

## Notes:

**Name:**

**Date:**

**Dietitian:**

**Contact number:**

**Hospital site:**

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All our patient information leaflets are reviewed every three years.

Patient information

## Healthy Eating for people with Diabetes:

### An introduction for adults with Diabetes starting mixed insulin regimens

Nutrition and Dietetic Department

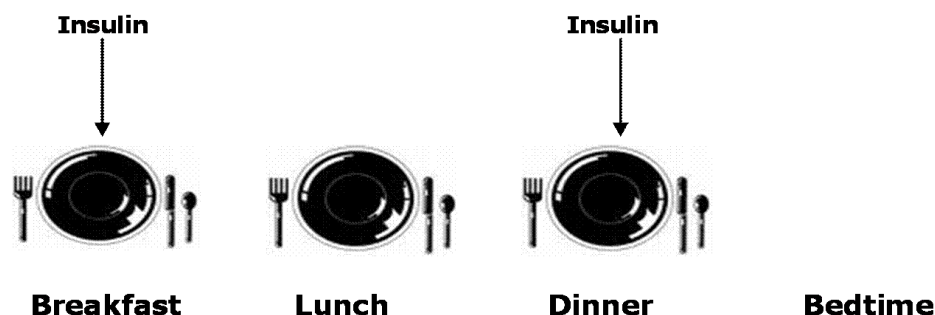


## What is Diabetes?

Diabetes is a condition in which the body is unable to control the glucose (sugar) in the blood. Everybody has glucose in their blood, but in diabetes, the glucose level goes higher than the normal range of 4-7 mmol/l.

If you have Diabetes, your body either does not make enough or any insulin (a hormone made in the pancreas which carries glucose into the body cells), or your insulin is unable to work properly. This causes the glucose level in your blood to go too high. Your GP or your Practice nurse may have decided that the best way to control your Diabetes is to start insulin.

This leaflet is designed for patients starting on a mixed insulin usually taken twice a day but sometimes three times.



The name of your Insulin is \_\_\_\_\_

Dose \_\_\_\_\_ units To be taken at \_\_\_\_\_

Dose \_\_\_\_\_ units To be taken at \_\_\_\_\_

Dose \_\_\_\_\_ units To be taken at \_\_\_\_\_

## Stage 2

Eat some slow releasing carbohydrate food e.g.

1 medium slice of multigrain bread

1 portion of fresh fruit i.e. apple, peach or pear

3 to 4 Rich Tea biscuits or 2 Digestives

Small tub (125-150g) of low fat yoghurt

200- 300ml of milk

## Do I need a snack?

If you are more active than usual between your meals times you may need a small carbohydrate snack to maintain your blood glucose levels.

It is also important (at least initially) to test your blood glucose levels before bed and if they are less than 8mmol/l then you may require a small slow releasing carbohydrate bedtime snack to avoid night hypos.

Suitable snacks could be as above in stage 2 of hypo treatment.

If you are concerned about your weight you may want to consider saving some of the starchy part of the evening meal and have it as your bedtime snack.

(For more ideas for weight management discuss with your Dietitian, as insulin can promote weight gain).

## Treatment for Hypoglycaemia ('Hypo')

'Hypoglycaemia' or (hypo) occurs when the level of glucose in the blood drops below 4.0 mmol/l. This occurs mainly with insulin treatment and some tablets.

Hypos can occur if you:

- Miss or delay meals
- Do not have enough carbohydrate at meal times or snacks.
- Do more exercise than usual
- Drink alcohol and do not eat enough carbohydrate
- Take too much insulin or diabetes tablets

If this happens to you, it is very important to get your blood glucose levels back above 4.0 mmol/l otherwise you could become very unwell.

**You should treat the 'hypo' in 2 stages:**

### Stage 1

Raise your blood glucose levels quickly by taking 10-15g of fast releasing carbohydrate.

- E.g.
- 4-5 Lucozade™ or dextrose tablets.
  - 80-90 ml of Lucozade™ drink
  - 250ml of Lucozade Sport™
  - 2-3 large Jelly babies (10-15g carbohydrate)
  - 150 ml of standard fizzy drink :cola/lemonade

(Note: Do not take milk with sugar or chocolate as these do not release glucose quickly)

Wait 10-15 minutes, re-test blood glucose levels, if it has stayed the same or dropped, repeat stage 1 above, again. If your blood glucose has risen to within a normal range, move on to stage 2.

