

# FAD Diets and GI

## Should anyone follow it?

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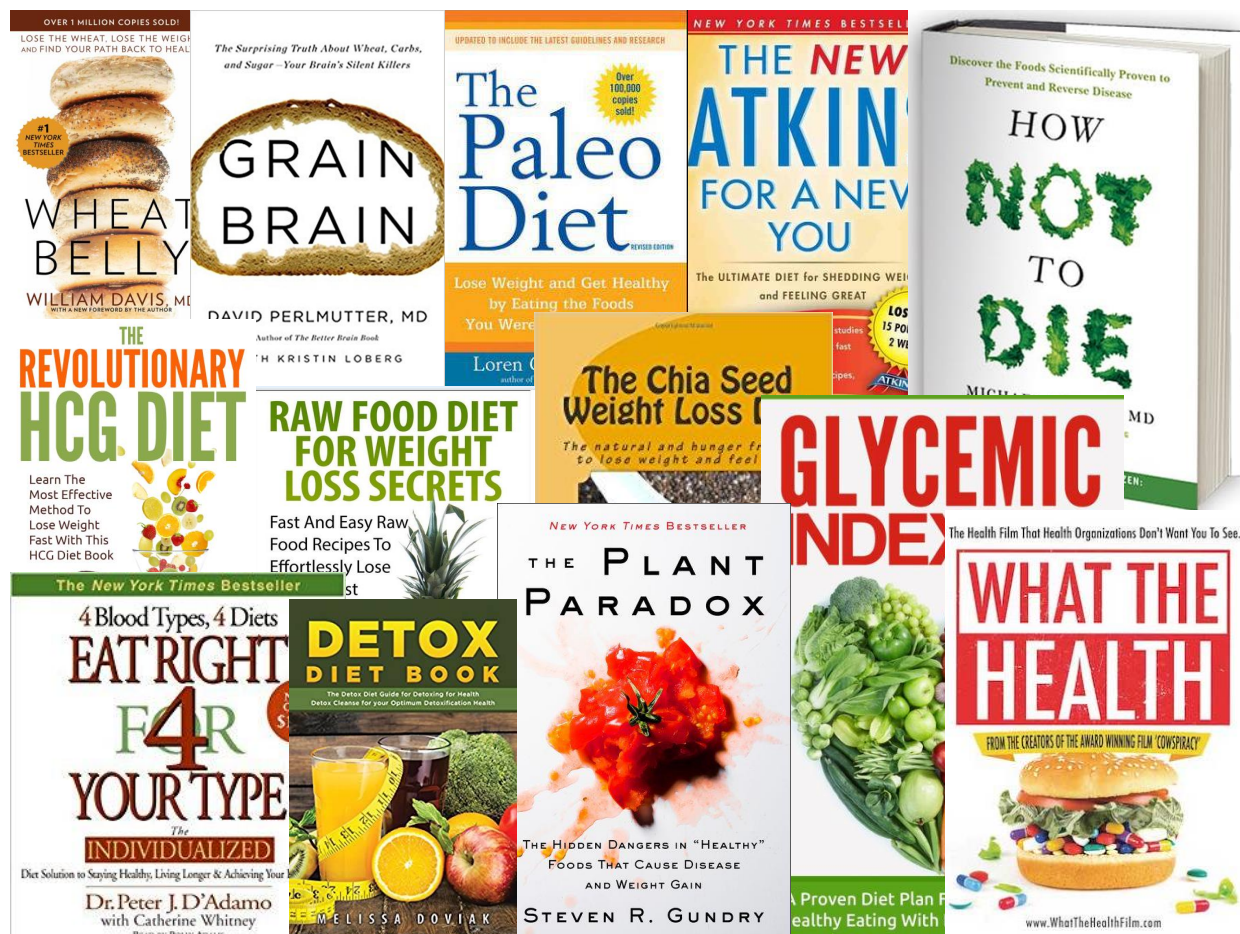
# Objectives

- Know the dietary philosophies of common novel diets
- Review the most recent evidence related to those diets
- 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?

1820	• Lord Byron introduces the Vinegar and Water Diet including drinking water with apple cider vinegar
1925	• The Lucky Strike cigarette brand suggests "Reach for a Lucky instead of a sweet"
1930	• The popular Hollywood Diet is launched based on eating grapefruit with every meal
1950	• Cabbage Soup Diet is a very limited diet but promises very quick weight loss
1961	• Weight Watchers is founded by Jean Nidetch
1970	• The Sleeping Beauty Diet becomes known as it is consisted of sedation
1977	• Slim Fast is considered as super diet and involves having shakes for breakfast and lunch
1985	• Fit for Life is published which does not allow complex carbs and proteins at the same meal
1992	• Dr. Robert C. Atkins presents a new diet with high protein and low carb
1995	• The Zone Diet allows for certain ratios of carbs, fat and protein at every meal
2003	• A more modest version of Atkins called The South Beach Diet is introduced
2011	• The HCG diet using a fertility drug together with a 500-800kcal a day receives criticism

# How about on Pediatrics?

Pediatrics. 1974;53(3):326-9.

## Zen macrobiotic dietary problems in infancy.

Robson JR, Konlande JE, Larkin FA, O'Connor PA, Liu HY.

PMID: 4205579

Pediatrics. 1977;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.

Monatsschr Kinderheilkd. 1988;136(5):222-7.

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

Abstract

An und [Article in German]

practici Grüttner R<sup>1</sup>.

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### 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.

