

## HERZLICHEN DANK AN UNSERE SPONSOREN



### 5. ERNÄHRUNGSMEDIZINISCHER FORTBILDUNGSNACHMITTAG KSSG



[www.kssg.ch](http://www.kssg.ch)



### 5. ERNÄHRUNGSMEDIZINISCHER FORTBILDUNGSNACHMITTAG KSSG



### NEUE TRENDS IN DER ERNÄHRUNGSMEDIZIN – VOM HYPE ZUR THERAPIE

[www.kssg.ch](http://www.kssg.ch)



## Crohn's Disease Exclusion Diet - CDED

### 5. Ernährungsmedizinischer Fortbildungsnachmittag 29.04.2021



Claudia Krieger-Grübel  
Gastroenterologie / Hepatologie  
Klinische Ernährungsmedizin

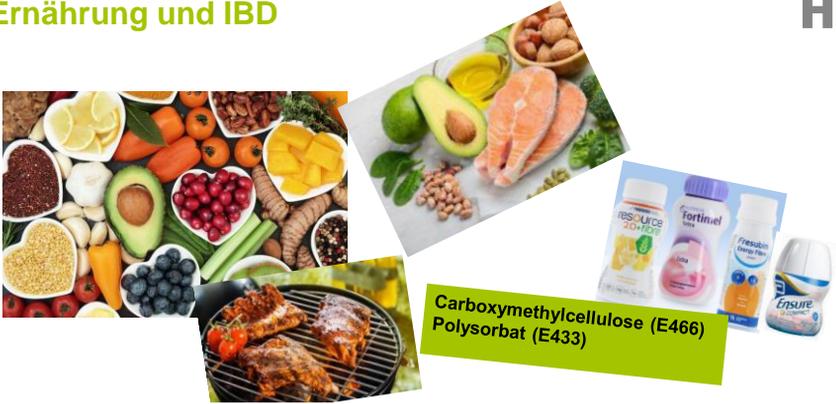


## Agenda



- Einführung
- Fallstricke in der Ernährung bei IBD
- «Crohn's Disease Exclusion Diet»
- Eigene Erfahrungen

## Ernährung und IBD



Lewis JD. Diet as a trigger or therapy for IBD. *Gastroenterology* 2017; 152(2):398–414  
Hwang C. Popular exclusionary diets for IBD: the search for a dietary culprit. *Inflamm Bowel Dis* 2014;20:732–41  
Daien CI. Detrimental impact of microbiota-accessible carbohydrate-deprived diet on gut and immune homeostasis. *Front Immunol* 2017;8  
Chassaing B. Dietary emulsifiers impact the mouse gut microbiota promoting colitis and metabolic syndrome. *Nature* 2015;519:92-6.  
Narula N. EN therapy for induction of remission in CD. *Cochrane Database Syst Rev* 2018;4:Cd000542.



**Cochrane**  
**Library**

Cochrane Database of Systematic Reviews

The effects of dietary interventions on CD and UC are uncertain. Thus no firm conclusions regarding the benefits and harms of dietary interventions in CD and UC can be drawn. There is need for consensus on the composition of dietary interventions in IBD and more RCTs are required to evaluate these interventions. Currently, there are at least five ongoing studies (estimated enrollment of 498 participants). This review will be updated when the results of these studies are available.

Limketkai BN, Iheozor-Ejiofor Z, Gjuladin-Hellon T, Parian A, Matarese LE, Bracewell K, MacDonald JK, Gordon M, Mullin GE

