



## Welcome

Welcome to the twenty-second issue of Type 2 and You. In this issue we look at how different diabetes medications work, the different blood tests that are used as well as updates on our latest fundraising efforts and updates on some of the latest research. We also invite you to support us as well as having the chance to win a cash prize, by playing our newly launched lottery, the first draw being made in June.

# Tests to Diagnose Diabetes

The aim of this article is to clear up some of the confusion surrounding the various tests used to diagnose Type 2 diabetes. Very often people do not understand the different types of tests used and the different circumstances under which each is used.

### Fasting Glucose Test (FGT)

The Fasting Glucose Test (FGT) is a simple test performed after several hours of fasting. It is usually performed in the morning as this gives the body adequate time to fast. People having the test are advised not to have anything to eat or drink, except water, for 8-10 hours before the test. The test takes the form of a blood test with a sample taken by pricking the finger. The test results can be seen in the table at the end of this article. For the purposes of this article, impaired glucose tolerance [IGT] means that people are at risk of developing diabetes.

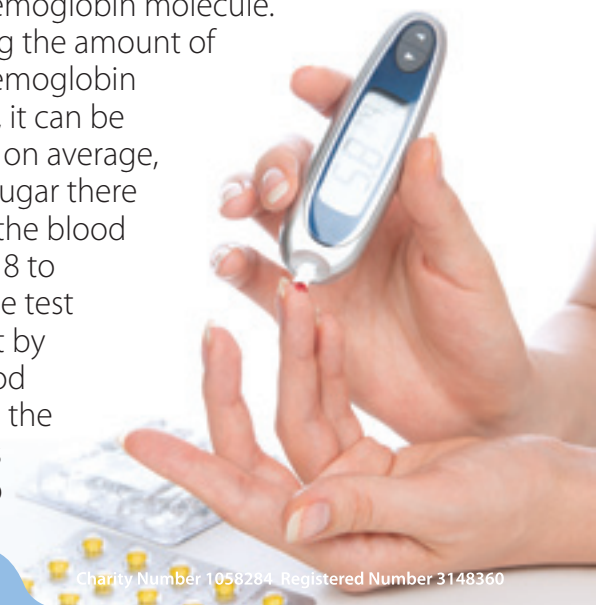
### Oral Glucose Test (OGT)

This is a more substantial test for diabetes, predisposition to diabetes and/or insulin resistance. It is usually carried out when a fasting glucose test has given an indication of either diabetes or impaired glucose tolerance. People are asked to take a glucose drink and then their blood glucose levels are checked every half

hour for the next two hours or just simply once after two hours. Because the test takes such a long time it is a good idea to take some reading material. If the results fall within the IGT range then it is likely that you will be advised to make some lifestyle changes and you may be given some medication to help lower your blood glucose levels. If the results fall within the diabetic range then it very likely that you will be given medication to lower your blood glucose levels.

### HbA1c Test

The HbA1c test measures the amount of 'glycated' haemoglobin in the blood. As the body metabolises sugar, small amounts of glucose 'stick' to the haemoglobin, forming a glycated haemoglobin molecule. By measuring the amount of glycated haemoglobin in the blood, it can be determined, on average, how much sugar there has been in the blood over the last 8 to 12 weeks. The test is carried out by taking a blood sample from the arm which is then used to



produce a reading. If the results are above 42 mmol/mol then it is likely that you will be advised to make some lifestyle changes and/or prescribed medication. The HbA1c test is being used increasingly to diagnose Type 2 diabetes.

	FGT (mmol/l)	OGT (mmol/l)		HbA1c (mmol/mol)
		After fasting	After 2 hours	
People without diabetes	6.0 & below	6.0 & below	7.8 & below	42
People with IGT	Between 6.1 & 6.9	6.0 to 7.0	7.9 to 11.0	Between 42 & 47
People with diabetes	7.0 & above	7.0 & above	11.0 & above	48 & above

It should be noted that none of these tests should be confused with blood glucose monitoring which is used in the day to day management of diabetes. The National Institute for Health and Care Excellence [NICE] recommends that self-monitoring of blood glucose should be available:

- To those on insulin treatment.
- To those on oral glucose lowering medications to provide information on hypoglycaemia.
- To assess changes in glucose control resulting from medications and lifestyle changes.
- To monitor changes during intercurrent illness.
- To ensure safety during activities, including driving.