PMID: 3043204

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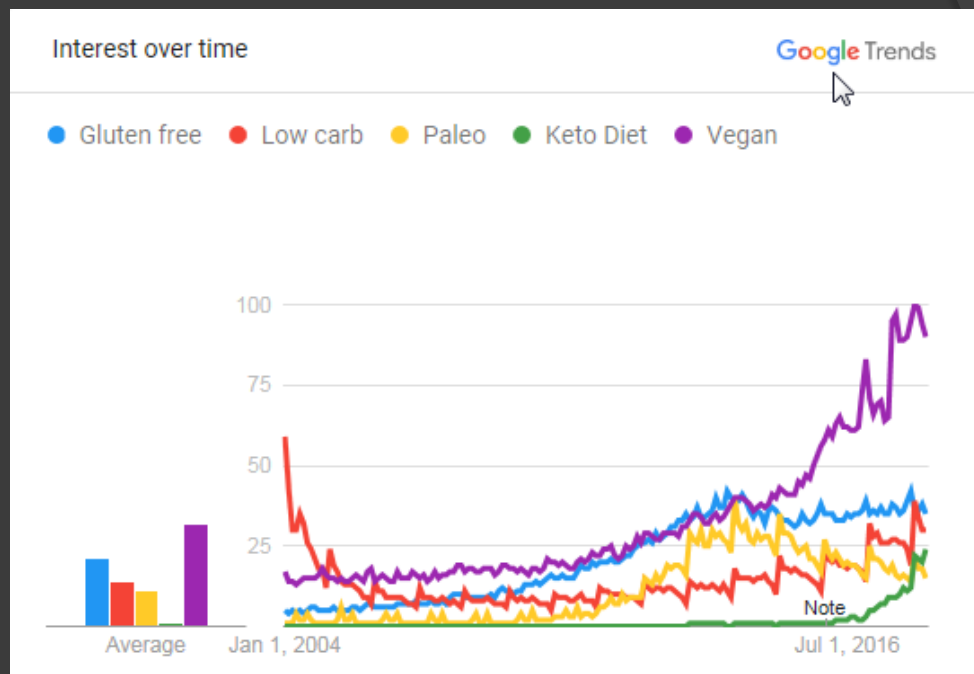
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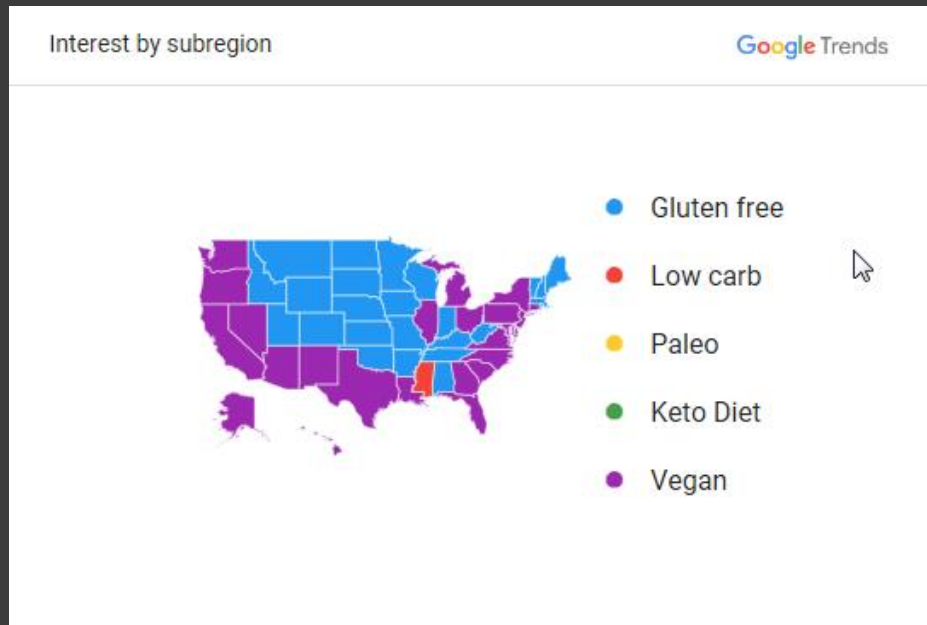
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## Topics to cover

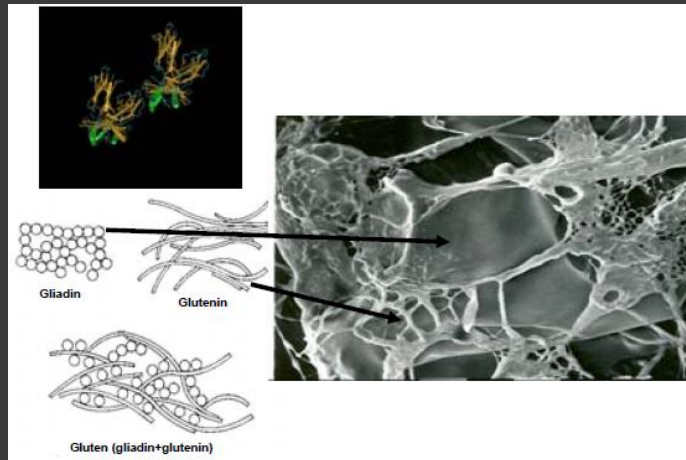
- Gluten Free Diet
- Low Carbohydrate Diets
- Low Fat Diets
- Vegan Diet
- Milk Free, Lactose Free
- Food allergies?



