

FAD Diets and GI

Should anyone follow it?

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Pediatric Gastroenterology, Hepatology and Nutrition

04/26/2018

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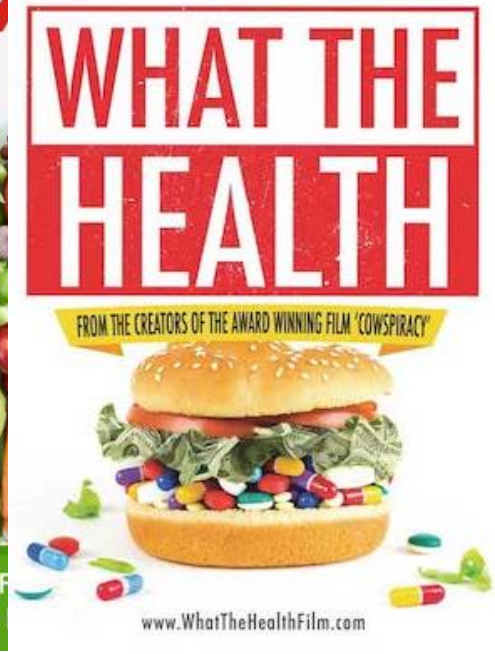
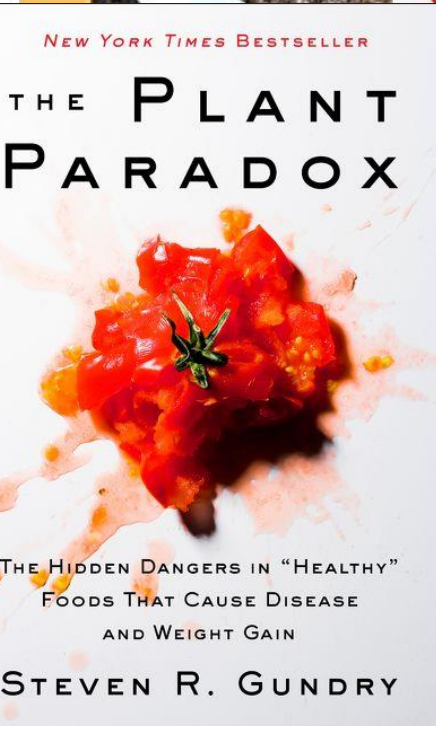
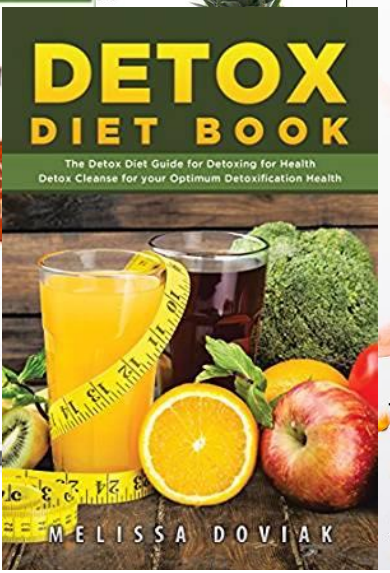
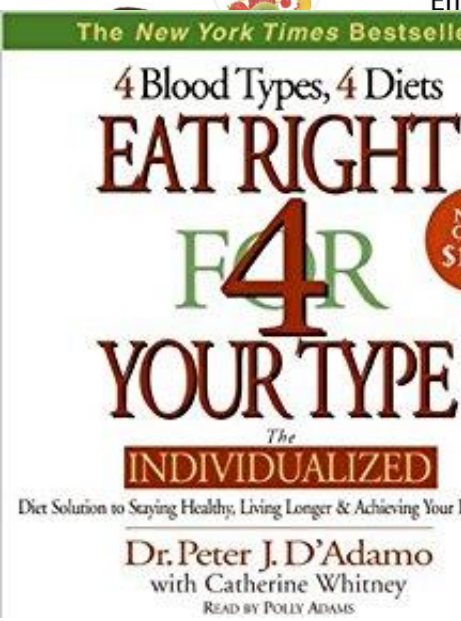
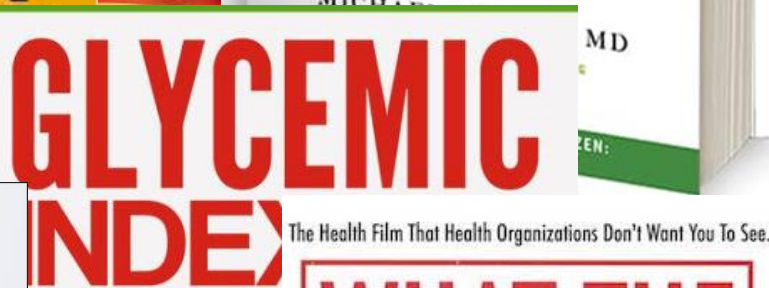
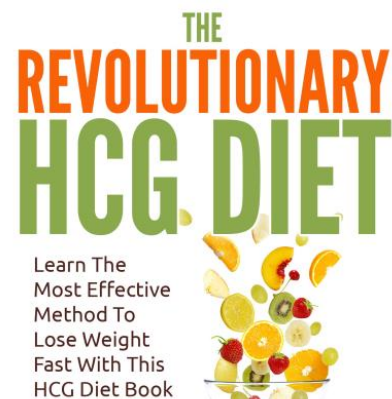
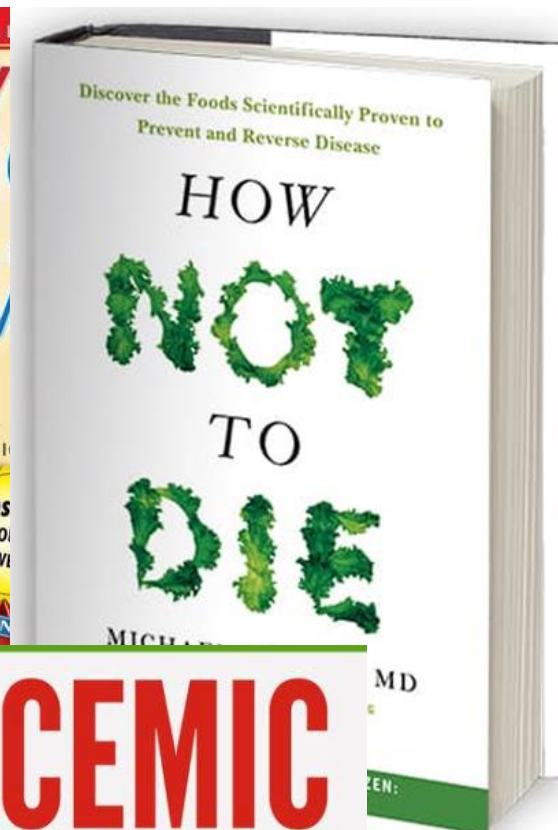
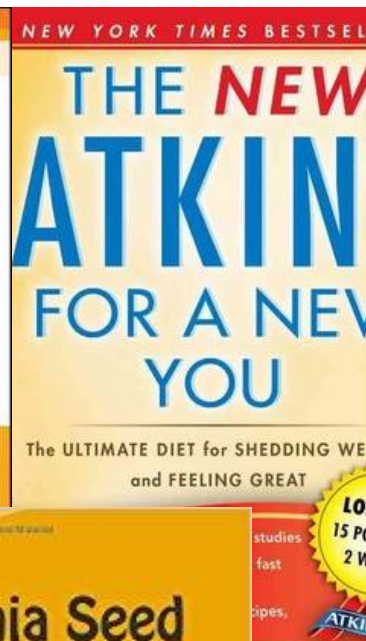
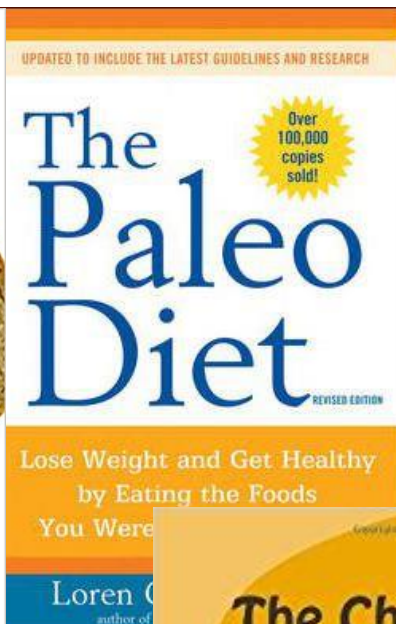
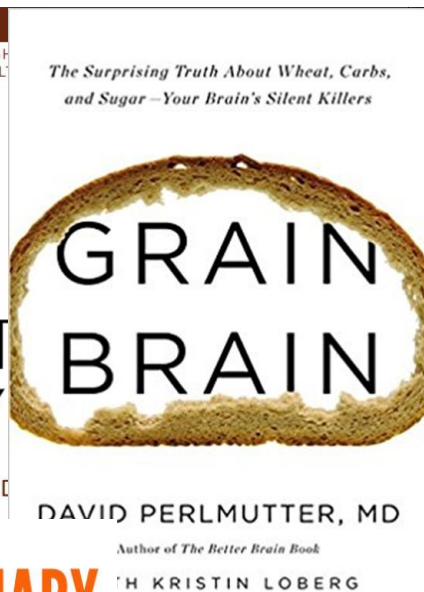
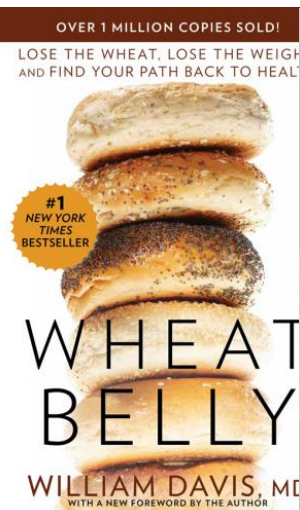
Objectives

- ① Know the dietary philosophies of common novel diets
- ① Review the most recent evidence related to those diets
- ① Identify and better counsel patients who would benefit from specific dietary changes