Version published: 08 February 2019

<https://doi.org/10.1002/14651858.CD012839.pub2>

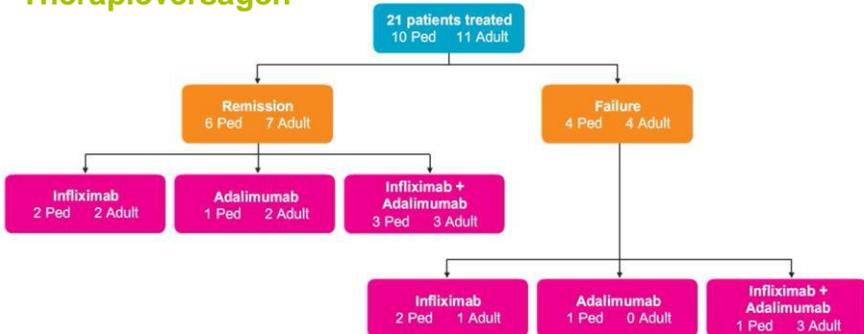


## Remissionsraten bei neueren Therapien



1 Adegbola SO et al. Anti-TNF Therapy in CD. Int J Mol Sci 2018;19:2244  
 2 Arsenau KO et al. Targeting Leukocyte Trafficking for the treatment of IBD. Clin Pharmacol Ther. 2015;97(1):22-8  
 3 Feagan BG et al. Ustekinumab as Induction and Maintenance Therapy for CD. N engl J Med 2016;375:1946-60  
 4 Feagan BG et al. Induction therapy with selective IL-23 inhibitor risankizumab in patients with moderate to severe CD. Lancet 2017;389:1699-1709  
 www.kisp.ch

## Ernährungstherapie bei medikamentösem Therapieversagen



Sigall-Boneh et al. Dietary therapy with the Crohns Disease Exclusion Diet is a successful strategy for induction of remission in children and adults failing biological therapy. J. Crohns Colitis 2017;11(10):1205-12



## 1. Fehler: Der Trugschluss, dass Ernährungstherapien nur bei pädiatrischen Patienten wirken

- Klinisches Ansprechen in 80% in pädiatrischen / adoleszenten Studien mit M. Crohn
- Europäische Consensus Guidelines für EEE als Erstlinientherapie
- Ausserhalb Japan bis anhin keine therapeutische Relevanz bei Erwachsenen als Erstlinientherapie
- Cochrane Meta Analyse zeigte keinen Unterschied zwischen EEE und Corticosteroiden

Narula N et al. Enteral nutritional therapy for induction of remission in Crohns disease Cochrane Database Syst Revs 2018;4:CD000542



## 2. Fehler: Die EEE wird nur für die Induktionstherapie bei mild-moderatem luminalen M. Crohn angewendet

- EEE ursprünglich nur bei luminaler Dünndarmbeteiligung eingesetzt
- EEE zeigt bei allen Lokalisationen einen Therapieerfolg
- insbesondere bei perianaler Beteiligung
- repetitive Anwendung
- Perioperative Anwendung: reduzierte postoperative Komplikationen

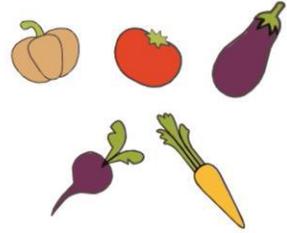
Narula N et al. EN therapy for induction of remission in CD Cochrane Database Syst Revs 2018;4:CD000542  
Yang Q et al. Efficacy of EEN in complicated Crohns disease. Scandinavian J Gastroenterol. 2017;52:995-1001  
Rocha A et al. Preoperative EN and surgical outcomes in adults with CD: a systematic review. GE Port J Gastroenterol 2019;26:184-95  
Heerasing N et al. EEN provides an effective bridge to safer interval elective surgery for adults with CD. Aliment Pharmacol Ther 2017;45:660-9