# Stride out for

## IDDT members are invited to take part in our new 'Striding Out for Diabetes' challenge this summer.

We are encouraging people to walk, run or cycle during the weekend of June 6th and 7th to raise funds for the charity. The distance and location is up to each participant, with the campaign based on the principle that it's "up to you what you do and where you do it" in an attempt to get a series of activities all taking place on the same day.

The challenge is a progression from the run and cycle from Market Harborough, in Leicestershire, to Northampton, which took place in June last year and saw a small team of mainly IDDT representatives raise £500 for the charity.

## Nutrition Advice

### Dr Mabel Blades, consultant registered dietitian gives us the latest nutritional update.

In line with EU law, the labelling of pre-packaged foods and drinks is changing. Many have already changed and by December 2014 the majority will have done so.

Food labels are a useful tool in helping people to choose which foods to include in their diet.

The Guideline Daily Amounts (GDA) which are often seen on packs are being updated and renamed as Reference Intakes (RI) although **the amounts are the same as before**. Where manufacturers use front of pack information showing percentages of GDA, this will now be percentages of the Reference Intake (RI).

On the back of the pack the ingredients in a product must be shown and this is in descending order of weight. In addition, information on the nutrient content of foods per 100g must be given.

This will be as energy in both kilojoules and kilocalories, total fat, saturates, carbohydrates, sugars, protein and salt. Information on sodium will no longer be used.

### The Reference Intakes for energy and selected nutrients for adults are:

Energy 8400kJ / 2000kcal	Sugars 90g
Total fat 70g	Protein 50g
Saturates 20g	Salt 6g
Carbohydrates 260g	

### Allergies and Intolerances

Also in line with EU law, by December 2014 pre-packaged foods and drinks should have all of the 14 possible allergens highlighted in the ingredient list. In addition, pre-packaged foods and drinks should not simply carry the words 'may contain' unless the manufacturer has done a risk analysis. When eating out people will be able to ask for information on allergens in foods from those providing the food.

The 14 allergens are:

- Cereals containing gluten, that is wheat, oats, rye, barley, spelt khorasan wheat / kamut

# IDDT in June

This 'flagship' event will take place again this year on June 6th and people are also invited to walk, run or cycle with the team.

Martin Hirst, IDDT Chief Executive, said: "We, like every charity, are reliant on donations so we would be extremely grateful to anybody who registers to take part in this challenge.

"We are not putting any pressure on anyone to take part but if people do want to get involved then it will be up to you what you do. Whether, it's a one-mile walk or a marathon, every little helps."

We have created a fundraising pack to help participants generate awareness and sponsorship, including a sponsorship form.

To receive a fundraising pack or to register your interest for the flagship event, contact IDDT using the contact details at the end of this newsletter.

- Crustaceans e.g. prawns, crabs, lobster
- Eggs
- Fish
- Peanuts or ground-nuts
- Soya
- Milk (including lactose)
- Tree nuts including almonds, hazelnuts, walnuts, cashews, pecan, brazil nuts, pistachio, macadamia
- Celery
- Mustard
- Sesame seeds
- Sulphur dioxide (where added at greater than 10mg/kg or 10ml/L in the finished product)
- Lupin
- Molluscs e.g. clams, squid, oysters, scallops.



## The IDDT Lottery

**A new venture for IDDT and we hope you will join in with a chance to win!**

As the leaflet with this Newsletter says, the IDDT Lottery will help to fund the provision of FREE IDDT booklets and leaflets, which enables information about the various aspects of diabetes to be available to everyone, regardless of income.