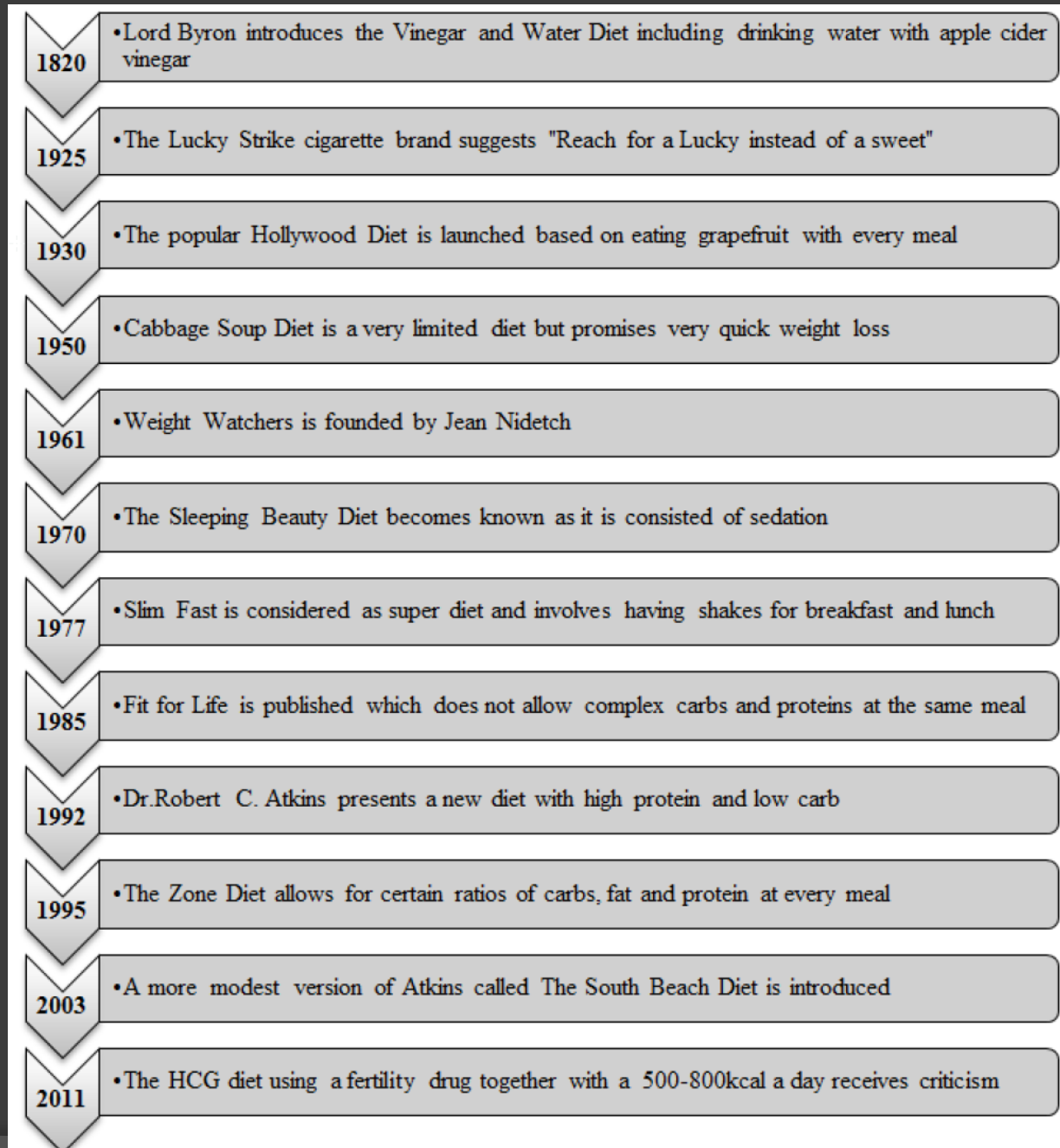
FAD Diet

- Diet or Diet cult that makes promises of weight loss or other health advantages such as longer life without backing by solid science.
- Restrictive of food choices





Is it a new topic?



How about on Pediatrics?

[Pediatrics](#), 1974 Mar;53(3):326-9.

Zen macrobiotic dietary problems in infancy.

[Robson JR](#), [Konlande JE](#), [Larkin FA](#), [O'Connor PA](#), [Liu HY](#).

PMID: 4205579

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[Pediatrics](#), 1977 Mar;59(3):460-4.

American Academy of Pediatrics. Committee on Nutrition. Nutritional aspects of vegetarianism, health foods, and fad diets.

[No authors listed]

PMID: 840567

[J Am Coll Nutr](#), 1984 3(2):169-75.

Food faddism in pediatrics.

[Sinatra](#), [Monatsschr Kinderheilkd](#), 1988 May;136(5):222-7.

[Alternative nutrition of children. Its advantages and risks].

Abstra

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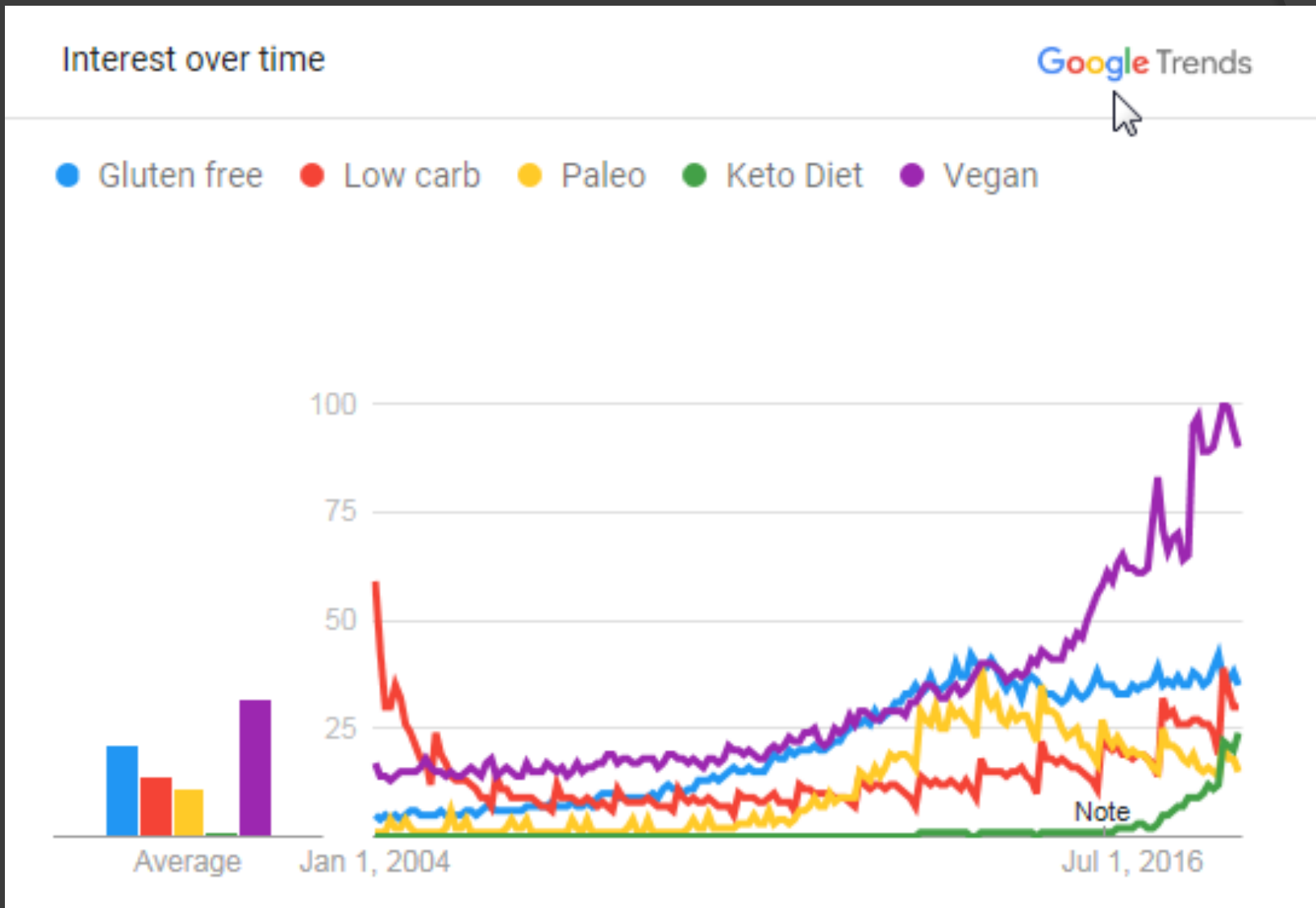
evalua **Abstract**

Food faddism is a growing scenery. Since children are also involved in these unusual food habits of their parents, the pediatrician is faced with new nutritional problems. The consequence may be failure to thrive in infancy and childhood noticed mainly in families with strictly vegetarian food habits. Moreover the pediatrician should know the possible sequelae of all the other forms of food faddism. Only a careful nutritional history paralleling the usual medical history may then uncover the origin of a chronic failure to thrive. First and foremost infants after weaning are at special risk in respect to protein, calcium and vitamin deficiencies.

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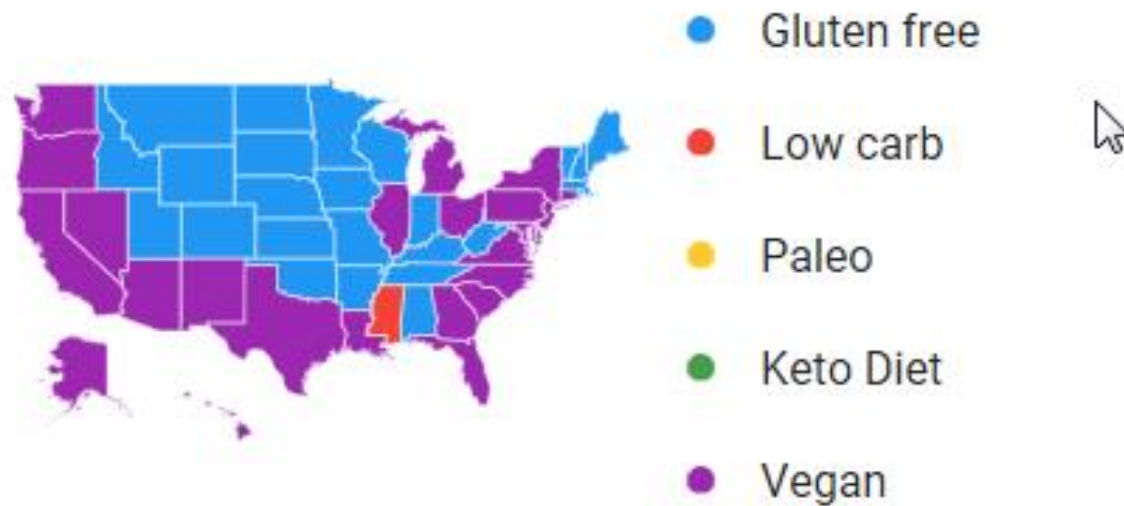
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Google trends