## Die westliche Ernährungsweise

TOO MUCH



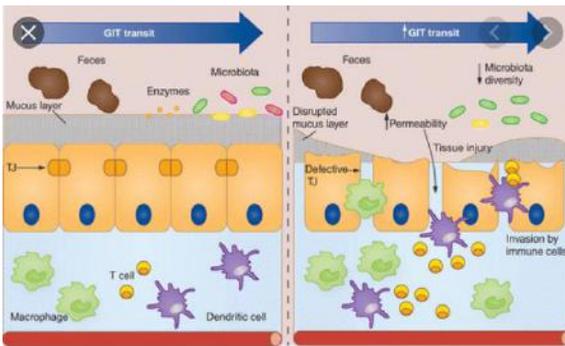
TOO LITTLE



www.kssg.ch

| 12

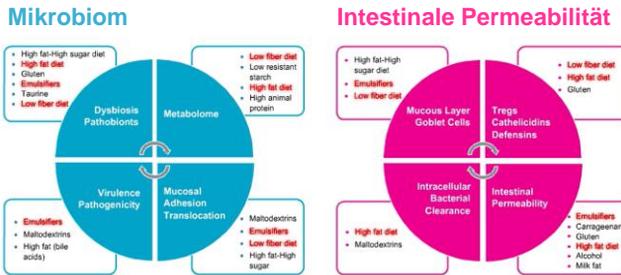
## Potentieller Mechanismus



Levine A et al. Effects of enteral nutrition on CD: Clues to impact of diet on disease pathogenesis. *Inflamm Bowel Dis* 2013;19:1322-9



## Effekte von Diätfaktoren auf Mikrobiom, Barrierefunktion und Immunität, welche IBD triggern



Levine A et al. Evolving role of diet in the pathogenesis and treatment of IBD. Gut. 2018;67(9):1726-38

www.kssg.ch

| 14

## Crohns Disease Exclusion Diet

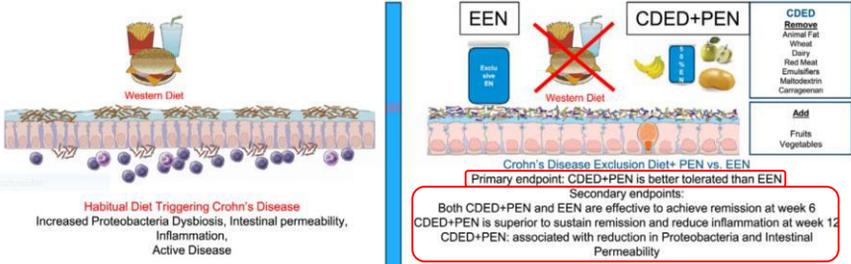


Levine A. Effects of enteral nutrition on CD: Clues to the impact of diet on disease pathogenesis. Inflamm Bowel Dis. 2013;19:1322-9



## Crohns Disease Exclusion Diet - CDED

### Dietary Therapy: Crohn's Disease Exclusion Diet + Partial Enteral Nutrition vs. Exclusive Enteral Nutrition



Levine A, et al. CDED plus partial enteral nutrition induces sustained remission in a RCT. Gastroenterology 2019; 157: 440–50.



## Ablauf «Crohn's Disease Exclusion Diet»

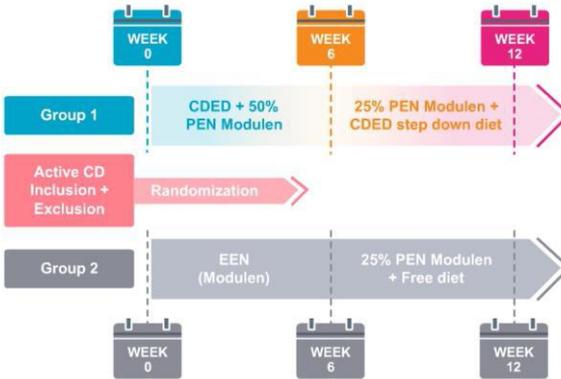
**Mandatory**

- Mandatory foods in CDED phase 1 and 2 (first 12 weeks)
  - 1 portion of fresh chicken breast and 2 eggs
  - 2 potatoes (peeled, cooked and cooled)
  - 2 bananas and 1 apple
- Modulen as a mandatory part of ModuLife
  - 50% of energy and nutrient intake from Modulen in phase 1
  - 25% of energy and nutrient intake from Modulen in phase 2
  - 25% of energy and nutrient intake from Modulen in the maintenance phase

- Additional allowed foods in phase 1 and 2
- No mandatory foods in the maintenance phase (from week 13) – but still disallowed foods

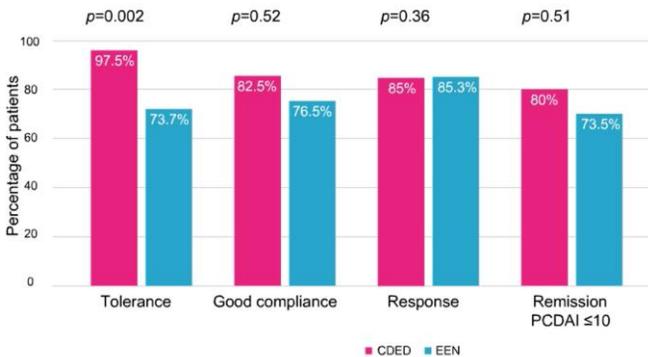


### Crohns Disease Exclusion Diet - CDED



Levine A, et al. CDED plus partial enteral nutrition induces sustained remission in a RCT. *Gastroenterology* 2019; 157: 440–50.

