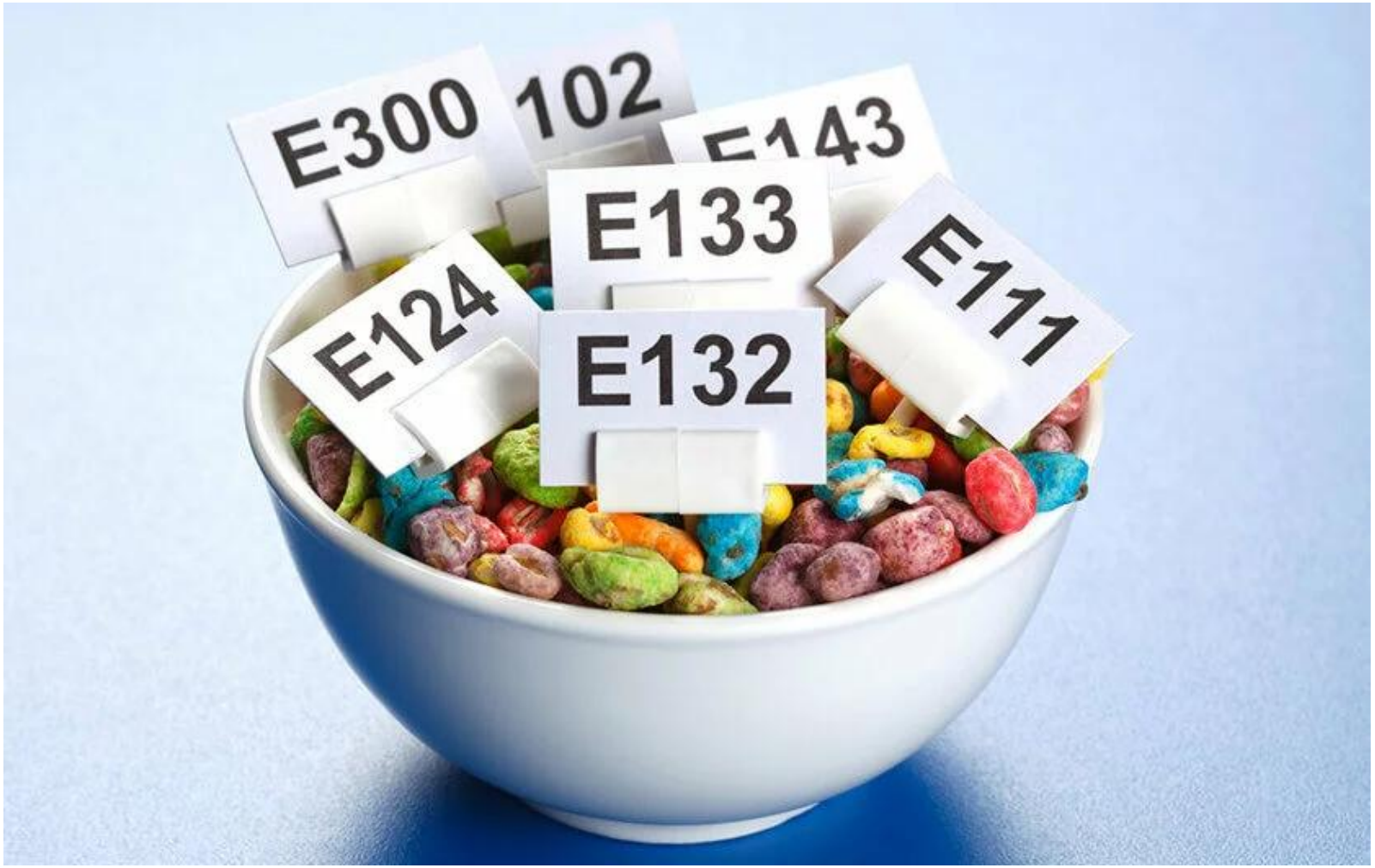
Risk of developing Crohn's disease among 10,000 people in the UK if you eat lots of UPF
(about 1.71 people might develop Crohn's disease in the next year)