Interest by subregion

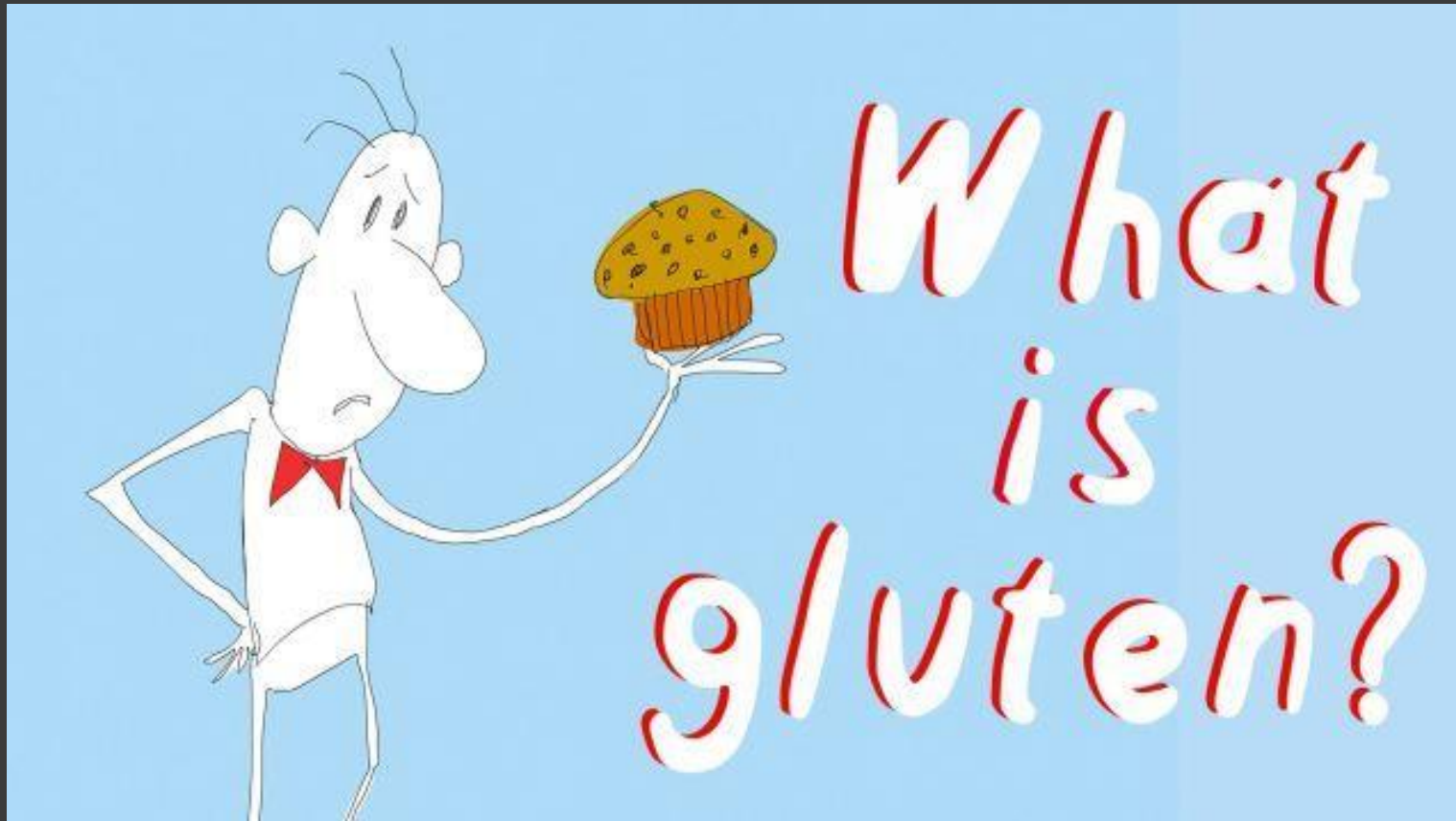
Google Trends



Topics to cover

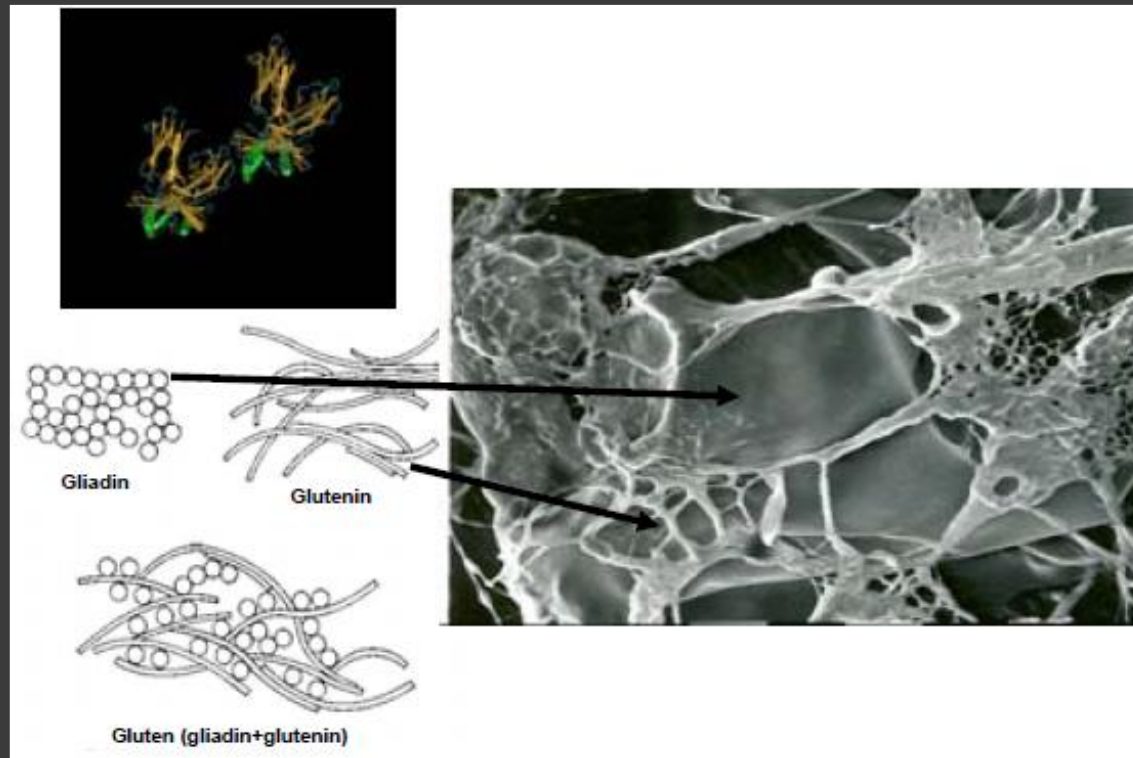
- ◉ Gluten Free Diet
- ◉ Low Carbohydrate Diets
- ◉ Low Fat Diets
- ◉ Vegan Diet
- ◉ Milk Free, Lactose Free
- ◉ Food allergies?





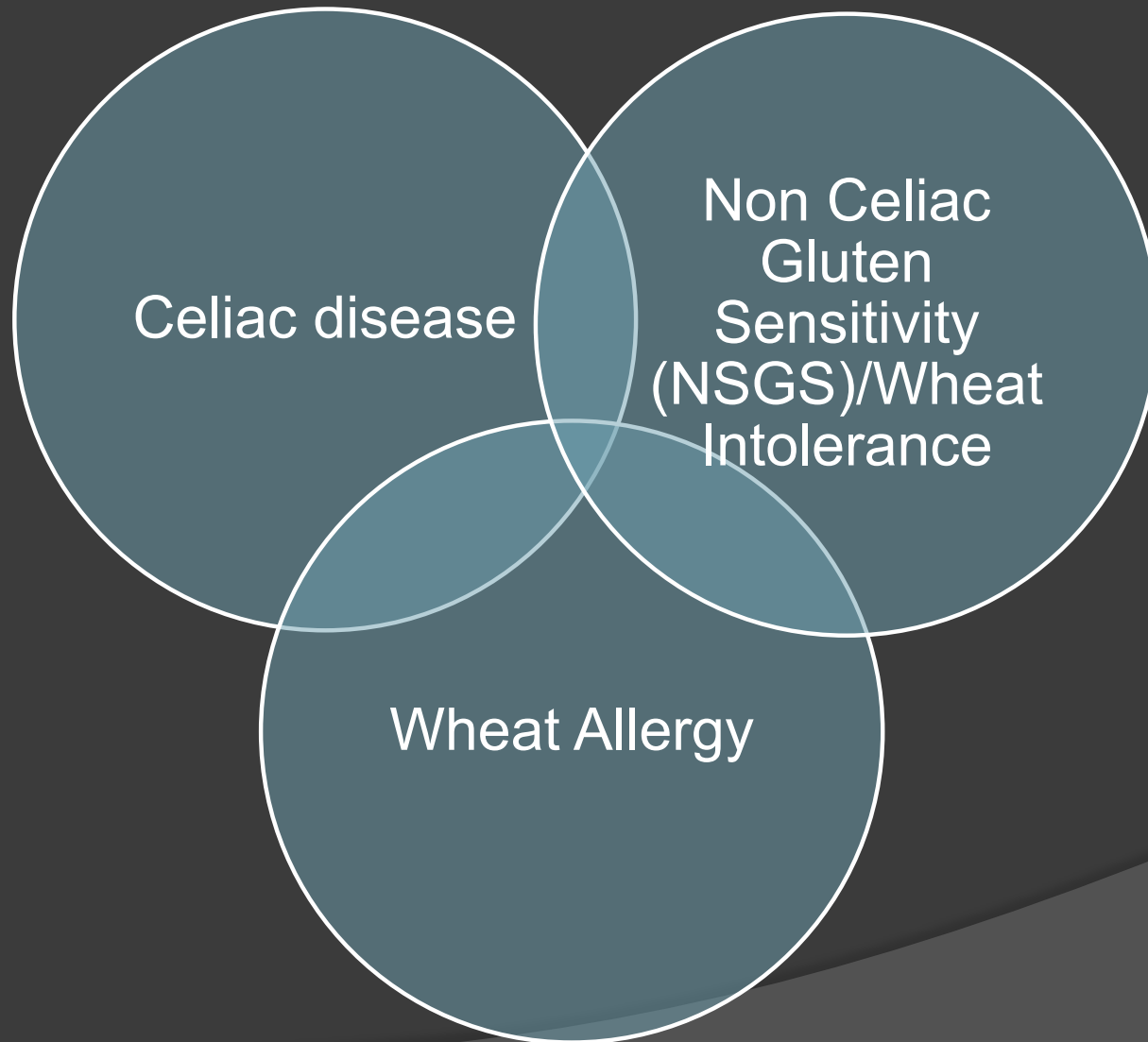
Gluten

- Protein composite found in **wheat** and related grains, including **barley** and **rye**





