



# Carbohydrate Awareness, GLP-1 Initiation and Insulin Therapy

Diabetes Dietitians  
York Teaching Hospitals



# Agenda

- What are carbohydrates
- Glycaemic response to carbohydrates
- Regular Meals, Portion sizes, Glycaemic Index and Snacks
- Considerations with GLP-1 therapy
- Considerations with insulin therapy
- Hypoglycaemia

# Carbohydrates

- Provide energy for the body
- The only food group that breaks down to glucose during the process of digestion
- This causes the blood glucose levels to rise
- Amount of carb eaten determines how high blood glucose level rises

# What are carbohydrates?

Sugary Foods	Starchy Foods
Sugar and sugary drinks	Breads
Sweets	Cereals
Cakes	Potatoes including crisps
Biscuits	Pasta and noodles
Chocolate	Rice
Milk, yoghurt and ice-cream	Pulses – beans, lentils, peas
Fruit and fruit juices	Pastry, battered and breaded products

# Aim of Dietary Treatment

Main aim of dietary treatment is to...

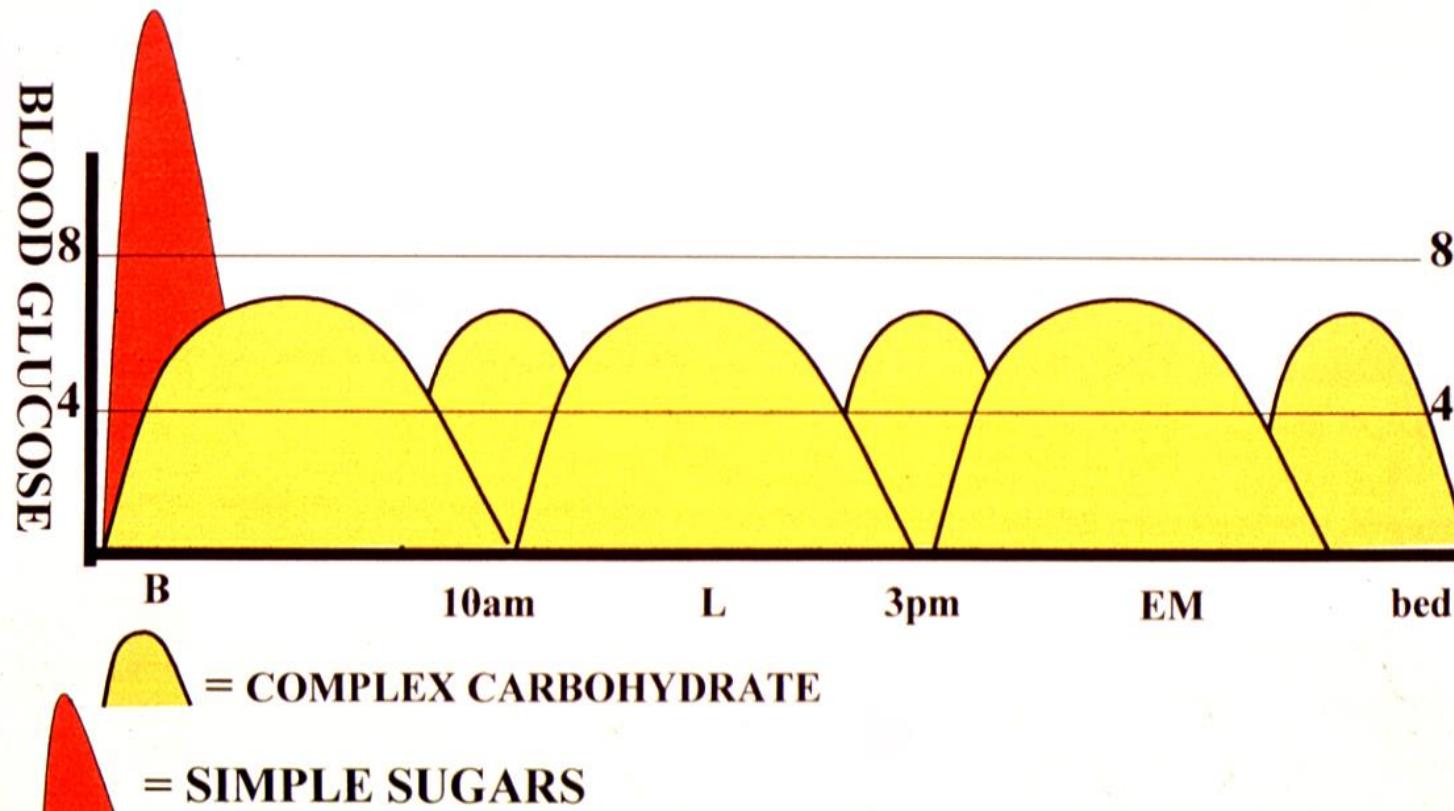
**...BALANCE CARBOHYDRATES  
AT EACH MEAL**