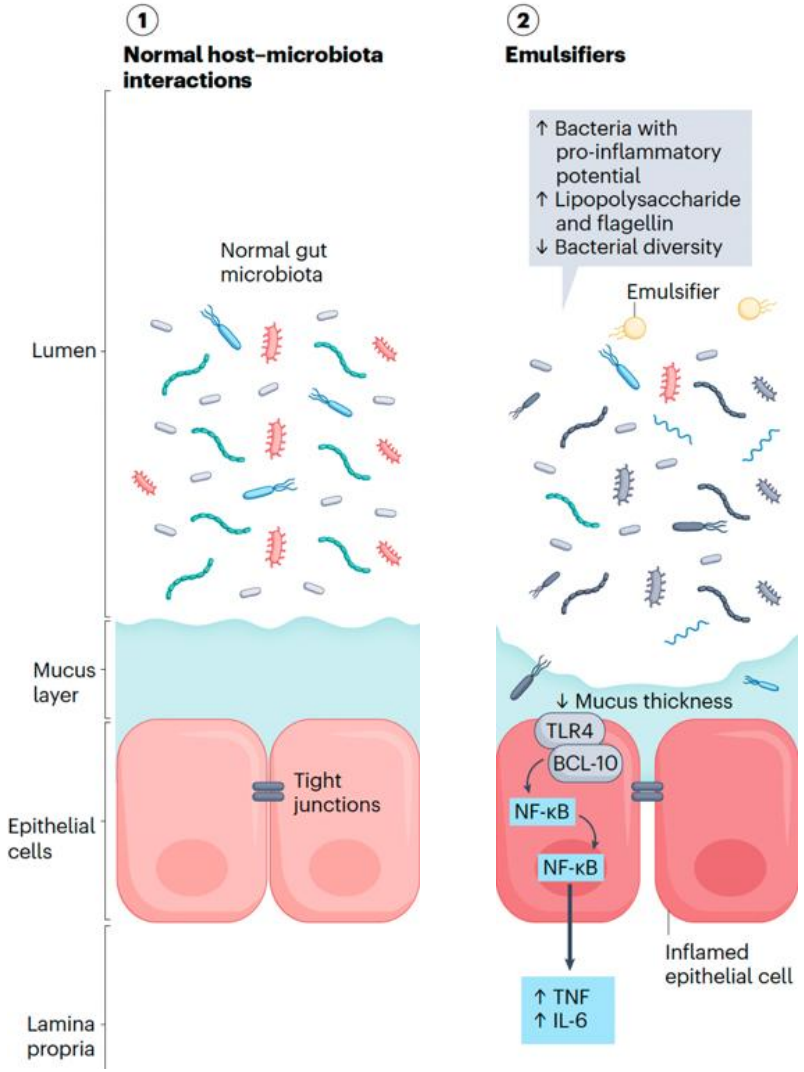


Narula, Clin Gastro Hep, 2023; 21: 2483-2495

Food additives



Impact of food additives on the gut



nature reviews gastroenterology & hepatology
https://doi.org/10.1038/s41575-024-00893-5

Review article

Check for updates

Ultra-processed foods and food additives in gut health and disease

Kevin Whelan[1], Aaron S. Bancil[1], James O. Lindsay[2] & Benoit Chassaing[3]

Whelan, Nature Gastro, 2024; 21: 406–427

ADDapt: double-blind, re-supplementation RCT

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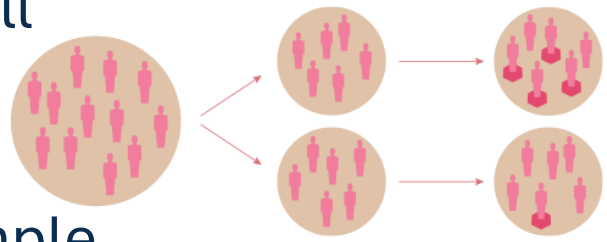
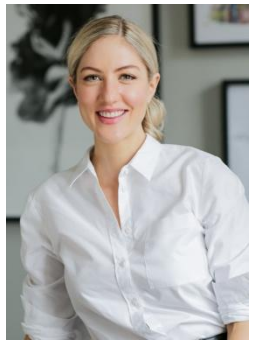
Professor Kevin Whelan (PI)
Professor James Lindsay (Co-I)
Professor Benoit Chassaing (Co-I)
Dr Megan Rossi (Co-I)
Dr Aaron Bancil
Dr Alicia Sandall
Dr Selina Cox
Dr Yifan Xu
Dr Katie Dalrymple
Christos Kelaiditis
Amy Buckley
Sinead Burke



ADDapt
low food additive diet in Crohn's disease

THE LEONA M. AND HARRY B. HELMSLEY CHARITABLE TRUST



19 amazing clinical sites across the UK!