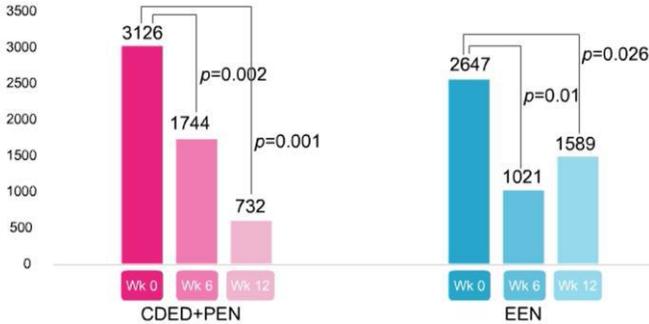
### CDED - primäre und sekundäre Endpunkte



Levine A, et al. CDED plus partial enteral nutrition induces sustained remission in a RCT. *Gastroenterology* 2019; 157: 440–50.

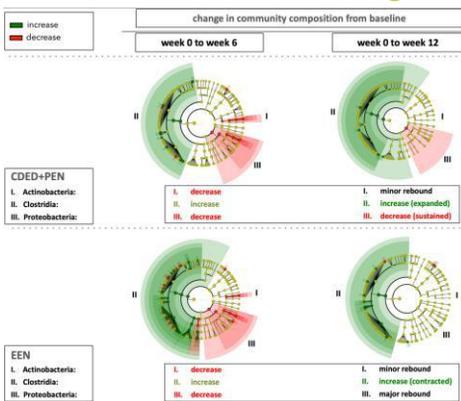


## CDED – Calprotectin über 12 Wochen



Levine A, et al. CDED plus partial enteral nutrition induces sustained remission in a RCT. Gastroenterology 2019; 157: 440–50.

## CDED – Mikrobiomveränderung



Levine A, et al. CDED plus partial enteral nutrition induces sustained remission in a RCT. Gastroenterology 2019; 157: 440–50.

## Neue CDED Studie mit Erwachsenen Crohn Patienten



CDED alleine vs CDED mit partieller enteraler Ernährung zur Induktion und Remissionserhaltung in Erwachsenen mit mild bis moderatem Morbus Crohn

- Primärer Endpunkt: Klinische Remission
- Sekundärer Endpunkt: Steroidfreie Remission, Mucosal Healing, Veränderung in CRP und Calprotectin

## Ablauf «Crohns Disease Exclusion Diet»



### Mandatory



- Mandatory foods in CDED phase 1 and 2 (first 12 weeks)
  - 1 portion of fresh chicken breast and 2 eggs
  - 2 potatoes (peeled, cooked and cooled)
  - 2 bananas and 1 apple
- Modulen as a mandatory part of ModuLife
  - 50% of energy and nutrient intake from Modulen in phase 1
  - 25% of energy and nutrient intake from Modulen in phase 2
  - 25% of energy and nutrient intake from Modulen in the maintenance phase



- Additional allowed foods in phase 1 and 2

- No mandatory foods in the maintenance phase (from week 13) – but still disallowed foods

## CDED: Erlaubte Nahrungsmittel / Getränke Phase 1





2 tomatoes



2 cucumbers (peeled)



1 carrot



Fresh spinach (1 cup uncooked leaves)



3 lettuce leaves once daily

- Water
- Sparkling water



- Herbal teas (slice of lemon, lime, orange or mint leaves may be added for taste)
- Chamomile tea (from 7 weeks)



- 1 glass of freshly squeezed orange juice daily



Olive oil, canola oil

Fresh onions, garlic and ginger

Freshly squeezed lemon juice (from fresh lemon, not cartons)