# **Areas to focus on -**

- Regular Meals
- Portion Sizes
- Glycaemic Index
- Snack portion size

# Balancing carbohydrates

## EFFECT OF CARBOHYDRATE ON BLOOD GLUCOSE

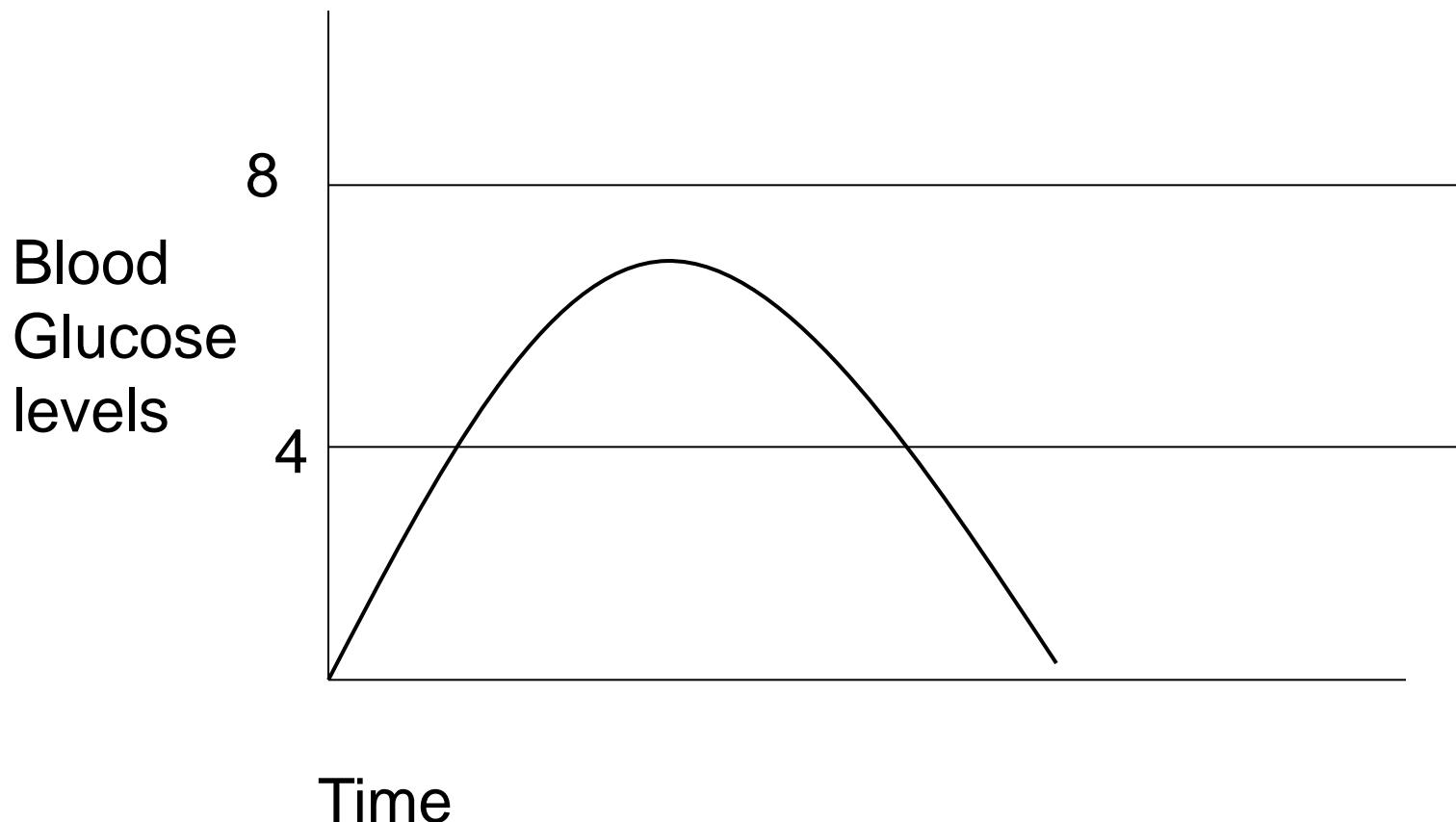


# Portions

Where are  
the carbs  
in this  
meal?