ADDapt: double-blind, re-supplementation RCT

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ADDapt
low food additive diet in Crohn's disease

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154 people with Crohn's disease
Mild to moderately active
CDAI 150-250, plus
- Faecal calprotectin >150, or
- Radiology or Endoscopy

Emulsifier-containing diet (n=75)
1. Restriction of emulsifiers (dietitian advice, barcode scan)
2. Re-supplementation with supermarket foods: emulsifier-containing
3. Re-supplementation with snacks x3/d: emulsifier-containing

Low emulsifier diet (n=79)
1. Restriction of emulsifiers (dietitian advice, barcode scan)
2. Re-supplementation with supermarket foods: emulsifier-free
3. Re-supplementation with snacks x3/d: emulsifier-free

Long term follow-up
Diet advice and support: low emulsifier diet (dietitian, app)

24 weeks
Numbers with CDAI Response
CDAI (remission, absolute, delta)

Baseline
Crohn's Disease Activity index (CDAI)
Faecal calprotectin (ELISA)
Gut microbiota (16S, Metagenomics)
Blood and urine (in subgroup, metabolomics)

8 weeks
Numbers with CDAI Response (1° outcome)
CDAI (remission, absolute, delta)
Faecal calprotectin (ELISA)
Gut microbiota (16S, Metagenomics)
Blood and urine (in subgroup, metabolomics)

ADDapt trial – implementing the diet

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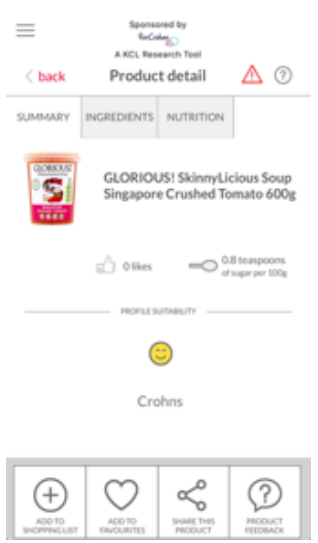
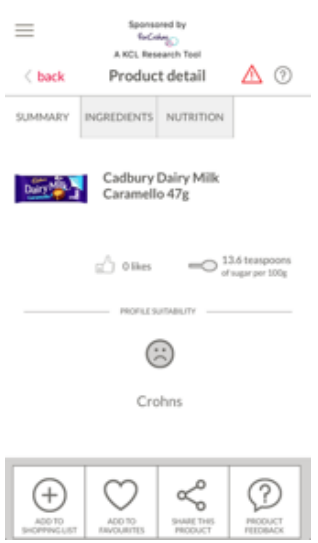
1

Restriction of emulsifiers (both groups)

Dietitian,
written information,
barcode scanning app





ADDapt trial – implementing the diet

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1 **Restriction of emulsifiers (both groups)**

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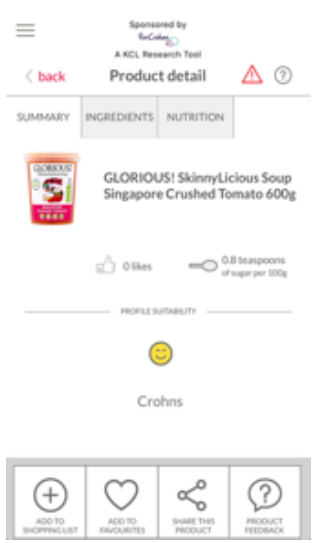

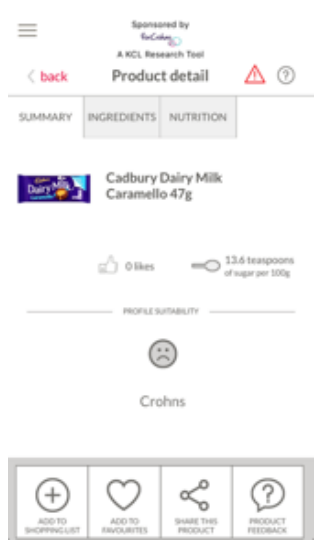

2 **Re-supplementation through supermarket foods**

25% of foods provided
Foods that made large contribution to energy intake
Foods that patients reported missing during our feasibility study
Either… emulsifier-containing (control) or emulsifier-free (low emulsifier diet group)

3 **Re-supplementation through snacks**

Three snacks per day
Either… emulsifier-containing (control) or emulsifier-free (low emulsifier diet group)

Emulsifier-free

Emulsifiers

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Can you still tell which have emulsifiers in?