The healthy diet for Diabetes - choosing carefully **what** to eat, **how much** to eat and **when** to eat it, can help you to control your blood glucose levels and keep them within the normal range.

The main points to help you make changes to your lifestyle are:

1. Eat regular meals
2. Include some starchy carbohydrate in your meals
3. Choose more slow-releasing carbohydrate foods
4. Eat less fat, especially saturated fat
5. Include more oily fish in your diet
6. Eat more fibre
7. Eat sugar in moderation
8. Keep your salt intake low
9. Reduce alcohol intake, if you drink it
10. Do regular physical exercise
11. Lose excess body weight

## Food guidelines for people with Diabetes

### 1. Eat regular meals

The type of insulin regime that you are following means that **it is very important to have 3 regular meals each day** :- Breakfast, Lunch & Evening meal.

This helps to control your blood glucose levels.

**Meals should be eaten at similar times everyday.**

Your insulin injections should be taken with your breakfast and evening meal unless stated otherwise by your GP or Diabetes Specialist.

### 2. Include some starchy carbohydrate at your meals

The insulin you inject will carry the glucose from the blood to the cells, throughout the day. For this reason, it is important to have some carbohydrate food at each meal. Carbohydrate foods raise your blood glucose levels.

Carbohydrate foods include bread, cereals, pasta, rice, chapatti, wholegrain crackers, starchy vegetables (such as potato, yam, corn and sweet potato), all fruit, and some dairy products like milk and yoghurt. Pulses for example, baked beans, split peas, kidney beans contain some carbohydrate but they are also a good source of protein.

These carbohydrate foods should make up a quarter to a third of your meal (discuss with your Dietitian).

Eat similar amounts of carbohydrates at each meal.

## 10. Do regular physical activity

Doing some physical activity should be part of your diabetes treatment, as well as following a healthy diet and taking your medications.

Everybody should be aiming for a minimum of 30 minutes moderate intensity activity a day, at least 5 times a week. The 30 minutes does not need to be in one session, but can be divided throughout the day, for example 2 x 15 minutes or 3 x 10 minutes.

**Caution** Physical activity also uses up glucose and may lead to low blood glucose levels and possibly a hypo.

If you are taking part in exercise you will need to have some extra carbohydrate food or drink before and afterwards

Check your blood glucose levels before you exercise. If they are less than 5 mmol/l you may want to consider having a small carbohydrate snack.

If you are exercising for a long time (more than 45mins), you may need a sugary drink at regular intervals during the exercise or take a carbohydrate snack before or during the exercise.

It is important to try to plan your exercise and to monitor your blood glucose levels prior, during and after physical activity.

Discuss with your Diabetes Dietitian or Nurse how to plan your exercise programme around your insulin regimen, if you are concerned or wish to try something new.

Be careful if your blood glucose level is greater than **13 mmol/l**. If your blood glucose is high and you have ketones in your urine **DO NOT EXERCISE**.

## 8. Keep your salt intake low

Having too much salt in your diet may increase the risk of high blood pressure, which can lead to stroke and heart disease.

To reduce your salt intake you can:

- Reduce your intake of ready-made and salty foods
- Avoid adding salt to your meals at the table
- Use only a small amount of salt in cooking
- Choose 'No added salt' or reduced salt products
- Use lemon juice, herbs and spices to flavour foods instead
- Read food labels and aim for less than 6g of salt in total a day.

Sea salt and rock salt are just the same as ordinary salt. Garlic salt and celery salt are also high salt products as are stock cubes, powders and liquids. Salt substitutes e.g. Lo Salt®, Selora® or Pansalt® are not recommended.