**Playing is easy.** Just fill in the standing order mandate on the leaflet, return the form to us and we'll enter you into our monthly draw. It only costs £2.00 a month to enter the monthly draw. 60% of the total subscriptions (the prize fund) will be paid out as FOUR cash prizes made up of 40%, 30%, 20% and 10% of the total prize fund.

You are welcome to enter as many times as you like through multiple sign ups if you want to increase your chance of winning! The more people who join in, the bigger the prize! If you have friends or family who would also join in, don't hesitate to give us a call for more leaflets!

**The IDDT Lottery starts in June 2015 and winners will be drawn during the first week of July. If you want to start paying your standing order during April and May, your entries will be included in the June Draw.**

The winners each month will be informed and details published on our website at the end of the first week of the month. The winners for the previous three months will also be published in our Newsletters, although there is the option to remain anonymous.

**Enter the IDDT Lottery now!**

**Help us to help people with diabetes**

The IDDT Lottery Terms and Conditions are available on our website or can be sent to you if you contact IDDT on 01604 622837.



# At last!

## Some sensible advice about diet!

### Low-carb Diet Recommended for People with Type 1 and 2 Diabetes

A group of 26 physicians and nutrition researchers carried out a study to take a re-look at dietary guidelines because current recommendations are not controlling the 'epidemic' of diabetes.

They came to the following conclusions:

- Medical literature shows that low carbohydrate diets reliably reduce high blood and at the same time show general benefit for the risk of cardiovascular disease.
- Low carbohydrate diets should be used as the first line of attack for treatment of Type 2 diabetes and should be used in conjunction with insulin in those with Type 1 diabetes.

They also point out that low fat diets have failed to improve obesity, cardiovascular risk or general health whereas low carbohydrate diets for the treatment of diabetes and metabolic syndrome are successful and without side effects.

IDDT and many others have been advocating this for many years and indeed, many people who have had diabetes since before the dietary guidelines changed in 1986 to high carb/low fat diets, never did change to a high carb diet. Why? Because it never did make sense!

It seems the authors agree and authors of the study stated:

- Diabetes is a disease of carbohydrate intolerance.
- Reducing carbohydrates is the obvious treatment.
- The resistance of government and private health agencies to low carb diets is very hard to understand.
- Diabetes is too serious a disease for us to try to save face by holding on to ideas that fail.
- Patients with Type 2 diabetes on carbohydrate-restricted diets reduce and frequently eliminate medication. People with Type 1 usually require less insulin.

- For many people with Type 2 diabetes, low carb diets are a real cure – they no longer need drugs, they no longer have symptoms, their blood glucose is normal and they generally lose weight.
- Intensive glucose-lowering by dietary carbohydrate restriction has no side effects comparable to the effects of intensive drug or insulin treatment.

### Caution

The authors caution that people with diabetes who are already on drugs for Type 2 diabetes or those who are taking insulin, should change to a low carb diet only with the help of their doctor or health team. This is because the diet may have a similar sugar-lowering effect so it is critical that drug and insulin doses are tapered off to avoid low blood sugars. (Nutrition, July 2014)



# How Do My Medicines Work?



Sometimes Type 2 diabetes can be treated with diet and exercise alone. However, when this is not sufficient then it will be necessary to start taking medication. There are a range of drugs that are used to treat Type 2 diabetes and these should be used alongside diet and exercise wherever possible. There are three main groups of drugs and they work in different ways.

- Biguanides (Metformin) – this reduces insulin resistance, which means that it improves the body's ability to use the insulin that is still being produced. Its main side-effects are stomach upsets. If metformin on its own does not control blood sugar levels, then another drug may be added from the range known as sulfonylureas.
- Sulfonylureas (Glibenclamide, Gliclazide, Glimepiride, Glipizide, Tolbutamide) – these drugs increase the amount of insulin the body produces. This means that they have the effect of lowering blood sugar levels and can cause hypos. Their side effects can also be stomach upsets and skin reactions. [Insert picture of tablets here]
- Glitazones (Pioglitazone) – this can also be added to the treatment regime. This drug works by reducing insulin resistance in fat tissue, muscles and the liver. There has been some recent research that shows that it can cause fluid retention.