Wheat related disorders



Celiac disease

1%

Onset of symptoms
weeks to years

Autoimmune
disease

HLA-DQ2,
DQ8

Any age

Celiac disease
autoantibodies

Duodenal
Biopsies

Wheat Allergy

0.1%

Onset of symptoms
hours to days

IgE mediated

No gene
associated

Infants,
young
children

Serum
specific IgE

Skin
prick/patch
test

Non Celiac gluten sensitivity

Unknown

Onset of symptoms
minutes to
hours

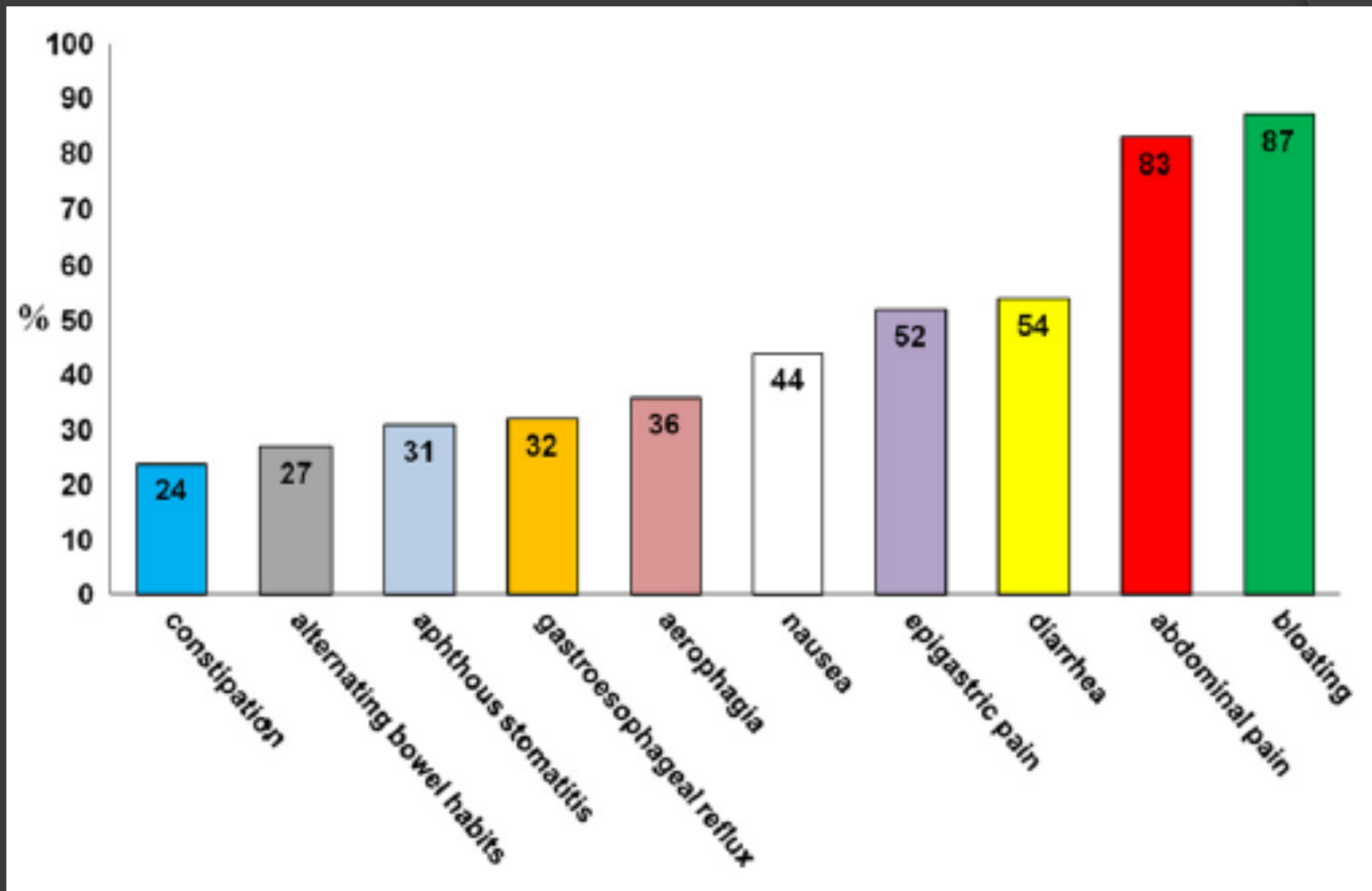
Immune-
mediated?