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Snacks either with or without emulsifiers

3 snacks per day

Biscuits, flapjacks, desserts, muffins, cheese scone

± Carrageenan
± Polysorbate 80 (P-80)
± Carboxymethylcellulose (CMC)

Doses at standard UK levels

Results – primary outcome

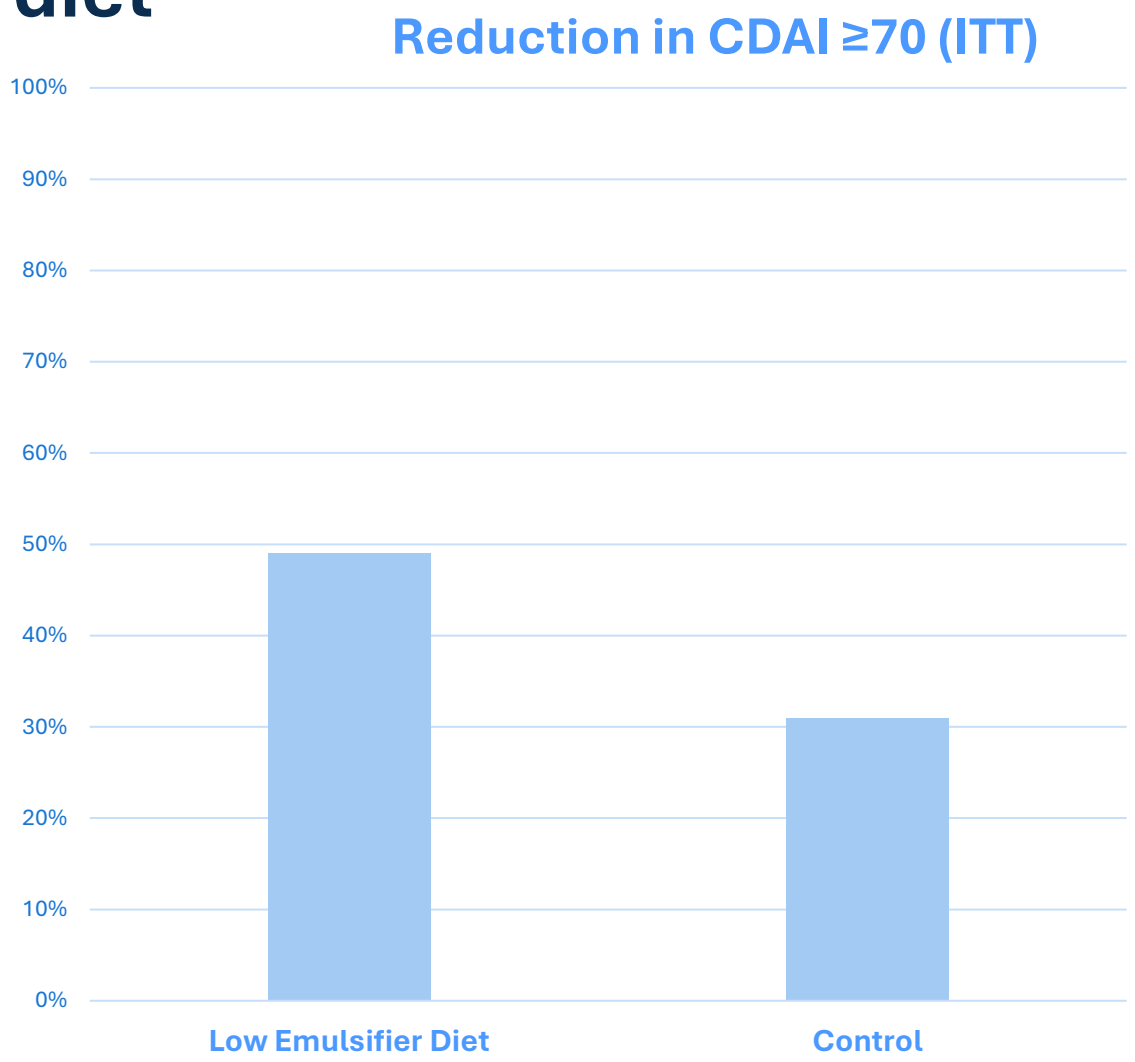
Numbers who responded to the diet (70-point reduction in CDAI)