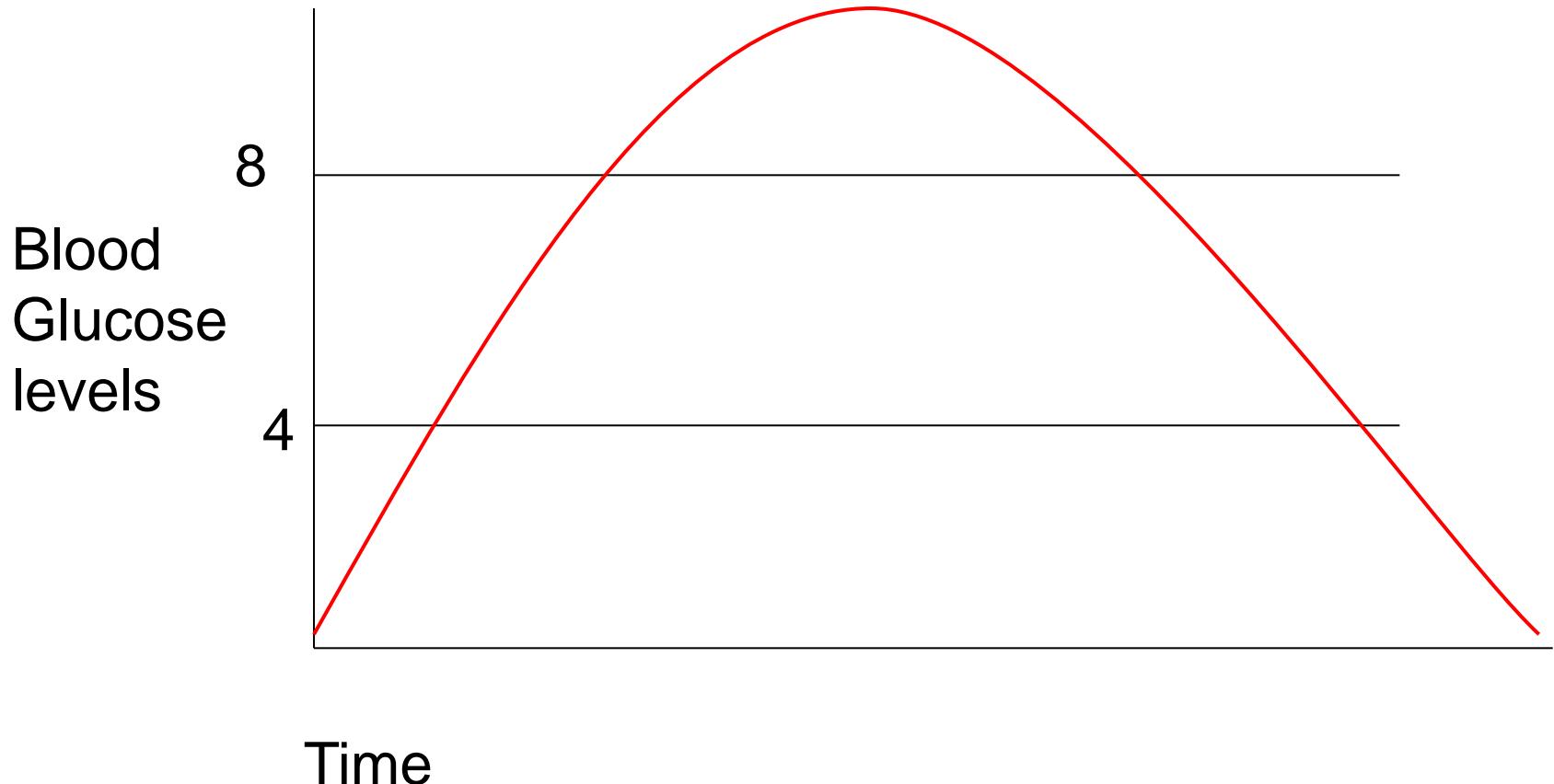
# Glycaemic Response