No gene
associated

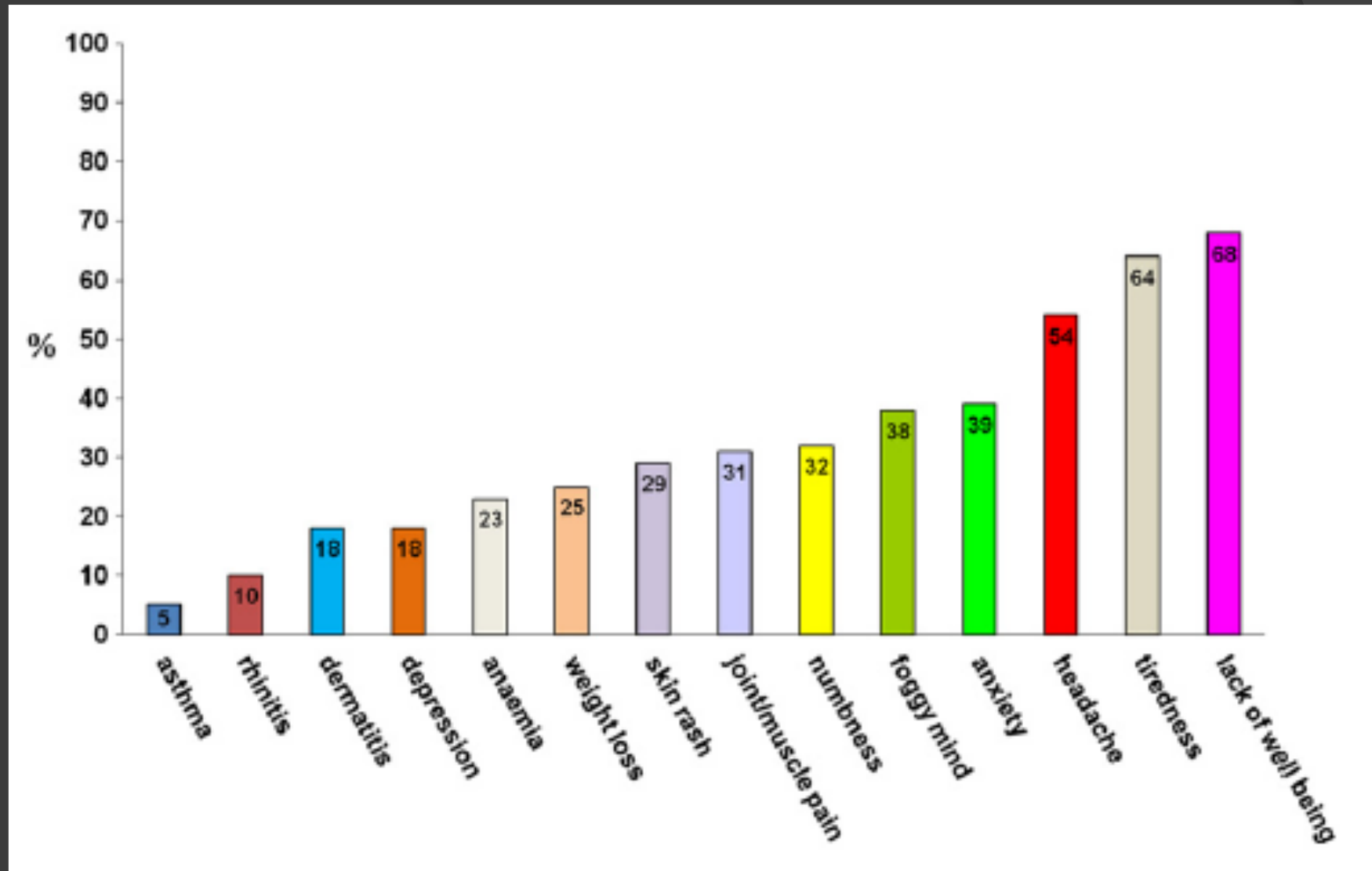
Mostly adults

No diagnostic
Marker

Gastrointestinal Symptoms



Extra intestinal Manifestations

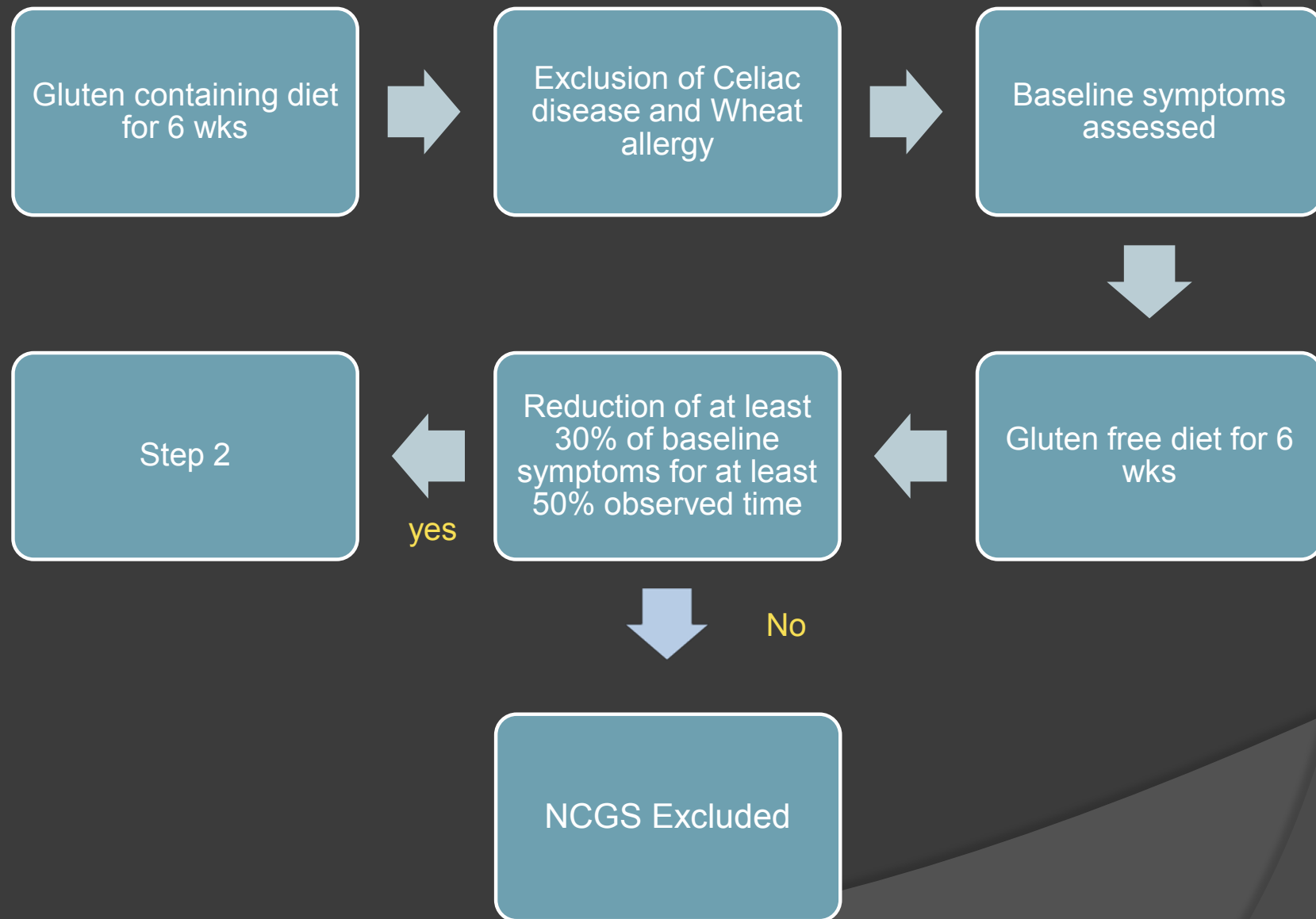


Article

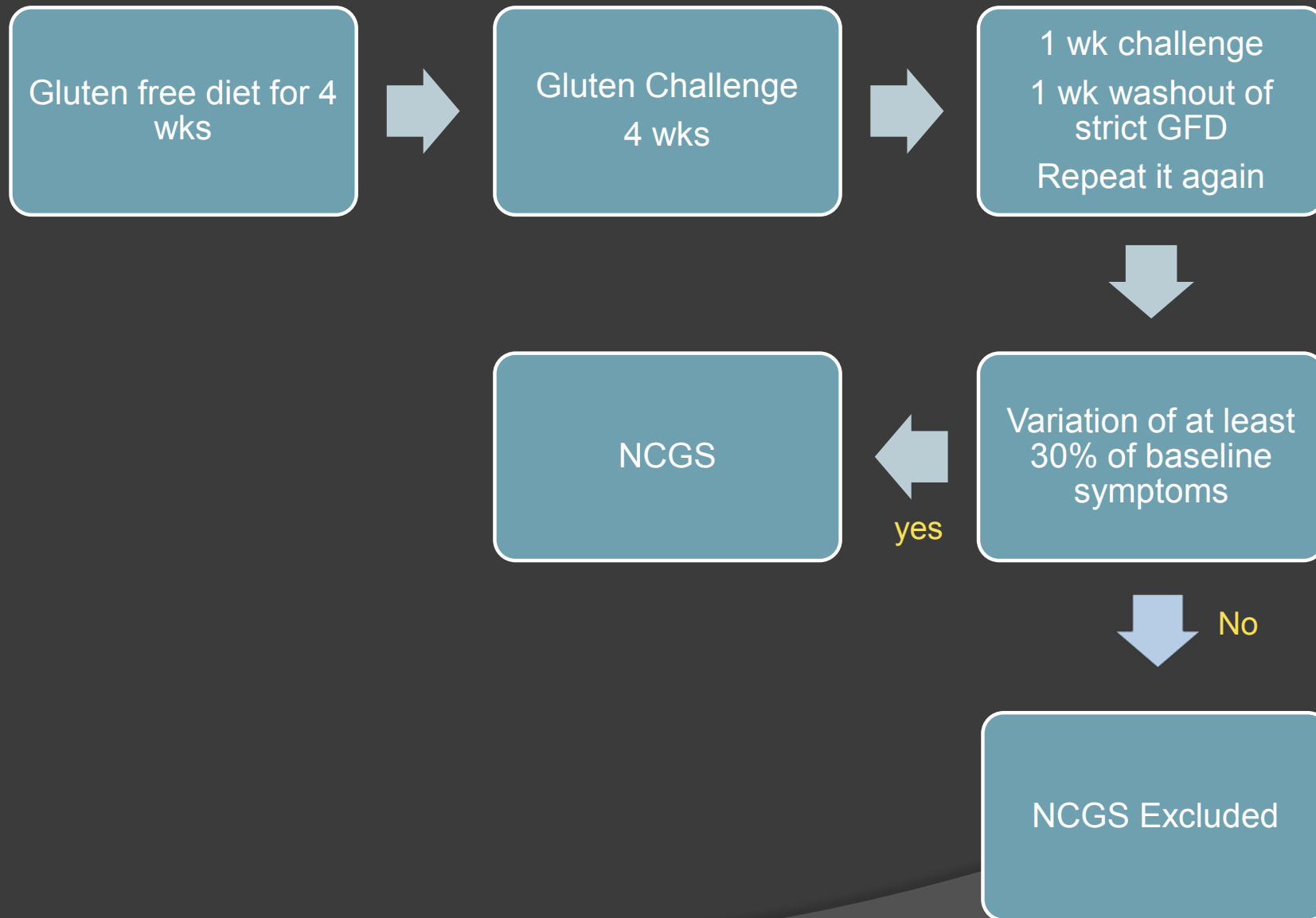
Diagnosis of Non-Celiac Gluten Sensitivity (NCGS): The Salerno Experts' Criteria

Carlo Catassi^{1,*}, Luca Elli², Bruno Bonaz³, Gerd Bouma⁴, Antonio Carroccio⁵,
Gemma Castillejo⁶, Christophe Cellier⁷, Fernanda Cristofori⁸, Laura de Magistris⁹,
Jernej Dolinsek¹⁰, Walburga Dieterich¹¹, Ruggiero Francavilla⁸, Marios Hadjivassiliou¹²,
Wolfgang Holtmeier¹³, Ute Körner¹⁴, Dan A. Leffler¹⁵, Knut E. A. Lundin¹⁶,
Giuseppe Mazzarella¹⁷, Chris J. Mulder⁴, Nicoletta Pellegrini¹⁸, Kamran Rostami¹⁹,
David Sanders²⁰, Gry Irene Skodje²¹, Detlef Schuppan²², Reiner Ullrich²³, Umberto Volta²⁴,
Marianne Williams²⁵, Victor F. Zevallos²², Yurdagül Zopf¹¹ and Alessio Fasano²⁶

Step 1



Step 2



The “GLUTOX” trial



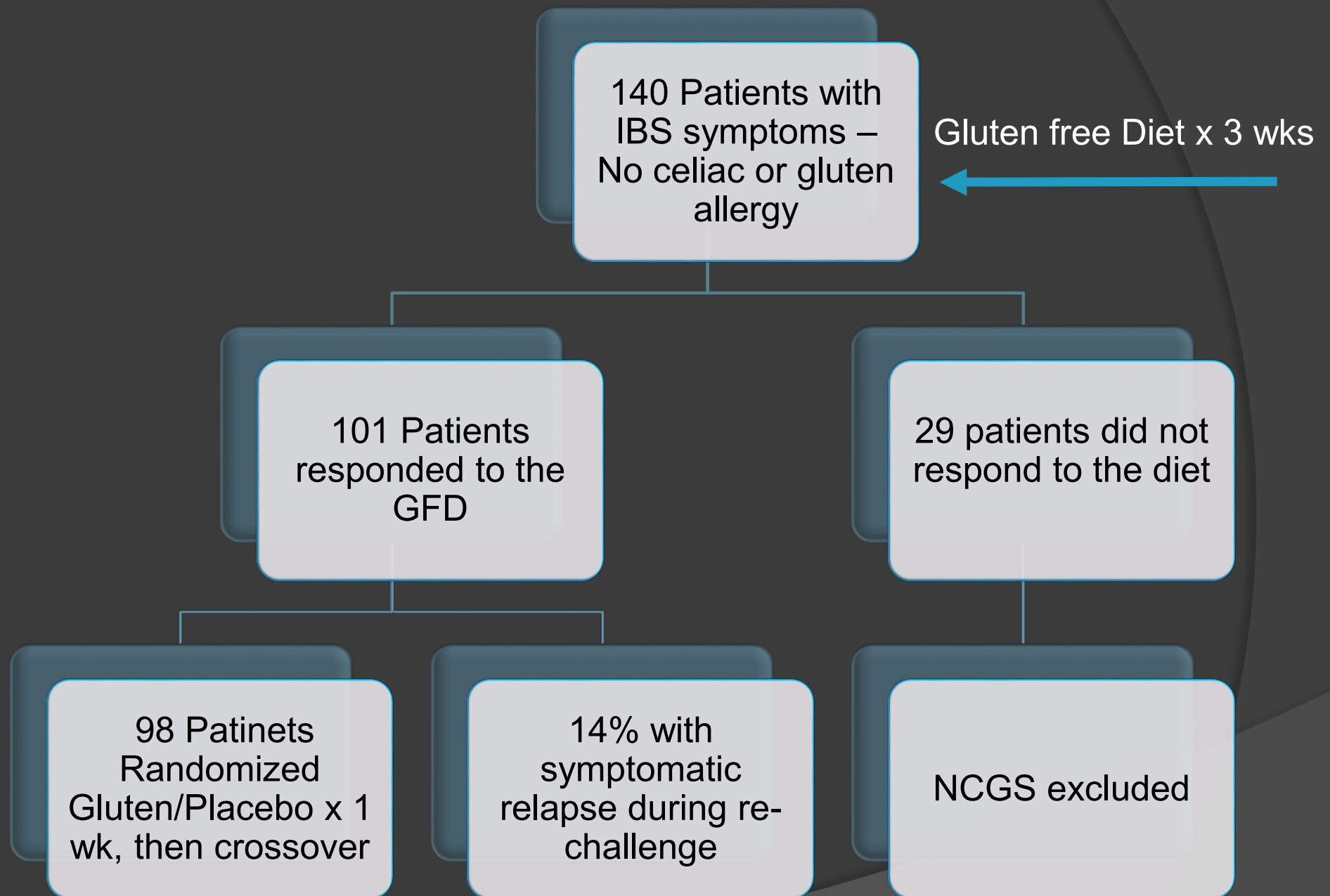
nutrients



Article

Evidence for the Presence of Non-Celiac Gluten Sensitivity in Patients with Functional Gastrointestinal Symptoms: Results from a Multicenter Randomized Double-Blind Placebo-Controlled Gluten Challenge

Luca Elli ^{1,*}, Carolina Tomba ^{1,2}, Federica Branchi ^{1,2}, Leda Roncoroni ^{1,2,3}, Vincenza Lombardo ¹, Maria Teresa Bardella ¹, Francesca Ferretti ^{1,2}, Dario Conte ^{1,2}, Flavio Valiante ⁴, Lucia Fini ⁵, Edoardo Forti ⁶, Renato Cannizzaro ⁷, Stefania Maiero ⁷, Claudio Londoni ⁸, Adriano Lauri ⁹, Giovanni Fornaciari ¹⁰, Nicoletta Lenoci ¹¹, Rocco Spagnuolo ¹², Guido Basilisco ¹³, Francesco Somalvico ¹⁴, Bruno Borgatta ¹⁵, Gioacchino Leandro ¹⁶, Sergio Segato ¹⁷, Donatella Barisani ¹⁸, Gaetano Morreale ¹⁹ and Elisabetta Buscarini ⁸



Nutrition considerations

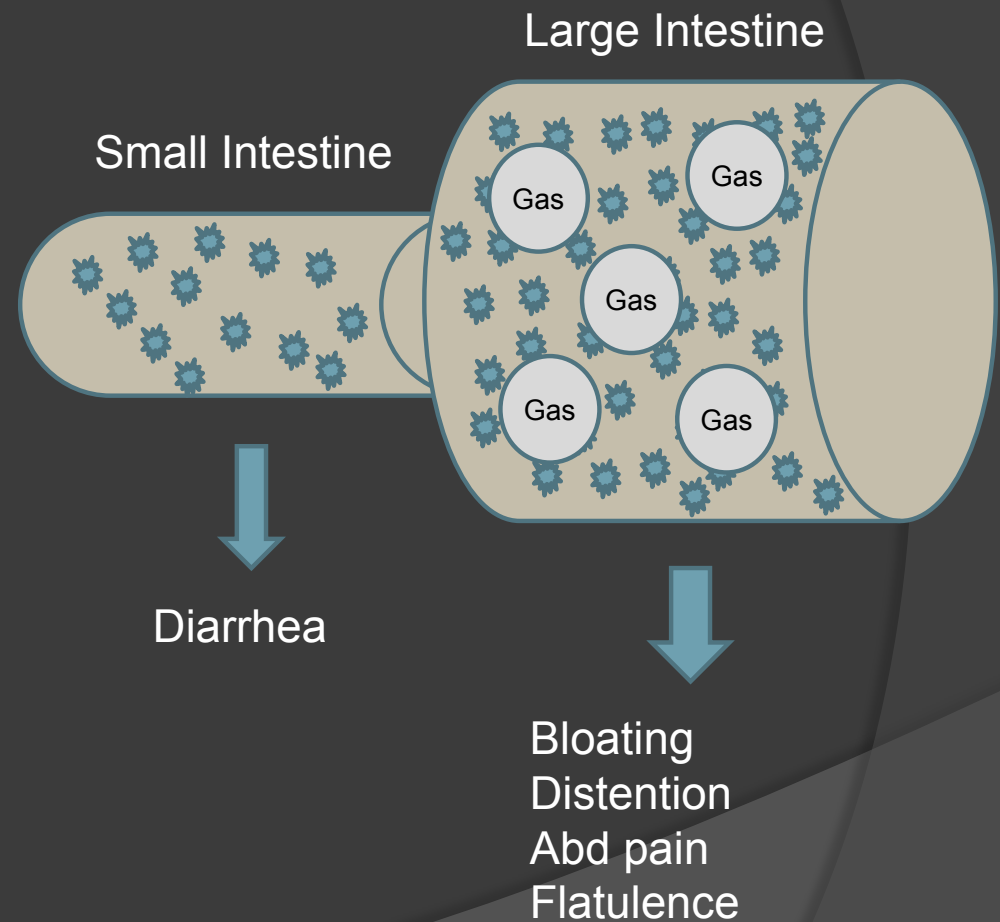
- No requirements to enrich or fortify gluten free grains
- Thiamin, Riboflavin, Iron, Vitamin B12 and Folate
- Whole wheat products: fiber

Nutrition Considerations

- Can result in weight gain if increased intake of refined carbohydrates or processed foods
- Gluten containing grains – source of FODMAP's

Is it really the gluten?