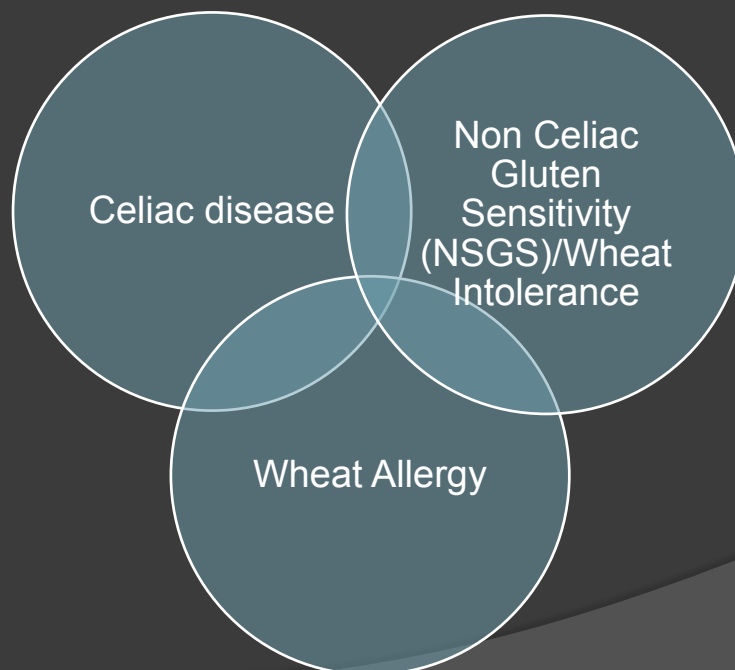


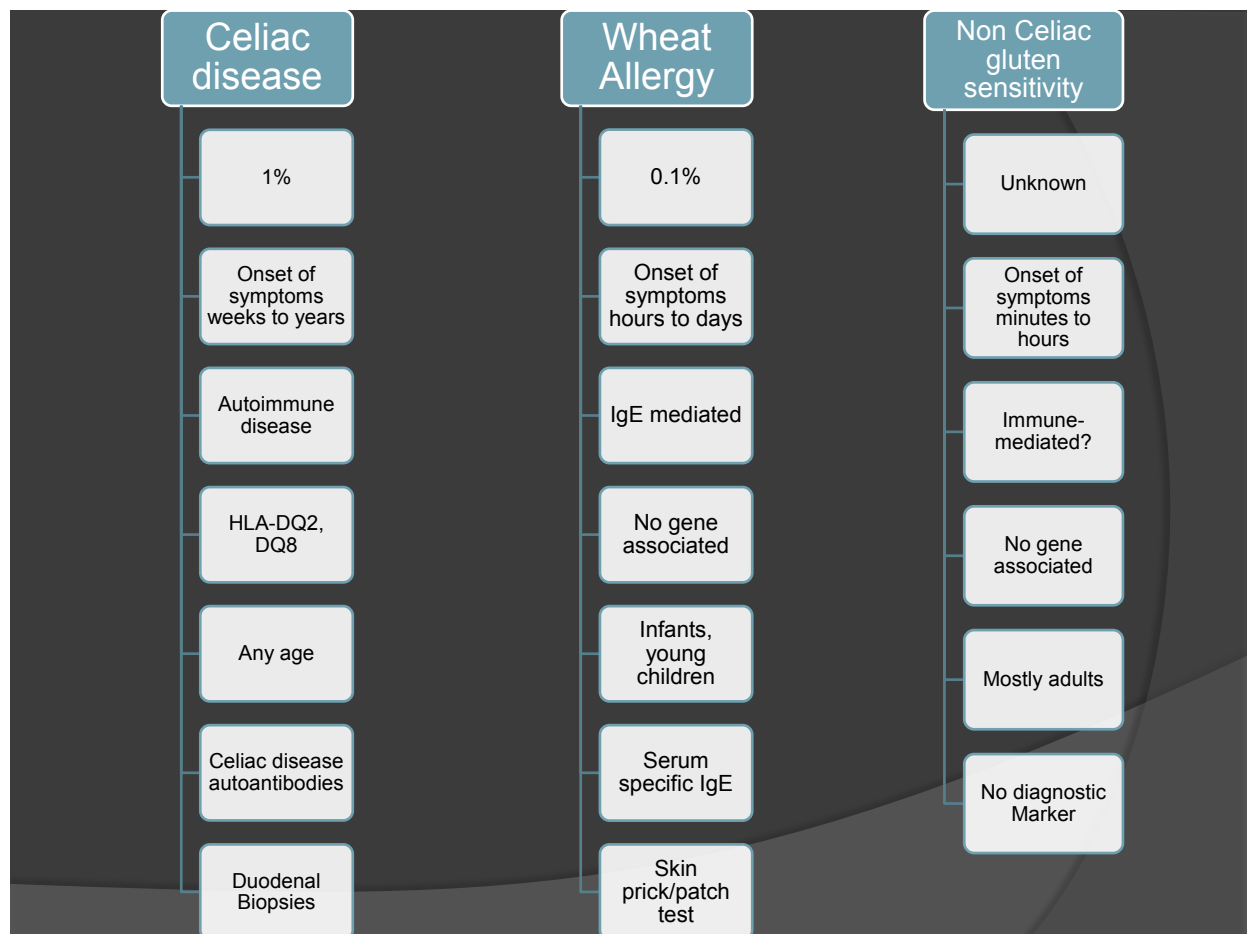
# Gluten

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

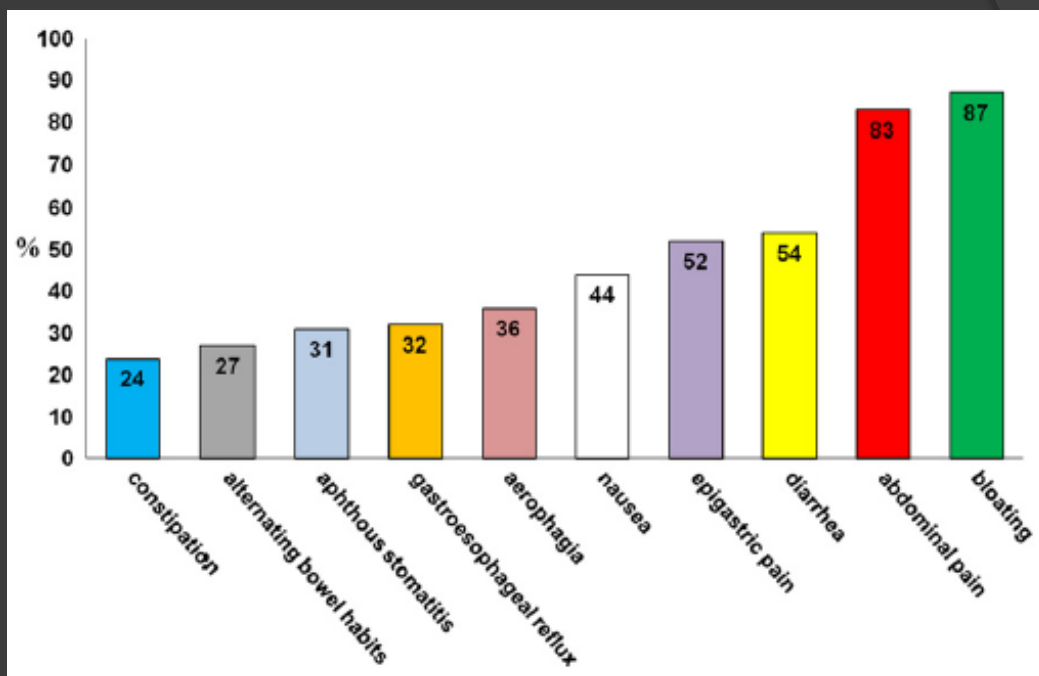


## Wheat related disorders



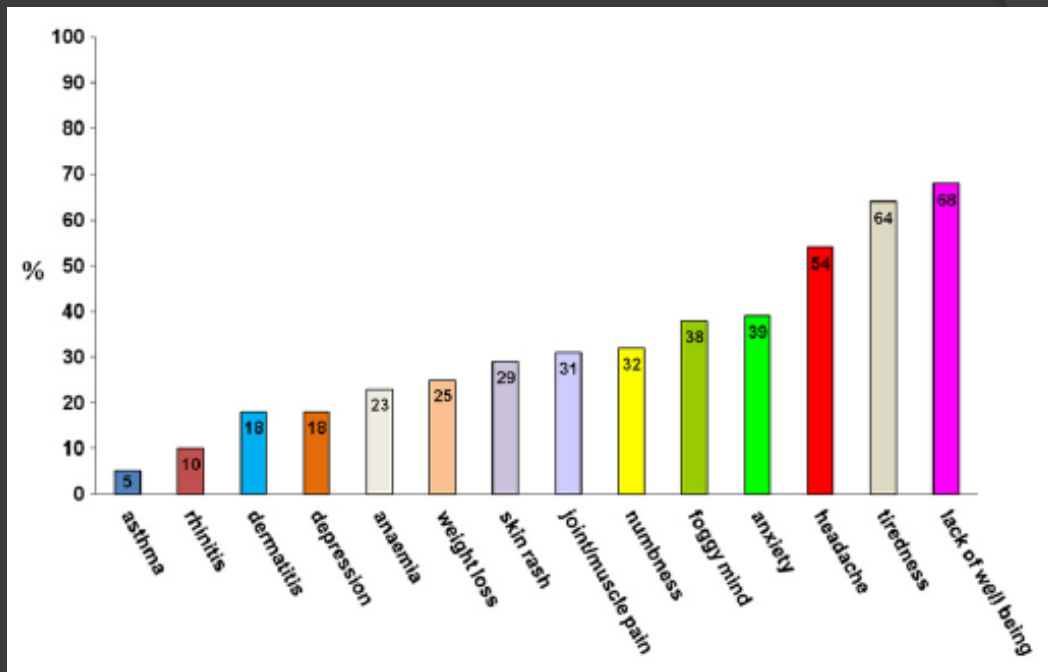


## Gastrointestinal Symptoms





# Extra intestinal Manifestations



Volta U et al., BMC Medicine 2014

*Nutrients* **2015**, *7*, 4966–4977; doi:10.3390/nu7064966

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*nutrients*

ISSN 2072-6643

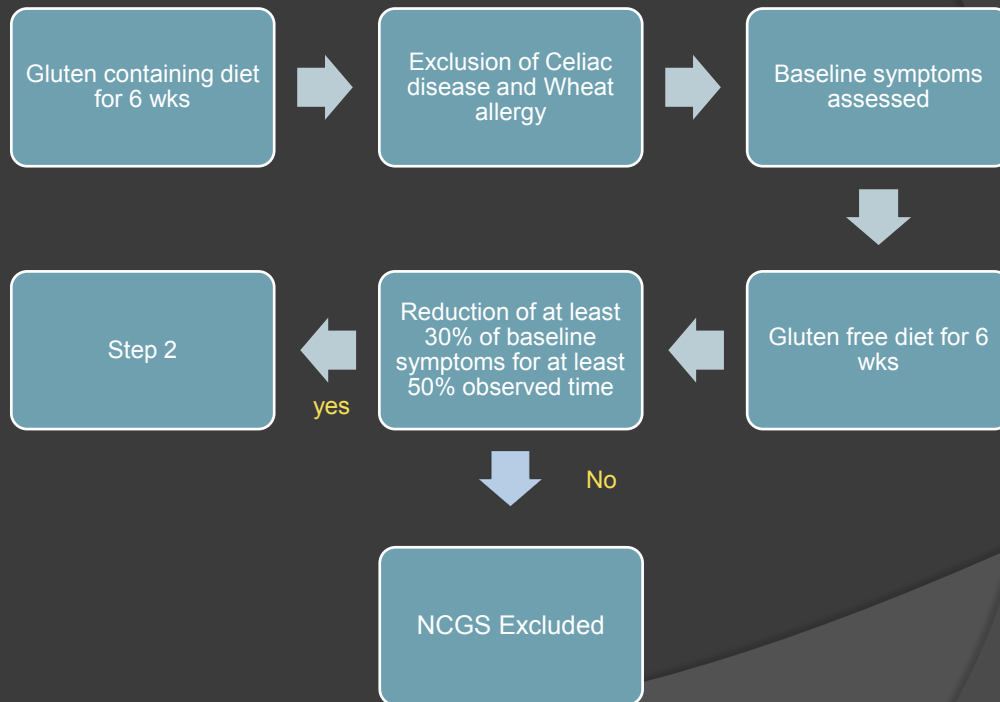
