

## DIETARY ADVICE FOR DIABETES

### **BLOOD GLUCOSE:**

- Food we eat is broken down by our bodies to glucose, which moves into the blood as blood sugar = blood glucose (energy source).
- **Insulin** is a substance produced by the **pancreas** in our bodies that moves this glucose into the body's cells where it is used for **energy**, just like a coal truck transports coal to factories to be used as the energy supply in the factories.

### **DIABETES MELLITUS:**

- This is a condition where the body either does not make enough insulin **OR** cannot use the insulin it makes properly.
- Therefore the blood sugar (glucose) cannot be moved from the blood to the body cells. Instead it builds up in the blood stream ("high blood sugar"), potentially causing serious health problems.
- Result of a high blood glucose:
  - The body's cells do not get their energy supply – so one can feel tired; and
  - Water is moved from the body's cells into the blood to dilute the high concentration of blood glucose – often causing thirst / dry mouth.

### **TYPICAL SYMPTOMS OF DIABETES (not necessarily experienced by everyone who has diabetes)**

- Extreme thirst
- Urinating more frequently than usual
- Sudden weight loss
- Extremely tired and "drained"
- Eyesight becoming worse
- Slow healing of sores and wounds
- "Burning sensation" in feet / toes / hands

If any of the above symptoms are being experienced: Have a BLOOD GLUCOSE (BLOOD SUGAR) TEST. The reading should be: **not > 6mmol/l** ; and not < 3.6mmol/l.

### **There are 2 types of diabetes:**

- Type 1 Diabetes: the pancreas cannot produce any insulin, so insulin must be injected daily. Treatment: insulin injections + healthy diet + exercise.
- Type 2 Diabetes: the pancreas works less and less efficiently (often due to overweight and unhealthy eating), and so does not produce enough insulin. Treatment: healthy diet + exercise **OR** medication / insulin + healthy diet + exercise.

### **MAIN GOAL OF TREATMENT:**

**Control and manage blood glucose levels - keeping them consistent (typically between 4-6mmol/l t ALL TIMES)**, thus reducing the risk of developing complications substantially!

**Complications, such as eye problems, heart disease, kidney disease and feet and toe ulcers, will occur if blood glucose levels are not controlled (i.e. they spike too often).**

### **MEAL PLANNING:**

- The food you eat directly affects your blood sugar levels.
- Therefore correct eating and meal planning is one of the most **powerful tools** you have to control your diabetes.

Eating correctly will help you:

- Control your blood glucose levels - keeping them consistent, which, over time, reduces the risk of developing complications substantially!
- Control your weight
- Control blood cholesterol and triglyceride levels
- Make better use of your body's own insulin
- Feel good
- Improve your overall health

**CARBOHYDRATES** are the key nutrient. Choose those carbohydrate-containing foods that have a **LOW GLYCAEMIC INDEX** most of the time.

"Complex" Carbohydrates are found in:

- **Plant foods high in starch**, such as grains, rice, potatoes (includes breads, cereals, pasta etc)
- **Legumes** (baked beans, lentils, kidney beans, split peas etc)
- **Fruits and vegetables**
- **Dairy products**

"Simple" Carbohydrates are found in:

- **Refined starch foods** (sugar, jam, tomato sauce, cake flour, biscuits, crisps, sweets, chocolates) - i.e. most junk food.

The "**Glycaemic Index**" (**GI**) is a measurement of how quickly a food containing carbohydrate is digested to glucose and then absorbed into the bloodstream - relative to pure glucose (GI = 100).

**High GI (quick-release carbohydrate)** foods cause blood glucose levels to **spike too quickly** above "normal" limits. Lots of insulin is required to deal with this. Also energy levels sap very quickly after consumption of a "High GI carbohydrate". These foods **ARE NOT IDEAL CHOICES!**

**Examples of quick-release (High GI) carbohydrate foods: AVOID:**

- White / brown (light, fluffy) breads & bread rolls
- Rice cakes, snackbread, biscuits etc
- Refined breakfast cereals
- Sports / Energy Drinks
- High calorie Cold drinks
- Sweets, chocolates, marshmallows, crisps
- Cake flour, cornflour, sugar, honey (cakes, pastries, pies etc)

**Low GI (slow-release carbohydrate)** foods are **broken down slowly causing a slow, gradual, steady release of glucose** into the bloodstream.

Less insulin is therefore required for uptake of this glucose and so blood sugar levels remain consistent for far longer – resulting in **energy levels also being sustained for far longer**.

These foods **ARE IDEAL CHOICES** - and should form the basis of each meal.

**Examples of slow-release (Low GI) carbohydrate foods:**

- Heavy, high fibre breads (seed loaf, heavy "health" bread, heavy rye bread etc)
- Digestive biscuits, bran muffins (low GI ones!)
- Starches, eg durum wheat pasta, mealies, sweetcorn, baby potatoes, sweet potatoes, rice
- Breakfast cereals, eg Cereals high in fibre, Bran, low fat mueslis.
- Legumes : baked beans, lentils, green beans, butter beans etc
- Most fresh fruits and vegetables
- Low fat milk and yoghurt

**Choose LOW FAT foods:**

- Become very conscious of the fat content of foods – and keep your intake low.
- Read LABELS: **<3g fat / 100g**
- Watch out for "Low Fat" and "Lite" on labels
- Watch out for "**diabetic**" & "**diet**" products – **check the fat content & energy value**.
- "**FAT-FREE**" usually does mean fat-free, though!
- Buy **lean** cuts of meat and chicken (skinless).
- Use **low fat cooking methods**:
- grill / steam / bake – no oil / stir-fry – use very little (1 tsp) oil / microwave
- Avoid hidden sources of fat, such as cream, full-cream milk, high fat cheeses, pies, pastries, doughnuts, fried foods, coconut, skin on chicken, fat on meat, fish canned in oil, sausages, organ meats, pates, gravies, mayonnaise & salad dressings, commercial canned / frozen casseroles, bacon, chocolate etc etc.
- "Healthy" fats include nuts, avocados, olives, olive & canola oil: use a little from this group daily (eg 2 Tbs nuts OR ½ small avocado OR olives in a salad plus 1-2 tsp olive/canola oil)

**Further meal planning tips:**

- Eat in the correct balance: use foods from all the Food Groups
- **Eat low GI, low fat foods in small portions every 3-4hours**

- Each meal should consist of:
  - LOW GI carbohydrate foods
  - Small portion of protein (lean meat / chicken / fish / low fat dairy / eggs etc)
  - VERY LITTLE FAT (trim fat from meat/chicken, choose low fat foods, no frying)
- Examples of Low GI Snacks: fruit / fat-free yoghurt / bran muffin (low fat)
- Drink plenty of water

**In addition:**

- **Do plenty of exercise**
- **TEST your blood glucose levels OFTEN**

**Information provided by Dieticians at Work**



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