Fermentable
Oligosaccharides
Disaccharides
Monosaccharides
And
Polyols

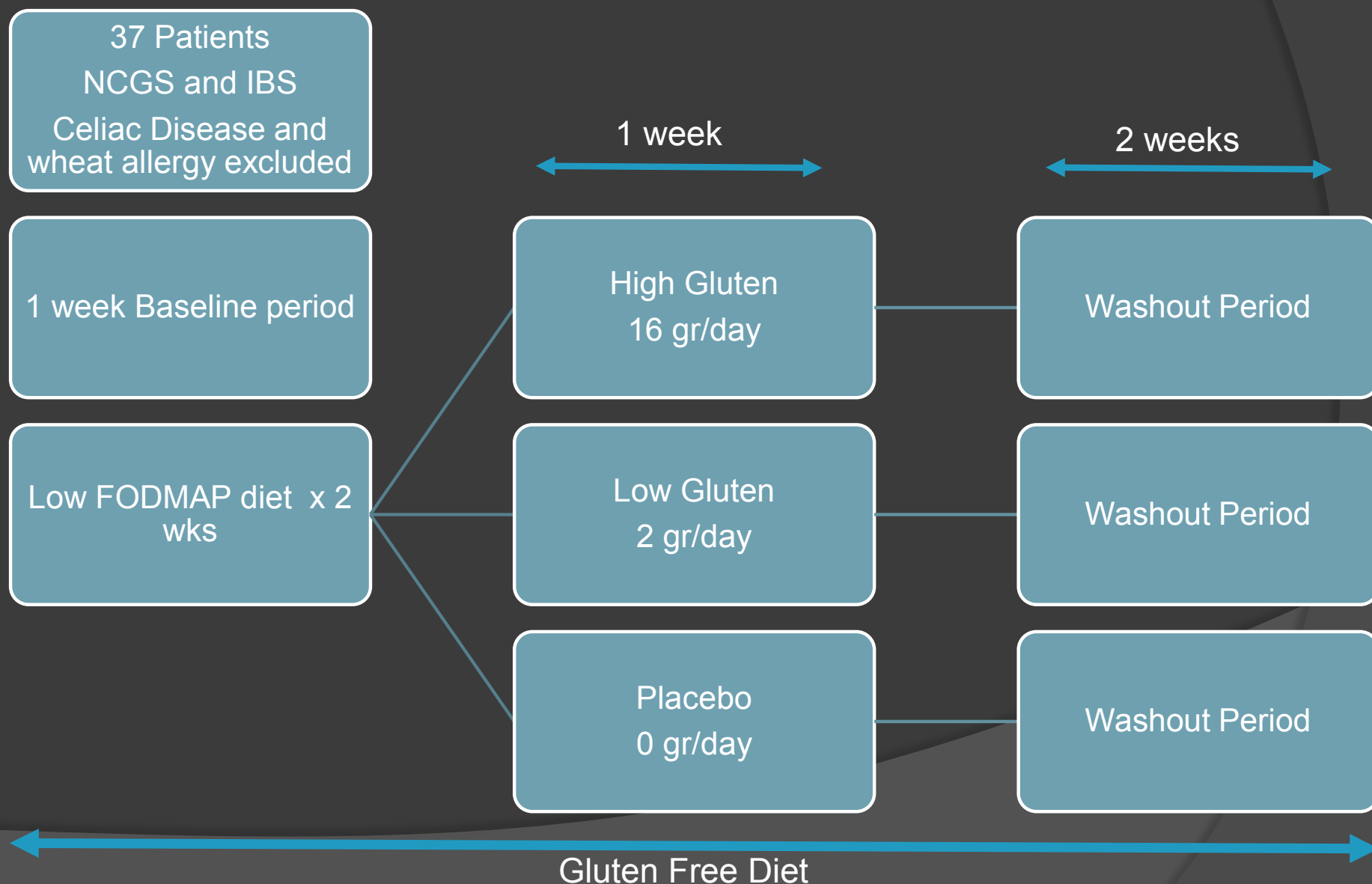


No Effects of Gluten in Patients With Self-Reported Non-Celiac Gluten Sensitivity After Dietary Reduction of Fermentable, Poorly Absorbed, Short-Chain Carbohydrates

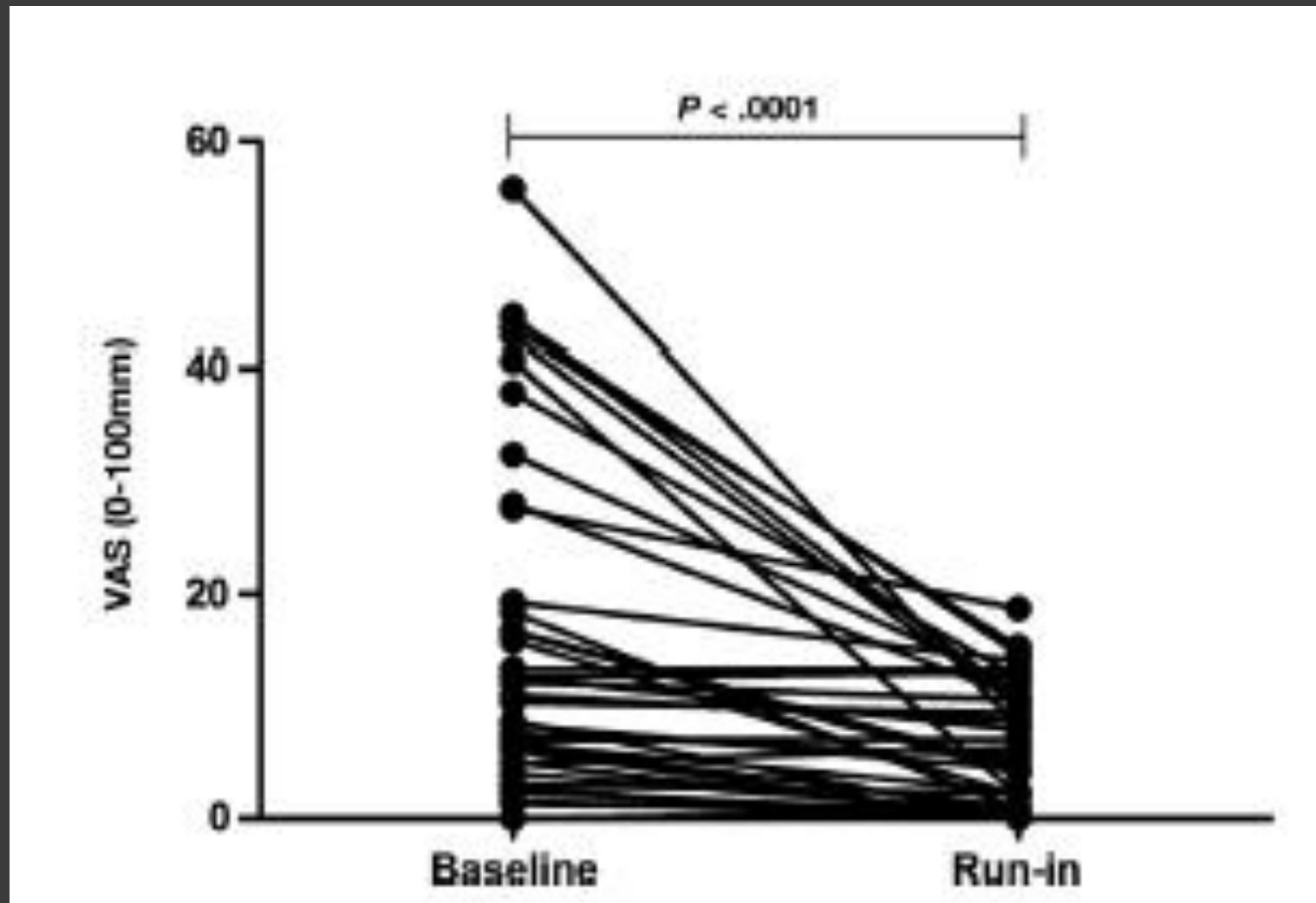
JESSICA R. BIESIEKIERSKI,^{1,2} SIMONE L. PETERS,² EVAN D. NEWNHAM,¹ OURANIA ROSELLA,² JANE G. MUIR,² and PETER R. GIBSON²

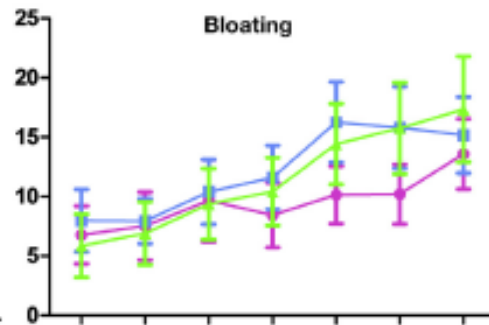
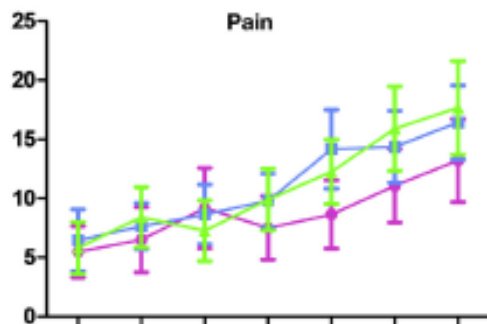
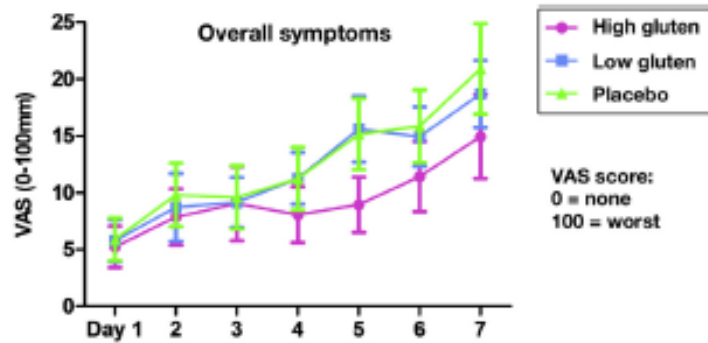
¹Department of Gastroenterology, Eastern Health Clinical School, Monash University, Box Hill, Victoria, Australia and ²Department of Gastroenterology, Central Clinical School, Monash University, The Alfred Hospital, Melbourne, Victoria, Australia