www.mdpi.com/journal/nutrients

Article

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

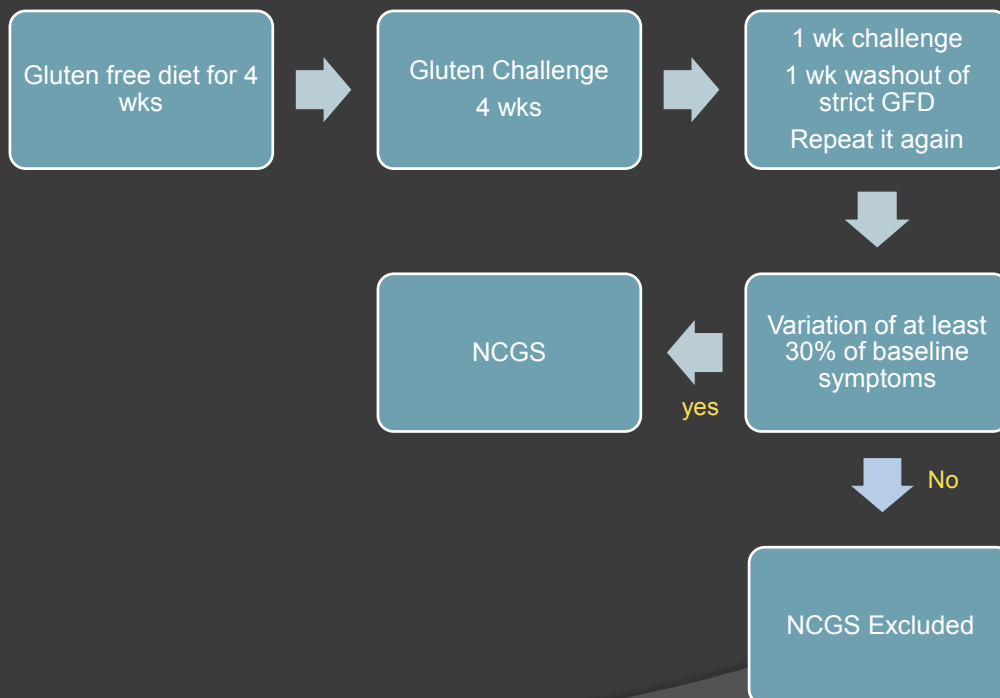
Carlo Catassi <sup>1,\*</sup>, Luca Elli <sup>2</sup>, Bruno Bonaz <sup>3</sup>, Gerd Bouma <sup>4</sup>, Antonio Carroccio <sup>5</sup>, Gemma Castillejo <sup>6</sup>, Christophe Cellier <sup>7</sup>, Fernanda Cristofori <sup>8</sup>, Laura de Magistris <sup>9</sup>, Jernej Dolinsek <sup>10</sup>, Walburga Dieterich <sup>11</sup>, Ruggiero Francavilla <sup>8</sup>, Marios Hadjivassiliou <sup>12</sup>, Wolfgang Holtmeier <sup>13</sup>, Ute Körner <sup>14</sup>, Dan A. Leffler <sup>15</sup>, Knut E. A. Lundin <sup>16</sup>, Giuseppe Mazzarella <sup>17</sup>, Chris J. Mulder <sup>4</sup>, Nicoletta Pellegrini <sup>18</sup>, Kamran Rostami <sup>19</sup>, David Sanders <sup>20</sup>, Gry Irene Skodje <sup>21</sup>, Detlef Schuppan <sup>22</sup>, Reiner Ullrich <sup>23</sup>, Umberto Volta <sup>24</sup>, Marianne Williams <sup>25</sup>, Victor F. Zevallos <sup>22</sup>, Yurdagül Zopf <sup>11</sup> and Alessio Fasano <sup>26</sup>