## 9. Reduce alcohol intake, if you drink it

- Try to drink in moderation, for example 1-2 units per day  
1 unit = 125mls wine <12% \*ABV, (175ml = 2 units)  
½ pint beer 3-4% \*ABV  
1 single pub measure spirits (whiskey, gin, vodka, rum)
- Have at least 2 alcohol-free days per week.
- Always eat some slow-release carbohydrate when drinking alcohol. Alcohol on an empty stomach can increase your chance of hypoglycaemia (low blood glucose) when taking insulin.
- Choose sugar-free or diet mixers (slimline, diet, lite or zero) if adding them to your drinks.  
\*ABV=alcohol by volume

## 3. Eat more slow-release carbohydrate foods

Some carbohydrate foods are more slowly digested and the glucose is released into the blood more slowly. These foods can help to keep you fuller for longer. Slow release carbohydrate foods eaten in moderation are best for controlling your blood glucose levels and are also known to be cardio-protective/ heart healthy

Try to include a slow-release carbohydrate food at each meal. This includes:

Granary, heavily grained (wholegrain breads), wholemeal pitta, wholemeal chapatti. Porridge (preferably whole oats), muesli, All Bran®, Fruit'n'Fibre®, Shredded Wheat®, Special K® Weetabix®, basmati rice and wild rice. All types of pasta are fine, bulgur (cracked) wheat, and couscous.

## 4. Eat less fat, especially saturated fat

Eating too much fat can cause weight gain and increase your risk of heart disease. Being overweight makes it harder to control your blood glucose levels.

Reduce the total amount of fat in your diet, particularly saturated fat (animal fats, full cream milk products, take-away foods, palm oil, coconut oil/cream).

Include **small** amounts of mono-unsaturated or poly-unsaturated fats and oils, for example olive oil and sunflower-based spreads, peanut oil, olive oil or rapeseed oil (pure vegetable oil in most supermarkets).

Limit high fat snacks such as crisps, nuts, cakes, biscuits. Fruit or 'diet' yoghurt varieties are better choices.

## 5. Try to include more oily fish in your diet

Oily fish, such as mackerel, fresh tuna, trout, salmon, kippers and pilchards, contain a type of poly-unsaturated fat called **Omega-3**. This fat has been shown to be protective against heart disease.

Aim to have 1-2 portions of oily fish a week. A portion is 140g of fresh, frozen or tinned fish (NB tinned tuna does not count – only the fresh tuna).

Fish oil supplements are not recommended, unless you do not eat fish. Discuss this with your Dietitian.

Other sources of Omega-3 fats can be found in rapeseed, flax and linseed oils, green leafy vegetables, wholegrain breads and cereals, and Omega-3 enriched eggs and milk.

## 6. Eat more fibre

Dietary fibre is part of a healthy diet, so ensure that you include a variety of sources.

Try to have at least 5 portions of fruit and vegetables each day.

Soluble fibre is particularly good for managing your diabetes and blood cholesterol levels. Include pulses, beans and oat-based foods (porridge, oatcakes) as often as possible.

Eat wholegrain breads, and wholegrain and high fibre cereals.

Drink plenty of fluids. A good amount to aim for is 6-8 glasses each day.

A portion of fruit and vegetable is:

1 apple, orange or banana  
1 slice of a large fruit, such as melon or pineapple  
2 small fruits such as plums, kiwis or satsumas  
1 cupful of raspberries, strawberries or grapes  
2-3 tablespoons of fresh fruit salad  
2-3 tablespoons of stewed or canned fruit (in natural juice)  
½-1 tablespoon of dried fruit  
1 small glass unsweetened fruit juice (125ml)  
2-3 tablespoons of vegetables: raw, cooked, frozen or canned  
A small side salad

## 7. Eat sugar in moderation

Table sugar (sucrose) and most other sugars in small amounts will have little effect on your blood glucose levels, provided they are included as part of the total carbohydrate content meal. However, sugar has no nutritional value other than adding calories (often unwanted) to the diet. So it is best to use sugar only in very small amounts, for example, 2-3 teaspoons spread across a day.

It is better to change to an artificial sweetener for example Canderel®, Splenda®, Hermasetas, Truvia® and supermarket own brands. Avoid using 'natural' sweeteners like honey.

Avoid sugary drinks such as ordinary fizzy drinks. These can contain up to 12 teaspoons of sugar in a single can. You can drink the sugar-free version instead.

- Choose 'diet/lite/zero' fizzy drinks or 'no added sugar' squashes.
- Try to avoid the sugars that cause your blood glucose level to rise quickly (for example glucose, corn syrup, maltose, honey, dextrose, golden syrup and malt)
- You can include foods which contain a small amount of sugar; such as baked beans, low fat yoghurt, cereals.