Study design (RDBPCT Crossover)

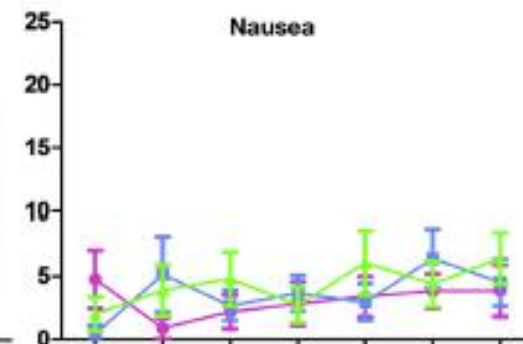
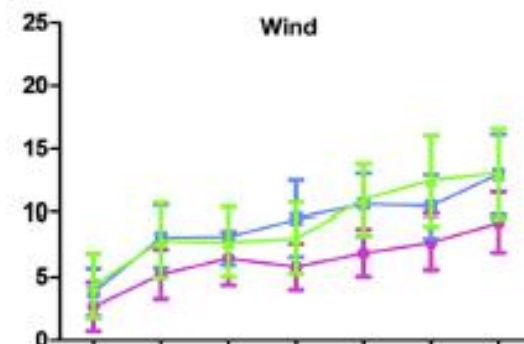
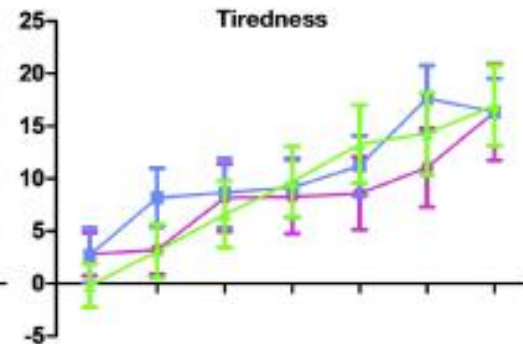
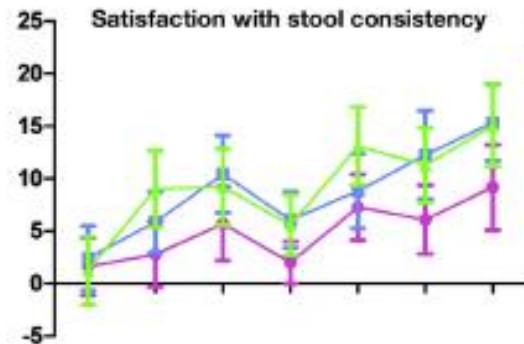


Effects of a low FODMAP Withdrawn





No effect of
Gluten



Low Carbohydrate diets

⦿ Atkins Diet

- High intake of protein, fiber
- Low sugar, no trans fats

⦿ South Beach Diet

- Three phases, gradually less restrictive

⦿ Ketogenic Diet

Ketogenic Diet

- ◉ 70-90% of energy from fat
- ◉ Seizure Disorder
- ◉ Autism (+- Casein free, grain free, MCT)
- ◉ Weight Loss

Low Fat Diets

- Pritikin Diet
 - Dean Ornish Diet
 - Paleo Diet
-
- Limit fat intake to about 10% of calories
 - Limit simple sugars, high fiber intake

Paleo Diet

- Paleolithic or “Old stone Age”
- High protein, high fiber
- Lean meats, eggs, fish, fruits/vegetables, nuts, seeds
- No processed foods
- No wheat/grains, legumes, dairy, potatoes, refined sugar, refined vegetable oils

Nutrition Considerations

- Potential deficiencies on pediatrics
 - Low calcium intake
 - Iron, Zinc deficiency
 - Other grains used may not be fortified
- Limit fat: fatty acid deficiency

De-tox

- ⦿ “Cleansing” foods
- ⦿ Limit caloric intake
- ⦿ Fluid Imbalance – high output
- ⦿ Liver and Kidney De-tox ?

Vegetarian, Vegan, Plant Based

- ⦿ Vegetarian

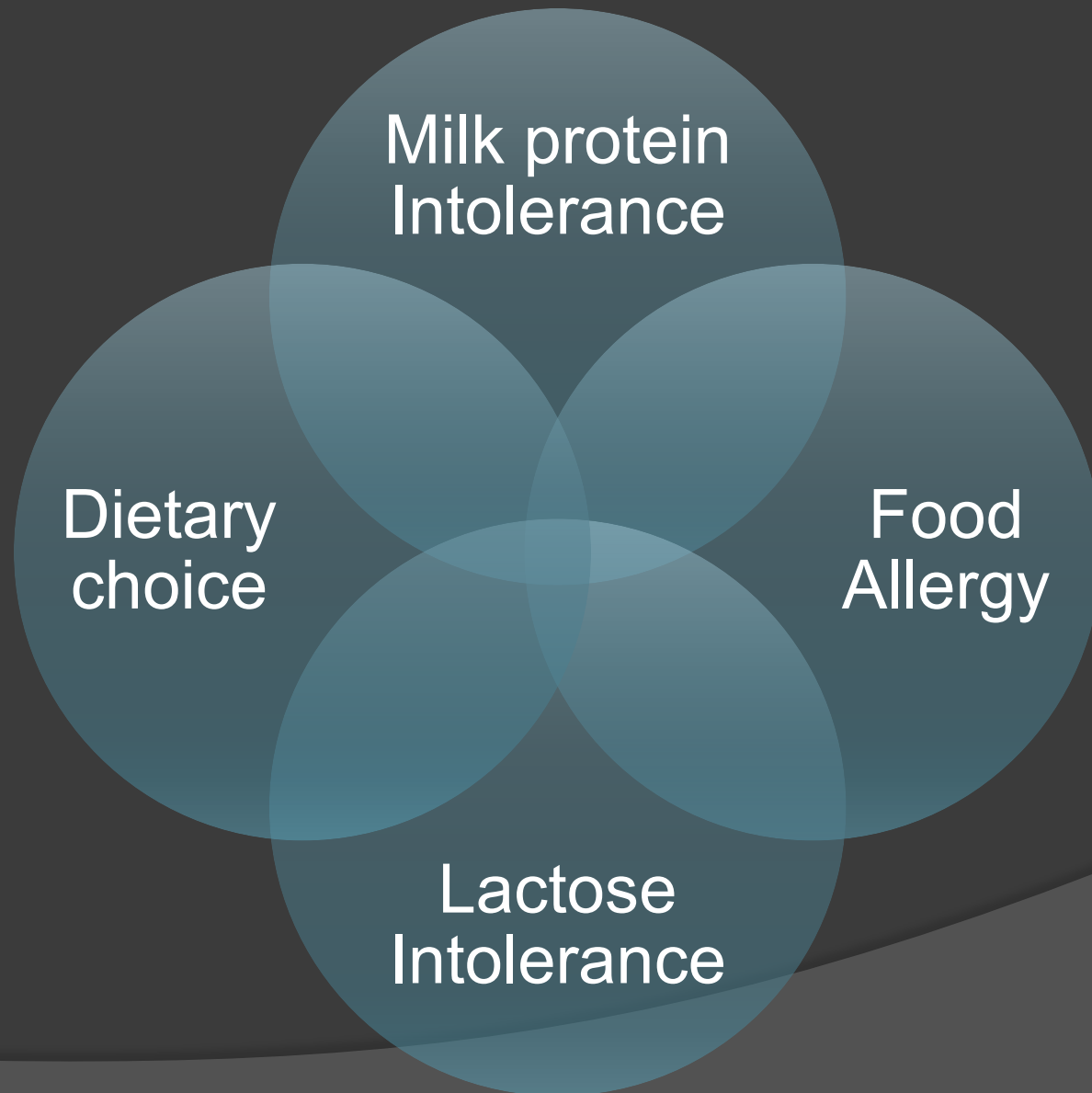
- Lacto-ovo
- Lacto
- Ovo

- ⦿ Vegan

- ⦿ Whole Food Plant Based Diet

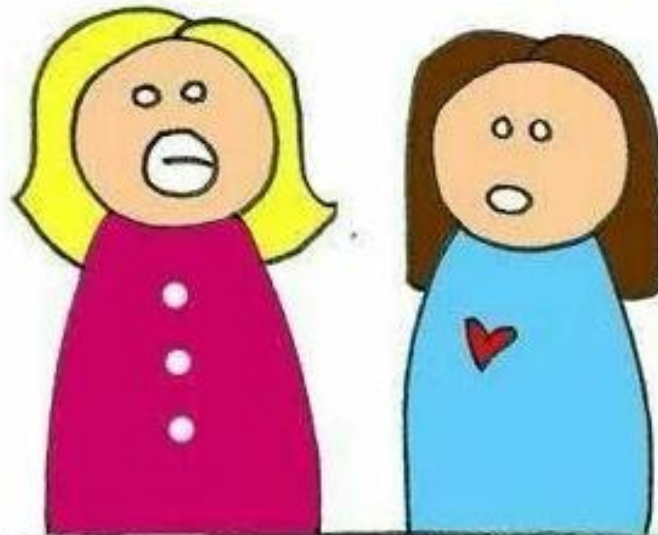
- No Processed foods

Dairy Free Diet - Pediatrics



It would not be that hard
to give up milk...

... and macaroni and cheese,
butter, ice cream, yogurt,
pizza parties, most chocolate,
milkshakes, smoothies,
all your friends' birthday cakes,
kids meals, packaged cookies,
cheeseburgers,
frozen waffles,
a lot of soups,
and deli meat,
doughnuts
and almost
every restaurant...