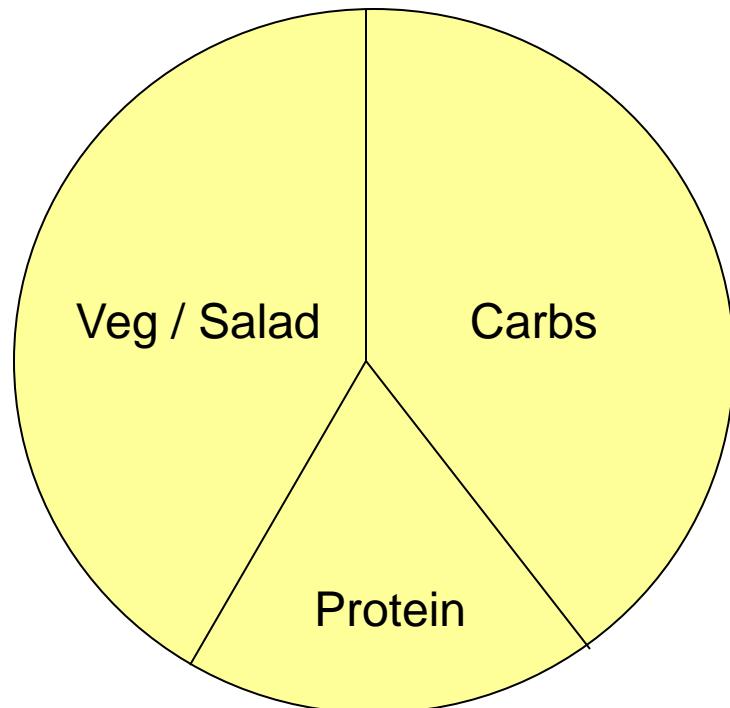
Luscious temptations © Justine Fooong 2008