# Step 1



Catassi C et al, Nutrients 2015

# Step 2



Catassi C et al, Nutrients 2015

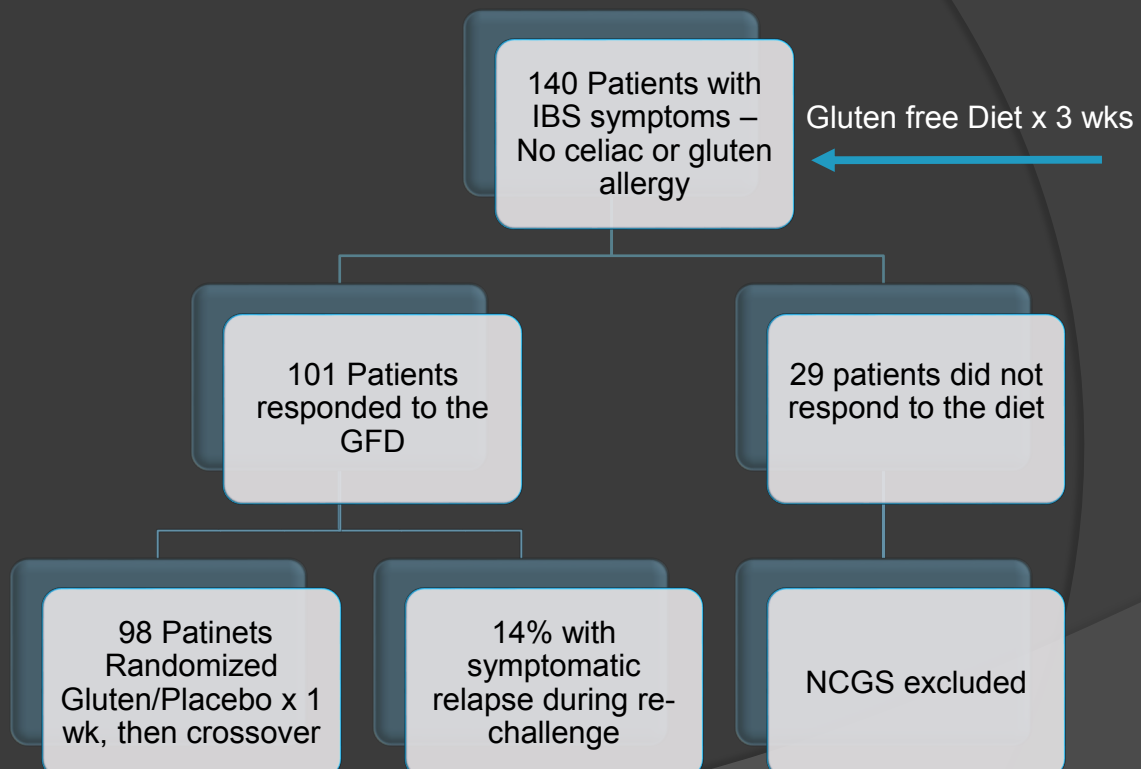
# The “GLUTOX” trial



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



# Nutrition considerations

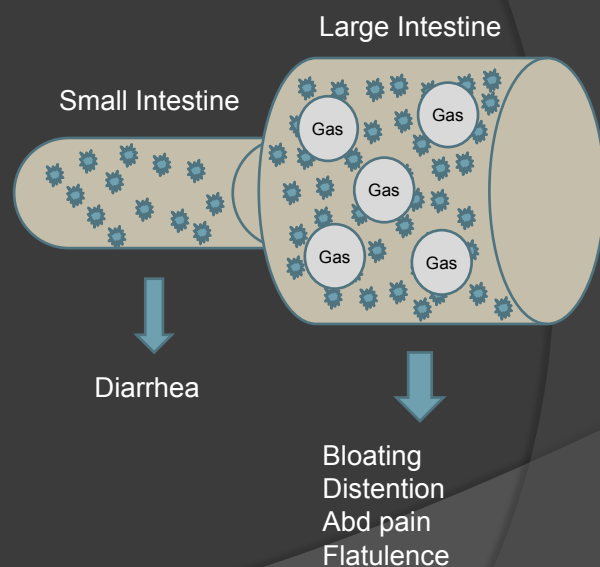
- No requirements to enrich or fortify gluten free grains
- Thiamin, Riboflavin, Iron, Vitamin B12 and Folate
- Whole wheat products: fiber

# 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

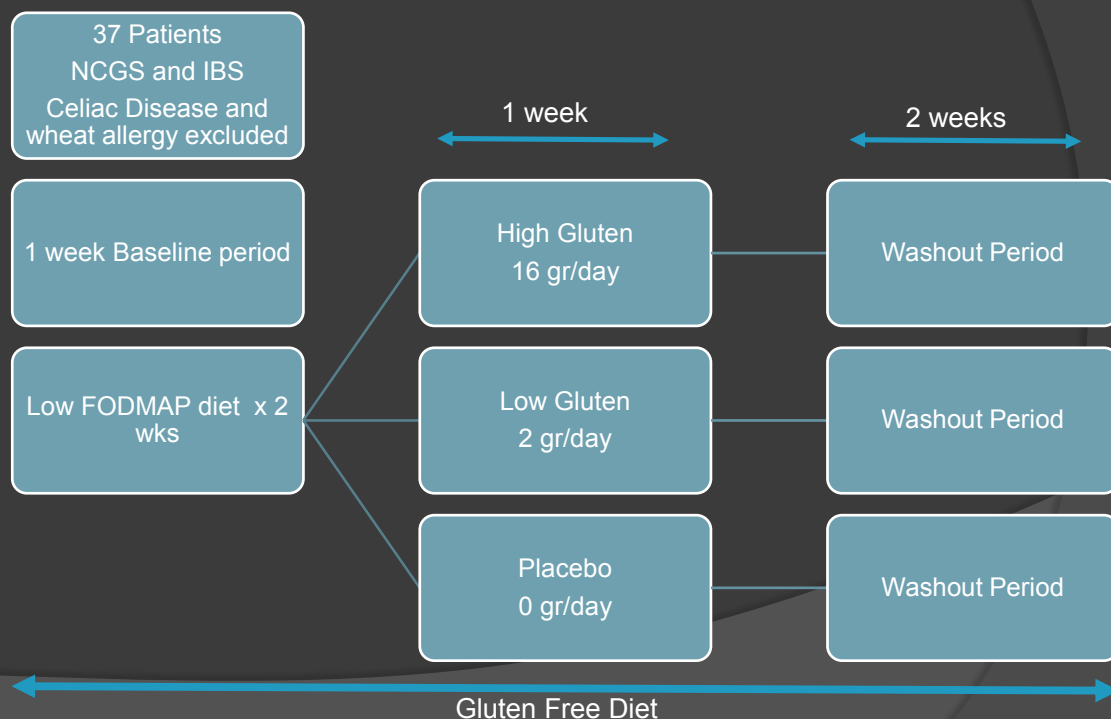


## No Effects of Gluten in Patients With Self-Reported Non-Celiac Gluten Sensitivity After Dietary Reduction of Fermentable, Poorly Absorbed, Short-Chain Carbohydrates

JESSICA R. BIESIEKIERSKI,<sup>1,2</sup> SIMONE L. PETERS,<sup>2</sup> EVAN D. NEWNHAM,<sup>1</sup> OURANIA ROSELLA,<sup>2</sup> JANE G. MUIR,<sup>2</sup> and PETER R. GIBSON<sup>2</sup>

