



DIABETES

DIETETIC DIFFICULTIES

***Carb Counting, Coeliac disease,
Gastroparesis***

Mahnaz Aghabozorgi
Senior Diabetes Dietitian, APD, CDE
Fremantle Hospital Diabetes Centre

Carbohydrate (CHO) Counting

Medical Nutritional Therapy (MNT)

Basic method:

- 1 x Exchange 15g CHO e.g. 1 medium Apple

Advanced method:

- counting carbs in gram

T1DM Vs T2DM

Age and life stage appropriate

Carbohydrate Counting Cont.

Insulin therapy regime

For example

- Baseline insulin, spread carbohydrate over the day
- Mixed insulin, carbohydrate at peak insulin action times, spread over the day

Accuracy depends on the insulin delivery system (pen, demi-pen, pump)

Carbohydrate Counting Cont.

Criteria:

- Interest and willingness
- Able to do simple mathematical calculations
- Food labels reading skills
- keep accurate and detailed food and diabetes records:
 - frequent SBGM, measuring food portions, documenting CHO intake and lifestyle factors impacting on blood glucose results

*Periodical reinforcement, review and support
....lifestyle changes,.. ensure ongoing precision and
accuracy in technique*

Diabetes and Coeliac Disease

- ❑ More common in T1DM than T2DM
- ❑ T1DM and prevalence of CD
- ❑ T1DM and screening for CD
 - Asymptomatic CD
- ❑ Risk of Nutritional deficiencies
 - such as B-vitamins, iron, calcium, vitamin D

Diabetes and Coeliac Disease Cont.

- ❑ Increased rates of hypoglycaemia

- ❑ Gastrointestinal signs and symptoms:
 - abdominal pain, diarrhoea, distension, nausea, vomiting, constipation

- ❑ Extra intestinal signs and symptoms:
 - weight loss, anaemia, infertility, extended fatigue, osteoporosis and short stature

- ❑ Additional symptoms in children :
 - failure to thrive, delayed puberty/menarche and dental, enamel abnormalities

Diabetes and Coeliac Disease Cont.

Medical Nutritional Therapy (MNT)

❑ Gluten Free Diet (GFD)

- obvious foods with the greatest impact on BG control
- hidden sources of gluten
- food Label reading
- dinning out
- nutritional supplements

Diabetes and Coeliac Disease Cont.

Medical Nutritional Therapy (MNT)

- ❑ Adequate nutritional intake
 - nutritional deficiencies
 - improving nutritional intake
- ❑ Weight management

Gluten Free Diet Challenges

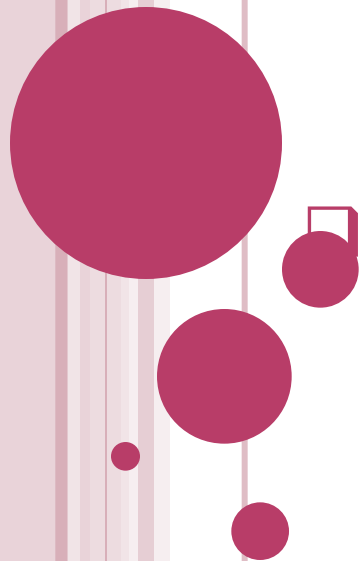
❑ GFD and insulin requirements

- adherence to GFD

 -difficult to determine the true effect of GFD on outcomes such as insulin requirements

- improved absorption of carbohydrates

❑ Close monitoring of blood glucose management



Gluten Free Diet Challenges

- ❑ CHO counting and type 1 diabetes

- ❑ CHO counting and GFD

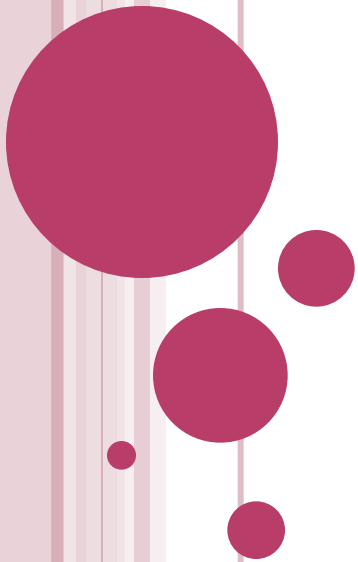
 - may need adjustments to Insulin carb ratio

 - Constituent differences in gluten-free products and similar gluten containing products

- ❑ Glycaemic Index

Membership Coeliac Society of Australia

<http://www.coeliac.org.au/>



Diabetes and Gastroparesis

Nutrition Assessment

Gastric Emptying

GI Symptoms

Glycemic Control

Medications

Compliance with medical therapy

Co-morbidities

Diabetes and Gastroparesis

Nutrition Assessment Cont.

Nutritional Status

- unintentional weight loss
- current nutritional intake/ appetite, food choices, frequency of food intake
- consistency and type of foods tolerated
- presence of Vitamin and mineral deficiencies

QOL/Patient centred approach

Dietary Management

❑ Low fat

- Relative reduction in fat intake, progressively decreasing

❑ Low Fibre/ insoluble fibers

- Risk of bezoar formation
- Fermentation in upper GI

❑ Particle size

- Important in gastric emptying < 2mm



Dietary Management cont.

❑ Frequent small meals, four to six times per day

❑ Consistency modification:

- Blend/Puree meals and snacks
- Cooked vegetables vs raw vegetables
- Tinned/ stewed/pureed fruit vs fresh

Dietary Management cont.

- Chewing food well
- Carbonated beverages
- CATS- caffeine, alcohol, tobacco, stress
- Chewing gums, air swallowing
- Peppermint and chocolate- lower oesophageal sphincter presser
- Physical positioning after meals
- Nutrients at risk-iron, Vit B12, Ca, Vitamin D

Dietary Management cont.

❑ Liquid foods vs Solid foods

- Fluids empty faster than solids
- Liquid emptying is often normal in those with delayed solid emptying
- Iso-Osmolar fluids empty faster than hyperosmolar fluids



Dietary Management cont.

Worsening symptoms

Nourishing Fluids

- Introduction at Mid Meals, eg HPHE fluids, soups, smoothies, Yoghurt, Custard

Introduction at some meals and snacks

- nourishing fluids at meals when $< \frac{1}{2}$ meals eaten
- oral Nutrition Supplements

Predominantly Nourishing fluids as meals and snacks

Complete Nutrition with a low fat evening meal

Dietary Management cont.

Worsening symptoms Cont

- Free Fluids Only diet
 - Iso-Osmolar, complete nutrition
 - 100% energy requirements
- Spread out over the day
- Enteral feeding- Jejunostomy

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