Intention-to-treat (n=154)

Low emulsifier diet **49.4%**
Control **30.7%** (p=0.019)

RR = 3.1 (p=0.003)

When you take into account other factors, people were **3.1 times more likely** to have a response when following the low emulsifier diet



Results: clinical and inflammatory outcomes

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Endpoint	Intention to treat				Per protocol			
	Control (n=75)	Low emulsifier (n=79)	P	RR (95% CI) (P value)*	Control (n=49)	Low emulsifier (n=64)	P	RR (95% CI) (P value)*
CDAI response, n (%)	23 (30.7%)	39 (49.4%)	0.019	3.1 (1.5, 6.6) (p=0.003)	23 (46.9%)	39 (60.9%)	0.140	3.0 (1.2, 7.6) (p=0.018)
CDAI remission, n (%)	35 (46.7%)	47 (59.5%)	0.112	2.1 (1.0, 4.4) (p=0.042)	35 (71.4%)	47 (73.4%)	0.813	1.7 (0.6, 4.4) (p=0.320)
CDAI score, mean (SD)	141.8 (66.6)	125.8 (73.2)	0.085	-22.4 (-42.3, -2.5) (p=0.027)	115.6 (65.9)	109.8 (71.2)	0.500	-17.4 (-41.2, 6.4) (p=0.150)
Faecal calprotectin reduction (>50%), n (%)	10 (13%)	16 (21%)	0.148	2.9 (1.1, 8.0) (p=0.039)	9 (18%)	16 (28%)	0.264	2.5 (0.9, 7.2) (p=0.082)

* Regression analyses with adjustment for confounders (body mass index, Crohn's disease location, smoking status, sex, age) were used to assess for difference between the two trial arms

ECCO – latest diet guidelines

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Journal of Crohn's and Colitis, 2025, 19(9), jjaf122
https://doi.org/10.1093/ecco-jcc/jjaf122
Advance access publication 12 July 2025
ECCO Consensus Paper

European Crohn's and Colitis Organisation consensus on dietary management of inflammatory bowel disease

Vaios Svolos[#,1,2], Hannah Gordon[#,3], Miranda C.E. Lomer[#,4,5], Marina Aloi[6,7], Aaron Bancil[5], Alice S. Day[8], Andrew S. Day[9], Jessica A. Fitzpatrick[10], Konstantinos Gerasimidis[1], Konstantinos Gkikas[1], Lihi Godny[11], Charlotte R.H. Hedin[12,13], Konstantinos Katsanos[14], Neeraj Narula[15], Richard K. Russell[16], Chen Sarbagili-Shabat[17,18], Jonathan P. Segal[19,20], Rotem Sigall-Boneh[17,21], Harry Sokol[22], Catherine L. Wall[23,24], Kevin Whelan[5], Eytan Wine[25,26], Henit Yanai[27,28], Richard Hansen[*,‡,29], Emma P. Halmos[‡,10]

Doctors, Dietitians, Patients

48 consensus statements based upon scientific literature

(i) Diet as therapy to induce remission of IBD
(ii) Diet as therapy to maintain remission of IBD
(iii) Dietary management of special conditions (e.g. stoma)
(iv) Nutritional assessment and optimisation for IBD
(v) Diet as prevention of IBD development

Statement 1: In the absence of a specific dietary intervention that is recommended by an IBD healthcare professional, healthy eating guidelines should be followed by people with IBD, as recommended for the general population. [EL5] [Consensus: 100%]

Statement 2: All people with IBD should have access to a dietitian with experience in IBD. [EL5] [Consensus: 96%]

Take home messages for people with IBD

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We don't know exactly the best diet yet, but apart from Exclusive Enteral Nutrition (EEN), the Crohn's Disease Exclusion Diet (CDED) and Low Emulsifier Diet have the best scientific evidence so far

Specific Carbohydrate Diet (SCD) may work in Crohn's, but only as well as the Mediterranean Diet which which is also much healthier for you, less restrictive and easier to follow!

It is very likely that some people with IBD respond more, and respond differently, to diet than others

If you are interested in following a special diet, you must always discuss this with your clinical team and get the support of a dietitian – some diets are restrictive

Do not mistake the (current) small amount of evidence to mean that diet is not important in IBD

(**MUCH**) More evidence is needed for diet in the treatment of Ulcerative Colitis

Thank you

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