Real honey for cooking (max 3 tablespoons *do not consume too frequently*)

Table sugar (2-3 teaspoons a day for cooking or tea)

Pure spices: salt, pepper, paprika, cinnamon stick, curcumin, cumin

Fresh herbs: mint leaves, oregano, coriander, rosemary, sage, basil, thyme

- ▶ 1 avocado/day – not more than half avocado per meal
- ▶ 5 ripe strawberries/day
- ▶ 1 slice of melon/day (cantaloupe, honey dew)



- ▶ Unlimited quantity of white rice
- ▶ Unlimited rice flour for baking
- ▶ Unlimited rice noodles without preservatives



www.kssg.ch | 26

## Verbotene Nahrungsmittel





Sausages, luncheon meats, salamis, fish sticks



Ground beef



Soy products (eg., Tofu)



Ice-cream



Non-dairy milk beverages (soy milk, rice milk, almond milk)



Dairy product of any kind



Breakfast cereals



Breads

Other gluten-free products



Soy Products



Potato or corn flour





Corn



Frozen potatoes



French fries



Legumes

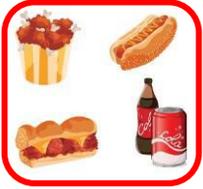


Other flours

## Ablauf «Crohns Disease Exclusion Diet»



Brewed coffee or tea- not more than 1 cup 3 times a week



**Saturdays and Sundays**

- ▶ Bowl of cereal, bread with spread, butter or jam
- ▶ Pancake, muffins, bagels, oatmeal etc.
- ▶ Home-cooked dinner or lunch of free choice
- ▶ May have
  - ▶ 1 glass of beer or wine
  - ▶ Dessert



- Additional allowed foods in phase 1 and 2
- No mandatory foods in the maintenance phase (from week 13) – **but still disallowed foods**

www.kssg.ch | 28

## Erfahrungen mit der CDED



- Start 02/20
- Einschluss von 16 Patienten
  - 11 mit zusätzlicher medikamentöser Therapie (2 C.U.)
  - 5 als alleinige therapeutische Intervention (2 C.U.)
- Subjektive und klinische Verbesserung

www.kssg.ch | 29



## Erfahrungen mit der CDED - Calprotectin

- Calprotectin vor Intervention – Calprotectin Ende Phase 1

22.1.2021 .1620	21.1.2021 .1596	23.3.2021 .1596	21.3.2021	17.2.2021 .1574	16.2.2021	9.4.2021 .1591	8.4.2021	25.8.2020 .1623	25.8.2020	8.10.2020 .1599	8.10.2020
22. Jan 8:02	23. Mär 7:52	17. Feb 7:58	9. Apr 8:34	25. Aug 15:57	8. Okt 10:44						
x	x	x	x	x	x						
304	131	1440	661	1290	262						

www.kssg.ch

| 30

## Calprotectinverlauf postoperativ unter CDED



8.11.2019 .4871 KSSG	08.11.2019	18.2.2020 .1575	13.2.2020	14.7.2020 .1586	10.7.2020	3.11.2020 .1575	2.11.2020	19.3.2021 .1576	17.3.2021
8. Nov 10:22	x	14. Jul 7:49	3. Nov 8:41	19. Mär 8:05					
x	x	x	x	x					
Ileozökalresektion	1960	146	1190	233	1300				

1. postoperative  
Endoskopische  
Entzündung  
aktiv Unter CDED

Psychosoziale Probleme,  
reduzierte  
Therapieadhärenz

www.kssg.ch

| 31



## Take home message



- CDED schliesst Nahrungskomponenten aus, welche das Mikrobiom verändern, die intestinale Permeabilität erhöhen oder die angeborene Immunität verschlechtern
- CDED ist eine effektive Therapie-Option bei kooperativen Patienten und kann bei luminalem, fistulierendem M. Crohn und auch präoperativ eingesetzt werden
- Ein gesunder Lifestyle gehört zur Therapie

[www.kssg.ch](http://www.kssg.ch)

| 32



Vielen Dank für Ihr Interesse



[www.kssg.ch](http://www.kssg.ch)

|