



Mindd
Foundation

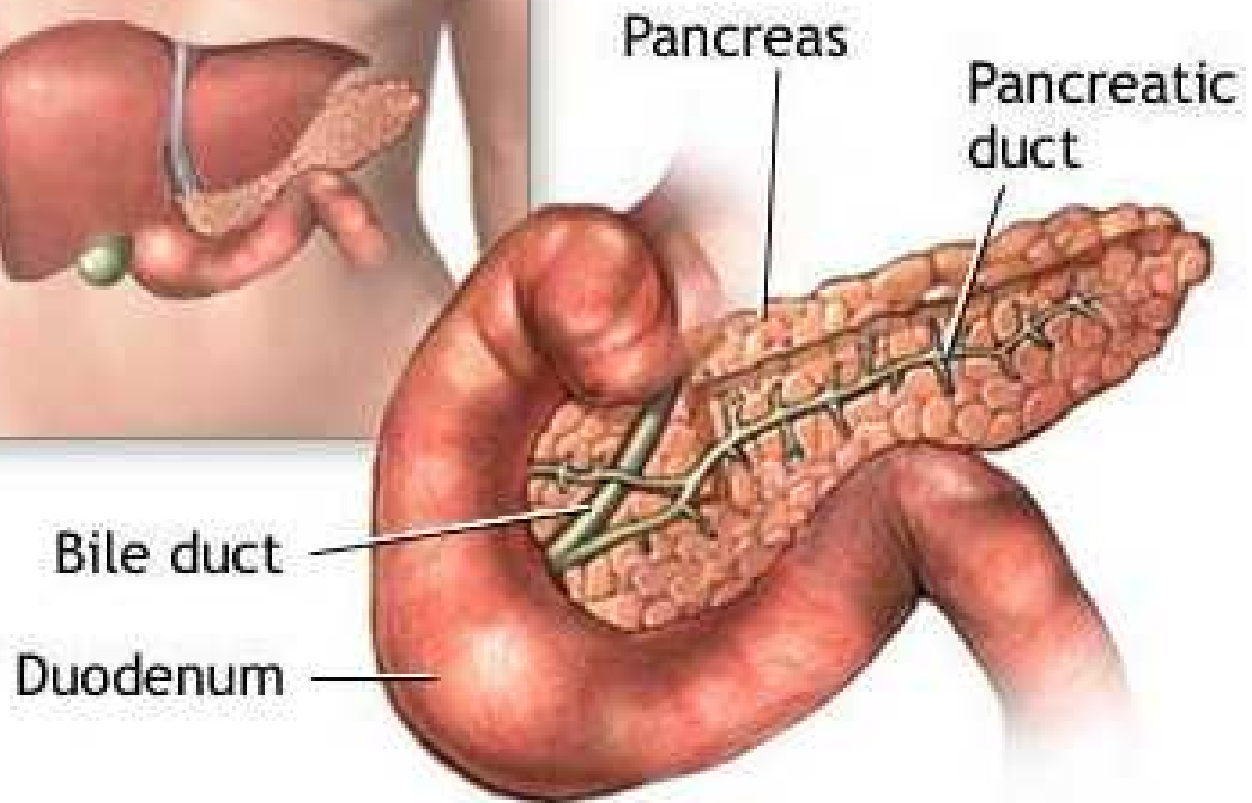
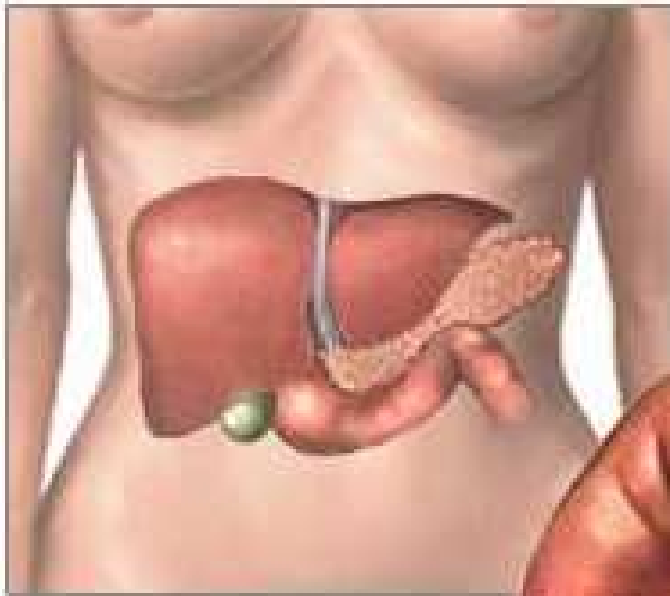
www.mindd.org