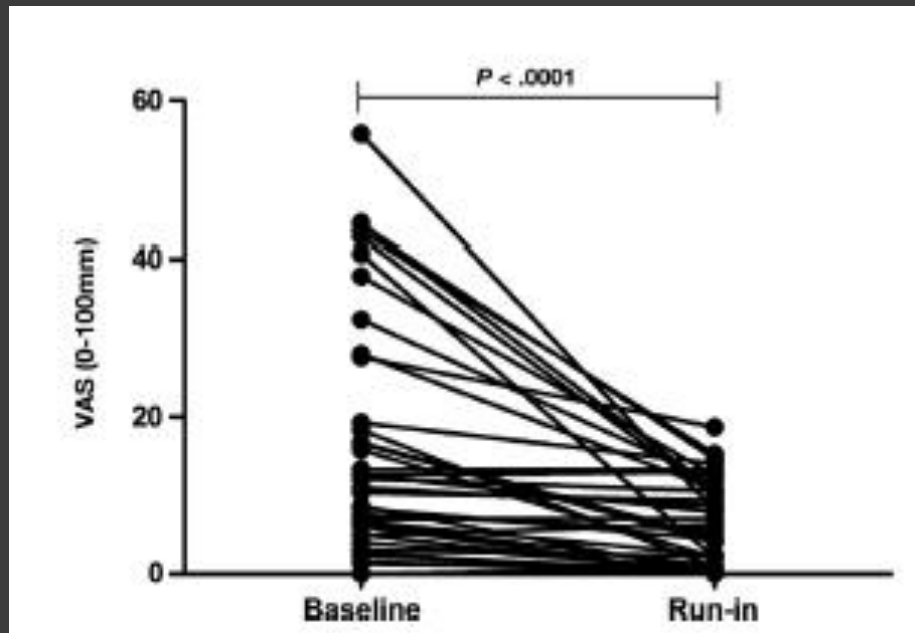
<sup>1</sup>Department of Gastroenterology, Eastern Health Clinical School, Monash University, Box Hill, Victoria, Australia and <sup>2</sup>Department of Gastroenterology, Central Clinical School, Monash University, The Alfred Hospital, Melbourne, Victoria, Australia

### Study design (RDBPCT Crossover)

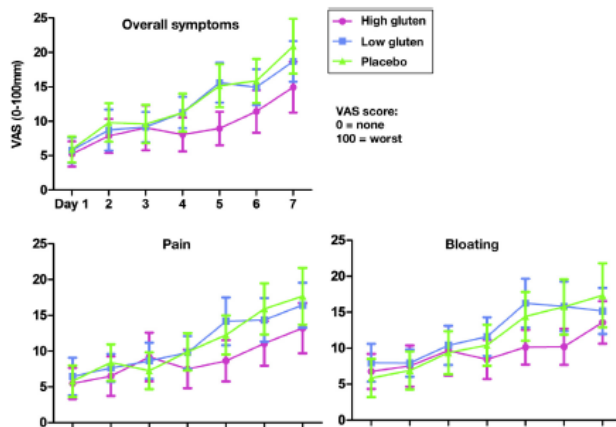




# Effects of a low FODMAP Withdrawn



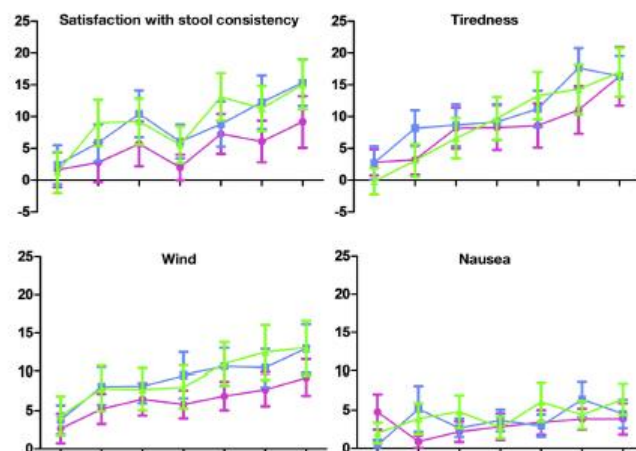
Biesiekierski JR et al, Gastroenterology 2013



