



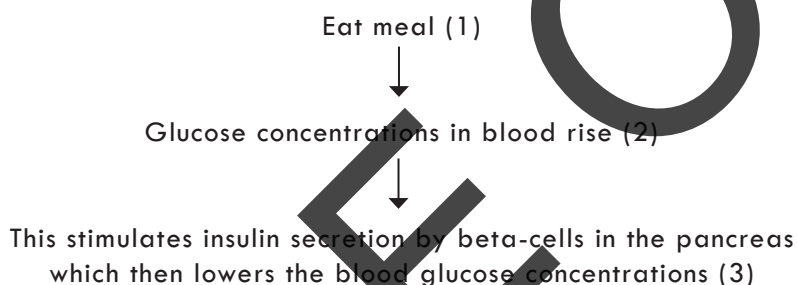
## DIABETES – KNOWLEDGE

## DIABETES

### WHAT IS DIABETES?

Diabetes or to give it its full name Diabetes Mellitus (disorder of the carbohydrate metabolism) is a long term disorder in which the amount of glucose, (sugar) in the blood is too high because the body is unable to use it properly. This is caused by the body's method of converting glucose into energy not working as it should, because of a relative or absolute lack of insulin. (Insulin is a hormone produced by the pancreas in an area called the islets of Langerhans.) Therefore the level of glucose in the blood continuously rises each time anything containing carbohydrate is eaten.

### NORMAL PROCESS OF METABOLISM (DIGESTION)



1. Normally the hormone called insulin carefully controls the amount of sugar in the blood.
2. As food is digested it is broken down (metabolism) into small particles, which the body can use. Carbohydrate, which is present in most foods, is broken down into glucose. Insulin is required to convert the glucose into energy the cells can use.
3. The pancreas, which lies behind the stomach, produces insulin.

**Carbohydrate** in food (e.g. bread, rice, pasta, potatoes, fruit, cakes biscuits, milk) is converted to **glucose**, which it releases into the blood stream.

**GLUCOSE = BLOOD SUGAR** - It gives us energy

We need starchy food regularly throughout the day.

When you eat certain foods – examples would be bread, rice, fruit, sugar – they are digested and release glucose ('sugar') into the blood stream. The blood carries the sugar round the body where it is used for energy. Glucose energy enables the cells of the body to work properly – but in order to be able to use it, there has to be another substance called 'insulin' in the blood stream as well.

Insulin is a hormone that is produced in the pancreas. If you don't have diabetes, the insulin is produced as part of a 'feedback' system to keep the level of glucose in the blood fairly steady (between 4 – 7 mmols per litre of blood approximately).

insulin, but the pancreas is not able to make enough to control the blood sugar content. Sometimes, enough is being made, but the body does not use it very well, so more is needed to keep the blood glucose at normal levels.

At least 90% of patients with diabetes have Type 2 diabetes.

**Main differences**

Type 1	Type 2
Usually under 20 years	Usually over 40 years
Usually lean	Usually obese
Onset abrupt	Onset insidious
More female than male (children)	More female than male
Prone to Ketosis	Ketosis not present
Regular Insulin injections for the rest of their lives	Treatment: diet, diet and tablets, diet and insulin (tablets)

N.B. Type 2 can be found in children, adolescents and young adults. There is an increase in this age group because of a less active lifestyle and eating convenience foods (containing high fat and sugar).

**CAUSES OF DIABETES**

**Type 1** is believed to be an autoimmune disease. The body's immune system attacks the cells in the pancreas that produce insulin.

Predisposes to run in families.

Environmental factors, such as certain types of viral infections, may also contribute.

Slightly more common in men than in women.

**Type 2** is believed to have a strong genetic link, meaning that it tends to run in families.

Risk factors for developing type 2 diabetes include:

- High blood pressure
- High blood triglyceride (fat) levels
- High-fat diet
- High alcohol intake
- Sedentary lifestyle
- Obesity (being overweight)
- Ethnicity
- Ageing. The risk begins to rise significantly at about age 45 years, and rises increasingly after age 65 years.

## Appendix A

### **Blood glucose monitoring**

Blood glucose monitoring provides accurate information about how the body is controlling glucose metabolism.

**Procedure** *(There may already be a procedure in your place of work you can follow)*

Collect together all the equipment including test meter, test strips, finger pricking device/lancet, clean gauze. A new test strip should be used each time. Check the code strip matches the meter code.

Explain the procedure to the patient and gain verbal consent.

Ask patient to wash and dry their hands. If not able you should wash finger with soap and water and allow to dry. Do not use alcohol wipes.

Ensure the patient is sitting or lying comfortably before commencing the procedure.

Wash and dry your hands thoroughly. Apply gloves and apron. (Or as per your place of work's policy.)

Samples should be obtained from the edges of the finger avoiding the fingertips, as these are more sensitive. Rotate sites to prevent skin damage.

Use lancet device to pierce the skin at the side of the finger.

Wipe first drop of blood with sterile gauze.

Obtain a drop large enough to cover the test strip.  
Apply this drop of blood to the test strip.

Apply gauze to prevent further bleeding.

Dispose of lancet into sharps bin immediately.

Remove and discard gloves, apron and waste as per Employer's Policy and Procedure.

Record the result clearly in the Care Plan, reporting any abnormal results to the person in charge.

**Only Carers who have completed an appropriate training programme and have enough experience to be deemed competent should carry out Blood Glucose monitoring.**

**APPENDIX B**

DIABETIC CARE PLAN - Eating and Drinking

NAME:

Eating & Drinking	Objective	Action	Signature of staff Next Evaluation Date
Date	<p>Give a well balanced diet.</p> <ol style="list-style-type: none"> <li>1. Eat regular meals, snack as necessary.</li> <li>2. Include some starchy foods at each meal.</li> <li>3. Give high fibre foods.</li> <li>4. Limit fatty foods.</li> <li>5. Limit added sugar or sugary foods.</li> <li>6. Limit salt.</li> <li>7. Plenty of fruit and vegetables.</li> <li>8. Limit alcohol.</li> </ol>	<p><b>Breakfast</b> - grapefruit, brown toast and low sugar marmalade.</p> <p><b>Lunch</b> - Enjoys all fish and meats except pork, vegetables. (peas ,cabbage, swede, salads, mushrooms).</p> <p><b>Puddings</b> - Check that Joe is offered puddings low in sugar, check the menu.</p> <p><b>Afternoon tea</b> - Joe enjoys cakes so ensure the choice given is either specially baked low sugar cakes or cakes with low sugar content, check packet or with your manager.</p> <p><b>Supper</b> - Low fat foods. Fresh fruit, tinned fruit in natural juice or low sugar jellies or whips (Fresh fruit needs to be prepared).</p> <p><b>Evening Drinks</b> - Cold milk and plain biscuits.</p> <ul style="list-style-type: none"> <li>• Grill rather than fry foods.</li> <li>• Do not add any extra salt and reduce salt in the cooking.</li> <li>• Refer to nutrition, recipes information in Diabetic Pack in the grey cupboard.</li> <li>• Discourage too much chocolate, crisps etc.</li> <li>• Record weight monthly in care plan.</li> </ul>	

SAMPLE

ONLY