# Glycaemic Response

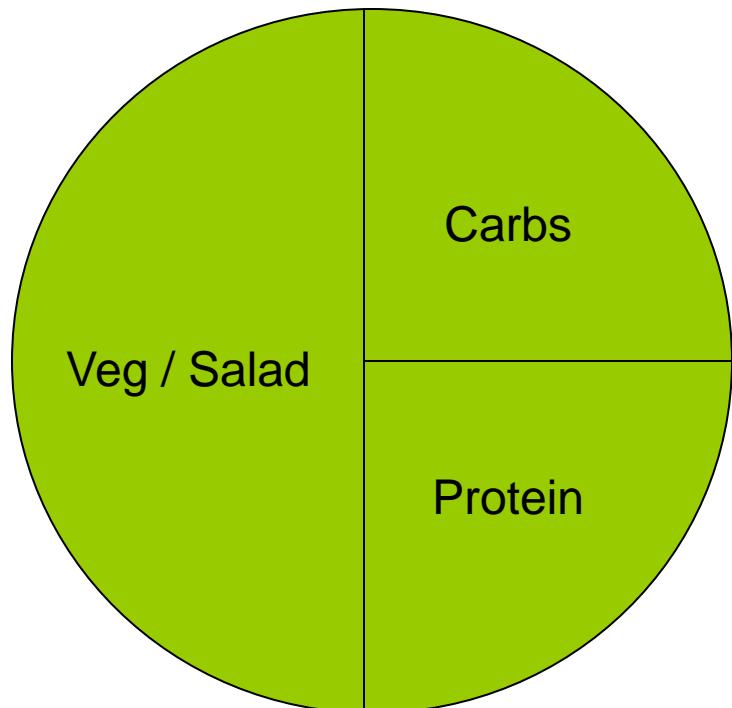


# Portion Sizes

Weight Maintenance



Weight Loss

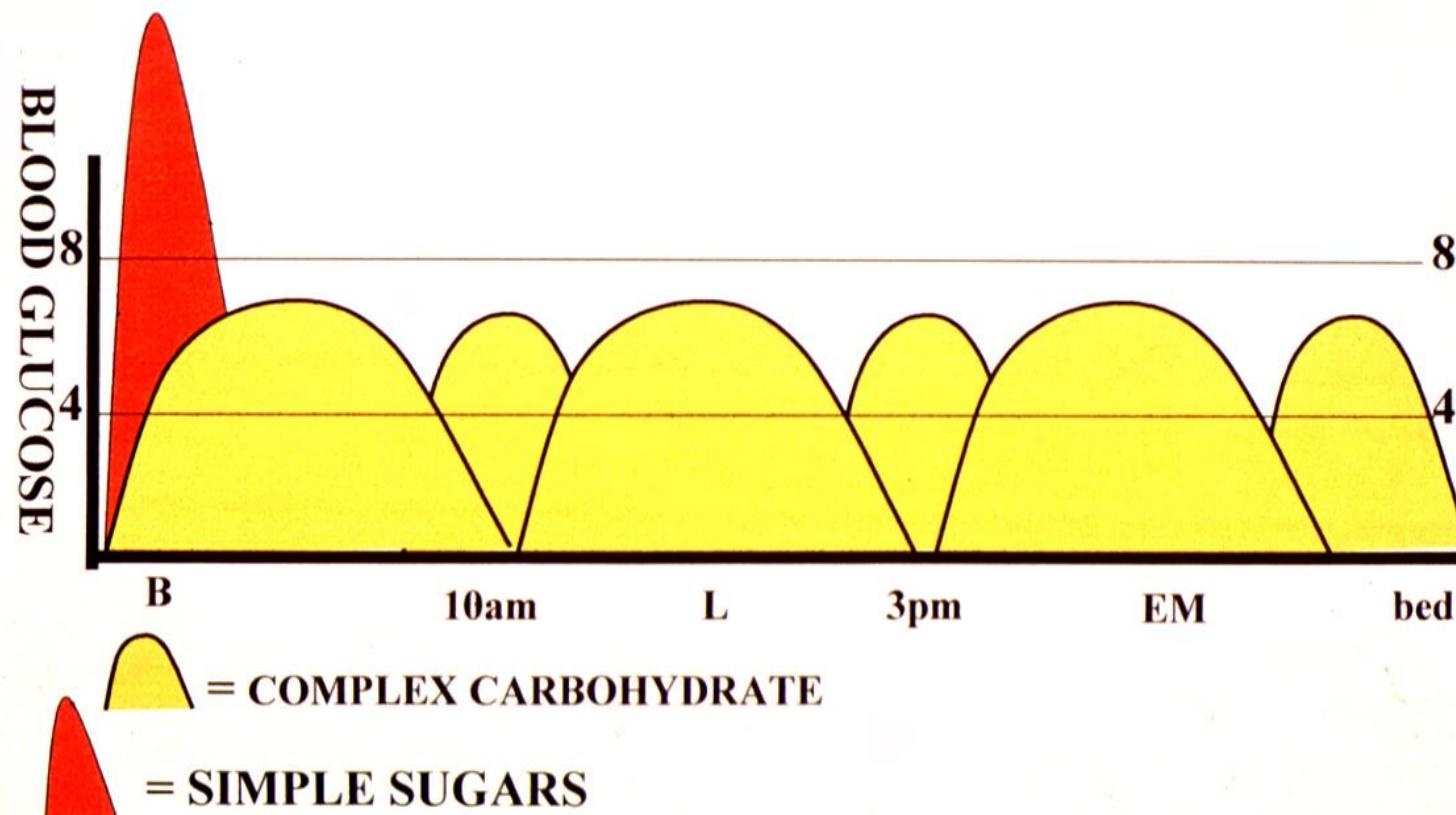


# Glycaemic Index

- Choose slowly digested foods (low glycaemic index)
- Increase blood glucose levels more slowly
- Sustained energy release
- Avoid high glycaemic index foods in isolation
- Add fibre to foods to slow down release of glucose

# Balancing carbohydrates

## EFFECT OF CARBOHYDRATE ON BLOOD GLUCOSE



# Glycaemic Index Table

Low GI	Medium GI	High GI
Granary and seeded bread	Chapatti, pitta breads	White and wholemeal bread
Beans, pulses, sweet potatoes	New potatoes	Jacket or mashed potatoes
Porridge, All Bran, Special K	Weetabix, Shredded Wheat, Muesli	Cheerios, Cornflakes, Rice Krispies
Fruit – apples, grapes, pears	Dried fruit	Honey, fruit juice, jams
Basmati rice, pasta, seeds	Cous cous	Ordinary white rice
Milk, yoghurts, custard	Ice cream, Chocolate	Doughnuts, sweets, teacake

# **Snack Size**

**Snacks should be less than 15g carbohydrate**

- 1 digestive – 10g
- 3 rich tea – 15g
- Kitkat/small choc biscuit bar – 15g
- 3 cream crackers – 15g
- 2 ryvitas – 16g
- 1 medium slice of bread/toast- 15g
- Small banana – 15g