Food Allergy Gluten & Diabetes

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SUMMARY

- Type 1 diabetes
 - Onset common in Children
 - Insulin requiring
 - Immune origins with attack on the pancreas causing destruction of insulin producing cells
 - Links to food allergy - Coeliac disease more common
 - Food triggers investigated



Type 1 diabetes and insulin injections



Type 1 and Coeliac disease

- Coeliac disease
 - 3-8% of people with type 1 diabetes have coeliac disease. Much higher numbers may have gluten sensitivity.
 - Often symptoms tend to be silent
 - All people with type 1 diabetes need monitoring for the development of coeliac disease
 - The genes controlling the gluten allergy also control autoimmune responses to pancreas

Management of coeliac in type 1 diabetes

- Better absorption of major nutrients
 - if present may assist stabilisation of the disease
- Reduce symptoms of bloating and nausea that may accompany unstable disease
 - Delayed stomach action can occur
- Reduce trace nutrient deficiency which will reduce potential complications
 - Iron, Zinc, Magnesium, Fatty acids, Lipoic acid etc

Type 1 diabetes and Milk

- Higher levels of antibodies to milk protein (casein) in type 1 diabetes
- Higher levels of antibodies in bottle fed children
- Antibodies to B-Lactoglobulin in breast milk may block glycodeilin in children - which helps calm autoimmune reactions -> Pancreatic autoimmunity

Type 1 diabetes & Foods

- Higher risks in small birth weight babies
 - Carefully assess pregnancy deficiency states - calorie and protein malnourishment let alone minerals etc
- Formula fed babies have a higher risk
- Vitamin D adequacy may confer protection
- Further trials on Nicotinamide in prevention

Remember

- Take home message
 - **Avoid cow's milk exposure** under 12 months of age Esp. if there is any family history of autoimmune diseases that cluster with type 1 diabetes - e.g.: Rheumatoid arthritis, Coeliac disease, Thyroid disease
 - **Breast Feeding** needs to be encouraged
 - Maternal pre-pregnancy and pregnancy nutrition plays a role

Type 2 diabetes

- Initially related to insulin excess NOT deficiency
- Adult onset but more adolescents and children with obesity and sedentary lives
- Diet changes and physical activity may assist prevention

Type 2 diabetes & FOOD

- Food Choices
 - Genetic predisposition combined with a **Nutrient poor energy dense foods** esp... high in **saturated fats** are linked to prevalence