No effect of  
Gluten



Biesiekierski JR et al, Gastroenterology 2013



# 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

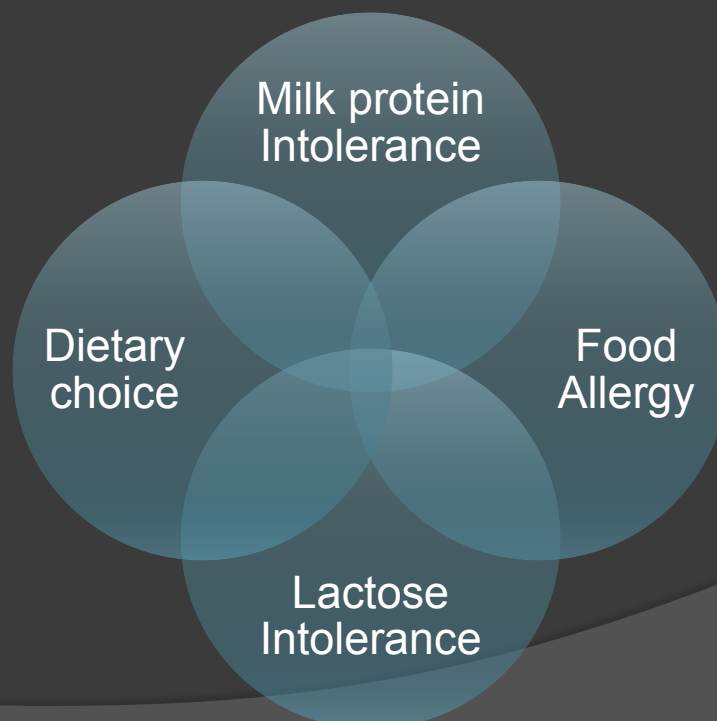
- Lacto-ovo
- Lacto
- Ovo

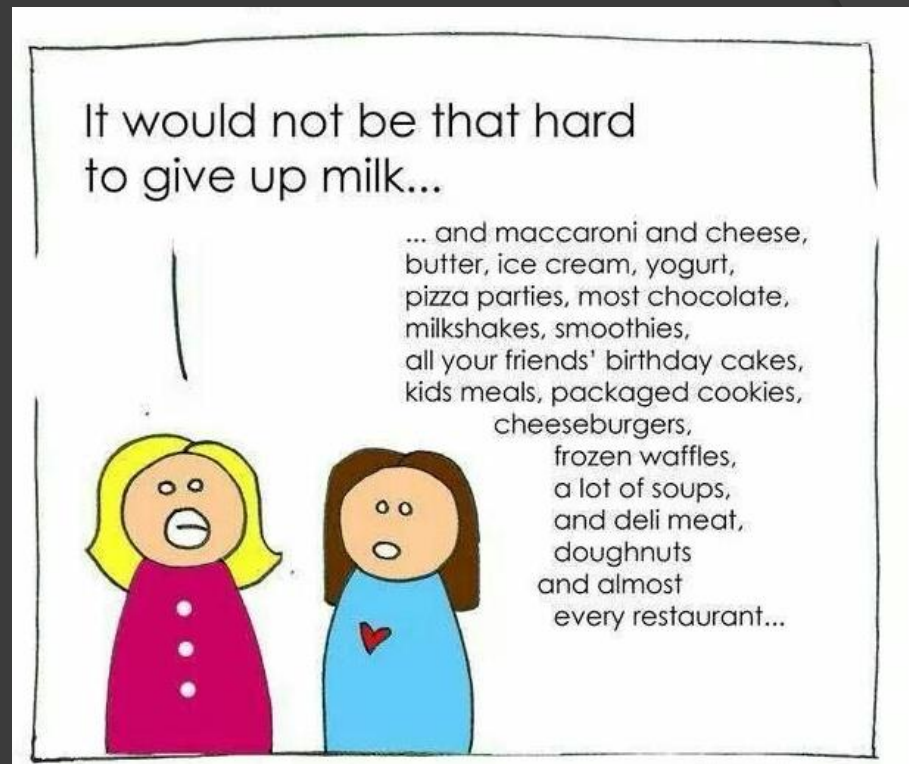
- ◉ Vegan

- ◉ Whole Food Plant Based Diet

- No Processed foods

# Dairy Free Diet - Pediatrics





## 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

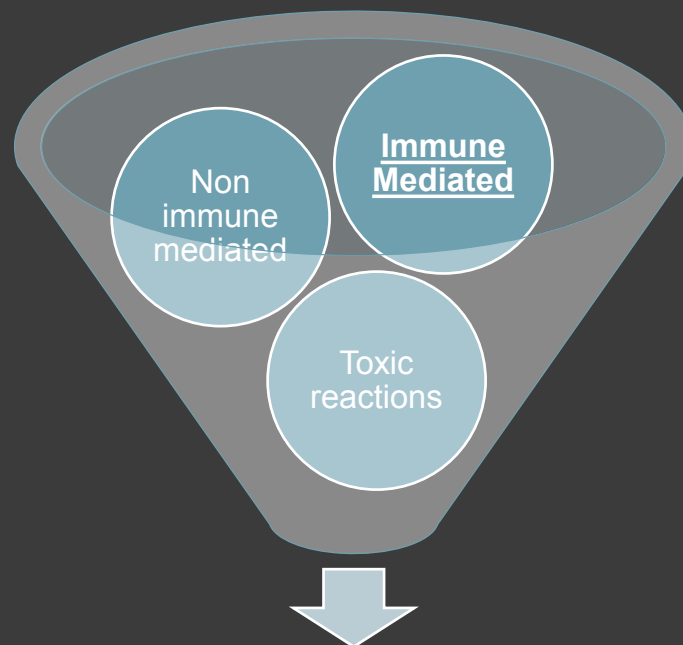
## Food Allergy

- 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

Turnbull et al, A P & T Jan 2015



Adverse reactions to foods

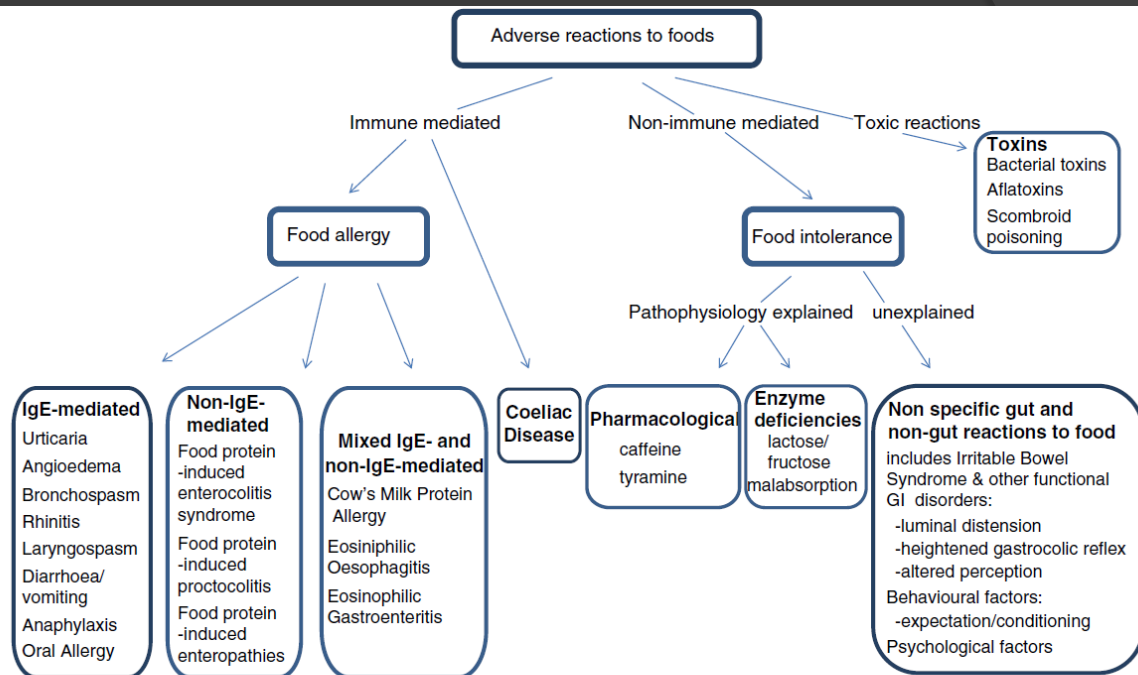


Figure 1 | Classification of adverse reactions to foods.

Turnbull et al, A P & T Jan 2015

## 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

Turnbull et al, A P & T Jan 2015

		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

Turnbull et al, A P & T Jan 2015

# 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

[Nutritioncaremanual.org](http://Nutritioncaremanual.org)

## 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



Questions?