Dairy Free Diet

- Nutrients to be replaced: Protein, Fat, Vitamin A, D, B12, Calcium, Riboflavin, pantothenic acid and phosphorus
- Nutritionally adequate substitute for cow's milk until 2 years of age

Food allergies

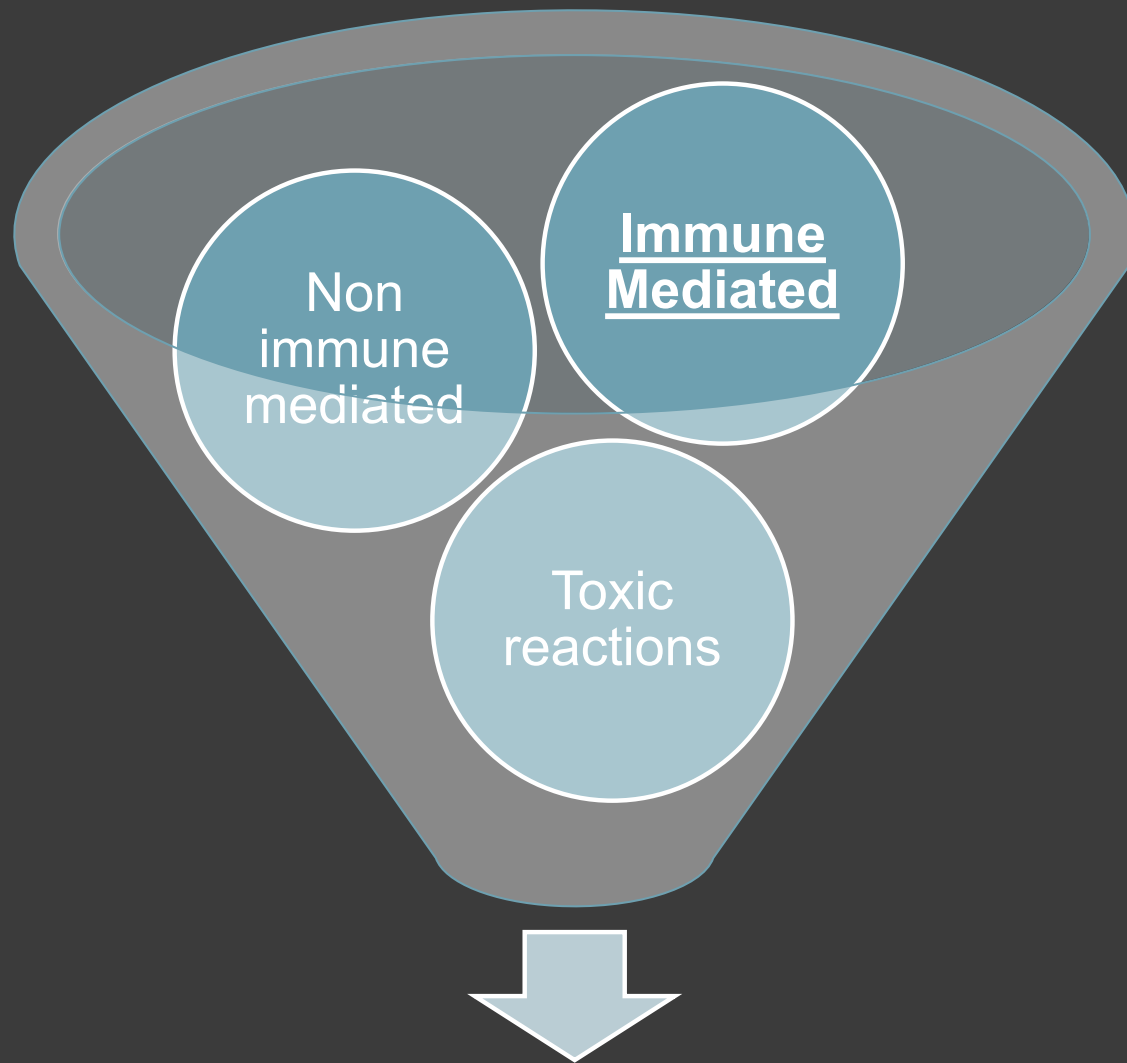
- Adverse immuno-mediated response which occurs reproducibly on exposure to a given food and it is absent during avoidance

Food Allergy

- IgE mediated food allergy: 4-7% of preschool children
- Adults IgE mediated food allergy: 1-2%
- Prevalence increased by 1.2% points per decade between 1988 and 2011

◎ 85-90% of food allergies caused by:

- Milk (2.5%)
- Eggs (0.8-2%)
- Peanuts (0.6%)
- Tree nuts (0.4-0.5%)
- Crustacean Shellfish (0.5%)
- Fish (0.2%)
- Wheat
- Soy



Adverse reactions to foods

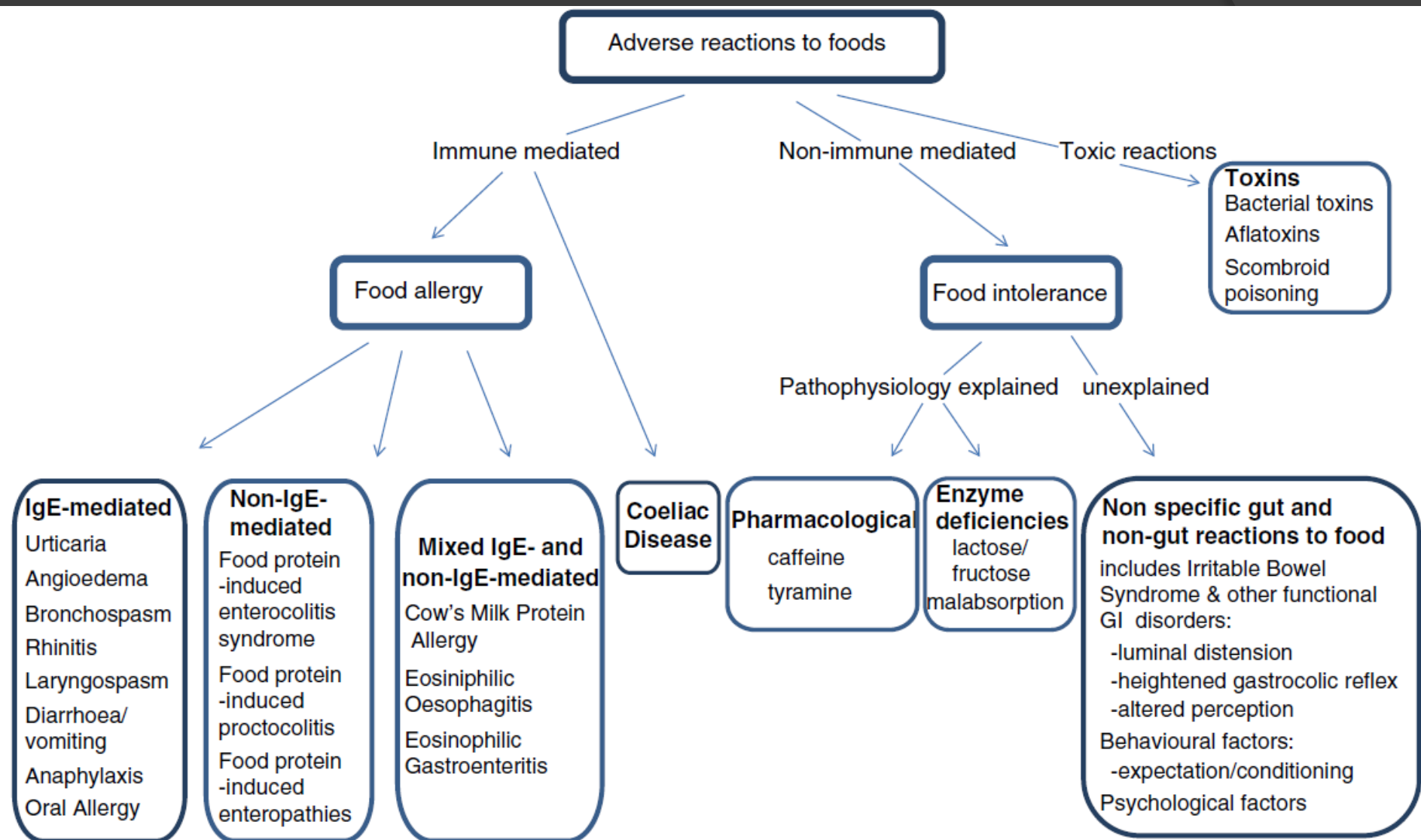


Figure 1 | Classification of adverse reactions to foods.

Diagnosis

- No single test can accurately diagnose food allergy
- Gold standard: Double blind placebo controlled food challenge

Table 5 | Predictive value of food allergen-specific IgE levels (from ref 52)

Allergen	sIgE (kU/L)	Positive predictive value (%)
Egg	7	98
Milk	15	95
Peanut	14	100
Fish	20	100
Tree nuts	15	95
Soybean	30	73
Wheat	26	74
Egg <2 years	2	95
Milk <2 years	5	95

		Likelihood of allergy from specific IgE (kU/L)		
		LOW (eg. nut<0.35)	INTERMEDIATE (eg. nut 0.35 to <15)	HIGH (eg. nut>15)
Likelihood of allergy from history	HIGH eg urticaria & wheeze on 2 exposures	Possible allergy	Probable allergy	Allergy
	INTERMEDIATE eg urticaria on single exposure	Possible allergy	Possible allergy	Probable allergy
	LOW eg non-IgE symptoms	No allergy	Possible allergy	Possible allergy

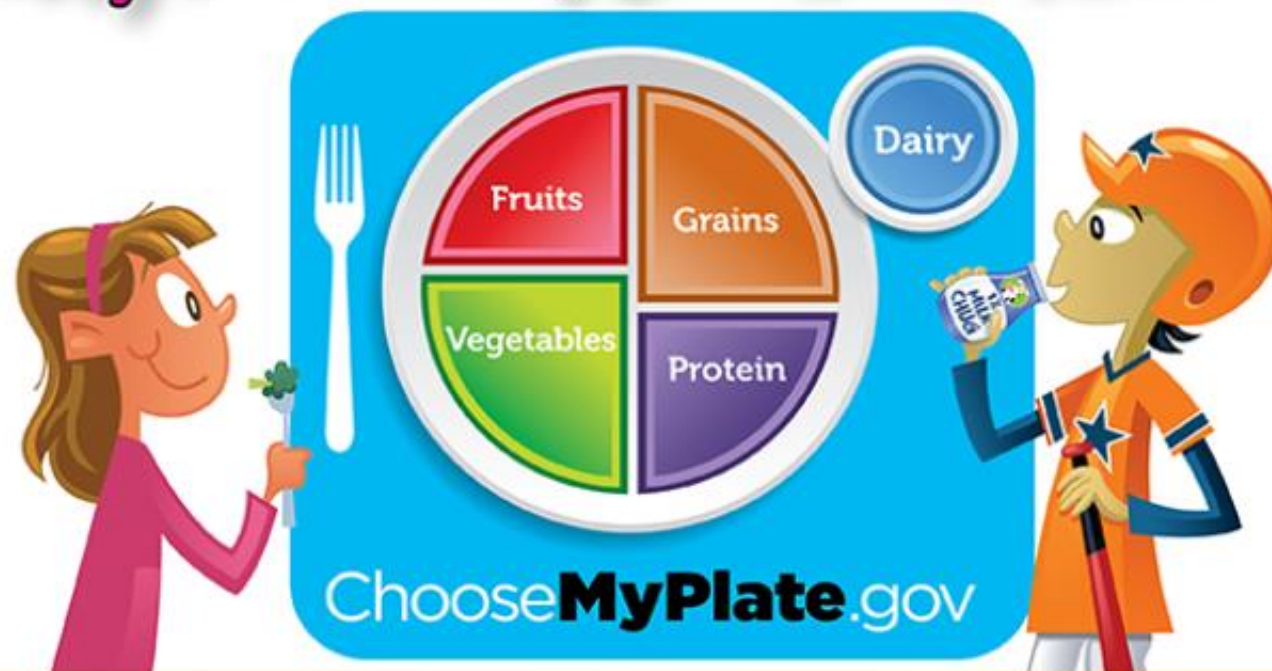
Medical Nutrition therapy

- Ensure a safe, allergen free diet that supplies all the nutrients required for adequate growth and development
- Patients with food allergy at nutritional risk
- US Food Allergy Guidelines: Nutrition counseling and regular growth monitoring for all children with a food allergy
- Lower intake of Vit D and E, Iron, Calcium, Zinc, Fat

Discussing diets with families

- Concept of a balanced diet including protein, fat and carbohydrates
- Most diets are designed for adults, not growing children
- Recommend lifestyle changes, balanced intake
- Nutrition counseling

MyPlate Kids' Place



Questions?