=> OBESITY



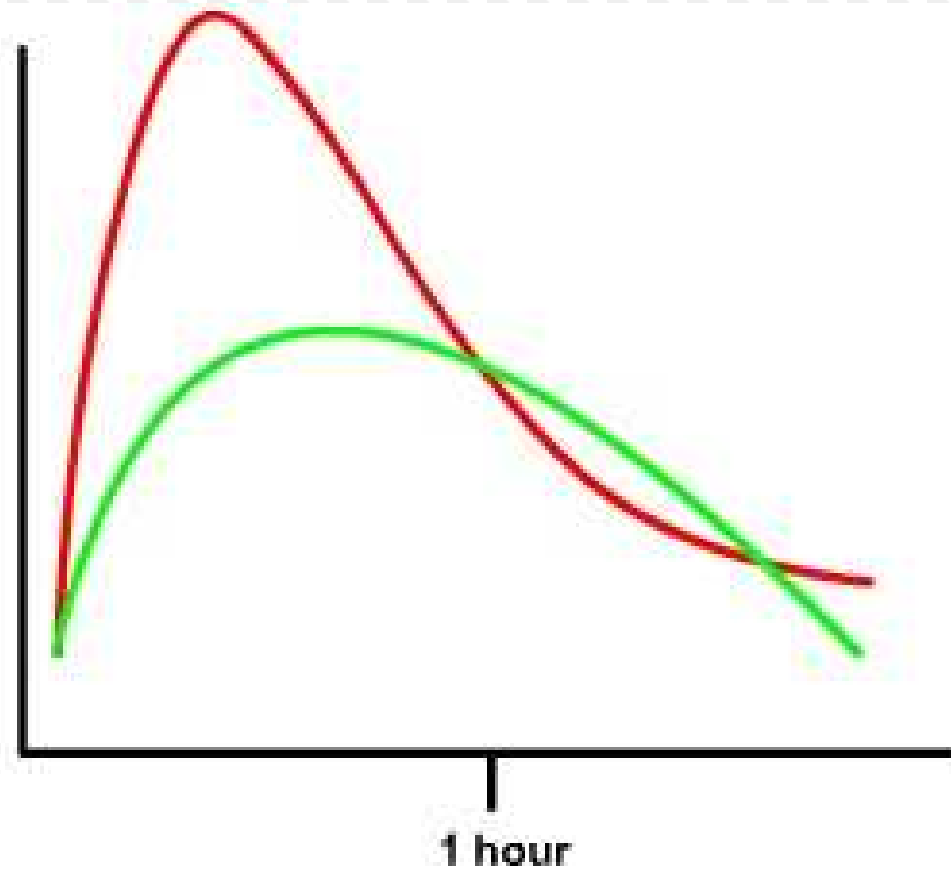


"They watch television all the time now that junk food adverts have been banned."

Type 2 diabetes & FOOD

- **Glycaemic index (GI)** - this measures the metabolic response of the body to ingested carbohydrate
 - Lower GI is associated with reduced risk and better maintenance
 - Often low fat foods may have a high sugar content and high GI

**glucose
rise
after
food**



RED: high glycaemic index, sugar levels too high, harmful

GREEN; low glycaemic index, sugar levels lower, healthy

• **<http://www.glycaemicindex.com/>**

- Danish pastry Medium 59
- Muffin (unsweetened) Medium 62
- Cake , tart Medium 65
- Cake, angel Medium 67
- Croissant Medium 67
- Waffles High 76
- Doughnut High 76

Type 2 diabetes & FOOD

- **Insoluble fibre** intake may lower risks
When mixed with water they absorb it or dissolve in it - Vegetables such as green beans and dark green leafy vegetables. Fruit skins and root vegetable skins. Whole-wheat products. Wheat oat Corn bran. Seeds & Nuts
- **Soluble fibre** may help lower cholesterol levels
 - Oat/Oat bran. Dried beans and peas. Nuts Barley. Flax seed. Fruits such as oranges and apples. Vegetables such as carrots. Psyllium husk

Type 2 diabetes & FOOD

- **Whole grains** lower risks
- High **magnesium** foods may confer some protection (Leafy greens)
- High omega 3 fat intake confers benefits
- High saturated fats decrease insulin sensitivity - NOT GOOD

Complications

- Black tea and high intake of fruits and vegetables - lower hypertension risk
- **Omega 3 fats** may alter the abnormal lipid ratios in type 2 diabetes that cause disease risks
- Combining Omega 3 with physical activity may have additive health benefits

Complications

- Niacin (Vitamin B3) at 2.5 grams a day may reduce heart attack risks
- Heavy metals
 - High mercury intake associated with increased heart attack risks
 - ? Should we eat tuna/salmon etc

Take Home message

- Cook at home with a broad range of fresh vegetables and choose fats carefully.
- Raw foods and high fibre foods convey protection
- Food intake should be balanced with activity (TV watching is a risk)
- Coloured and leafy veges and nuts are good

Take Home message

- If you do have type 2 diabetes
 - Consider ongoing support from a dietician
 - Intestinal health may be an important factor
 - Intestinal thrush
 - WEED SEED FEED
 - Appropriate supplementation
 - Remember B vitamins are essential for carbohydrate metabolism