- Medium apple – 15g
- 2 satsumas – 10g
- Bowl of raspberries – 8g
- Small packet of crisps (25g) – 13g
- Plain popcorn (handful) – 10g

# Considerations for GLP-1 initiation

# Symptom Management

- Main consideration is fat
- Incretins delay gastric emptying
- Fat does the same – the cumulative effect of a high fat meal on top of incretin therapy may exacerbate nausea
- If a patient complains of symptoms, this may be another good opportunity to encourage a low fat diet
- Ensure that appetite suppression does not severely restrict oral intake – nutritional deficits

# Considerations for insulin therapy

# Insulin Therapy

- Snacks  
Keep them small and healthy
- Exercise / activity  
Lowers blood glucose levels
- Alcohol  
Bedtime snack to prevent hypos
- Driving  
Above 5 to drive,  
monitor 2 hourly
- Hypoglycaemia  
Treat blood glucose below 4

# Management of Hypoglycaemia

## Step 1 – Administer fast acting glucose

- 100ml Lucozade
- 3-4 Jelly Babies
- 150ml cola
- 5-7 Dextrose
- 4-5 Glucotabs



# Management of Hypoglycaemia

## Step 2 – Maintain blood glucose level

- Portion of fruit
- 2 Plain biscuits
- 1 Slice bread / toast
- Next meal if due



Thank you and any  
questions?