There are other new drugs that can be used to treat Type 2 diabetes, such as exenatide (Byetta/Bydureon) and liraglutide (Victoza). These are injected but they should not be confused with insulin. They work in several ways; they stimulate the body to make insulin, they slow down the rate at which glucose passes from the gut into the bloodstream, they cause cells in the body to remove glucose from the blood and finally they act on the brain to produce a feeling of fullness that reduces appetite and therefore food intake. They are used together with tablets and because they lower blood sugar levels they can cause hypos. The main advantage of these drugs is that they can help people to lose weight.

This list is not exhaustive and there are a wide range of drugs available that can be used to treat Type 2 diabetes. You should remember that if you are taking any medication that can cause hypos then you should check your blood sugar levels regularly, particularly if you drive. You should discuss this with your doctor.

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## Adding in Insulin

If these medicines still don't control blood sugar levels well enough, then the doctor may prescribe insulin.

Treatment with insulin usually begins when the tablets you have been taking are no longer able to control your blood sugar levels sufficiently well. There are risks and benefits to insulin therapy and your doctor or nurse should discuss these with you before you start using insulin. The main risk is the increased possibility of low blood sugar levels (hypoglycaemia or hypos), whereas benefits include more stable blood sugar levels and an improvement in general well-being.

There are lots of different types of insulin available and they work in different ways. Long-acting or background insulins are designed to be absorbed gradually, over a long period of time. Short-acting insulins are designed to work quickly and are used to deal with the sharp increase in blood sugar levels that happens after eating a meal. Intermediate-acting insulins fall between the two. Mixtures of long-acting and short-acting insulins are also available. These are called pre-mixed insulins. Your doctor will discuss with you which insulin or combination of insulins will suit you best.

Below is a list of things that you should be given before you start using insulin:

- Education about how to use the insulin and the injection device prescribed for you, how insulin works, how it affects the body, and how you need to think about and control what you eat and drink.
- Information about hypoglycaemia, how to best avoid it and what to do if it happens.
- A blood glucose meter to check your blood sugar levels, and information about how to use it.
- How to read the results and how to use them – for example, you should have information on what to do if there are unexpected changes in your blood sugar levels.
- Support (on the phone and face-to-face) from a doctor or nurse with training and experience in managing insulin therapy.

**For more information about medication and/or blood testing contact IDDT using the contact details at the end of this newsletter ask for our booklet "Type 2 Diabetes – Management and Medication".**

## IDDT NHS Survey

As our members know, in January we sent out a survey to all our members with diabetes. We would like to thank you all for the huge number of responses we received. These are now being analysed. Among other things, the findings of the survey will help us to know what is important to you in the care of your diabetes. Many of the decisions about the care people with diabetes receive are made by people who do not actually have diabetes, which doesn't mean they don't care, but it could mean that decisions are being made without the full knowledge of what is important to people who live with diabetes. Thanks to all of you who completed the survey, we will know and we will be able to use this information.

## Exercise and Diabetes

### *IDDT's new free booklet*

The treatment of both Type 1 and Type 2 diabetes is insulin or medication, diet and exercise. There are 3 important factors in the treatment of both types of diabetes. They are all equally important because they all affect blood sugar levels and all affect each other.

IDDT has booklets with information about both types of diabetes and diet, Diabetes – Everyday Eating which covers diet and now we have published a new booklet, Exercise and Diabetes.

The new booklet not only looks at different types of exercise, why it is important, its effects on blood glucose levels, the heart and blood pressure.

**If you would like a free copy of 'Exercise and Diabetes', contact IDDT using the contact details at the end of this newsletter.**

# Working with others



## Easter Chicken

by Dr Mabel Blades

**With Easter just around the corner, Mabel has provided us with a seasonal recipe, Easter Chicken.**

You will need:

- One oven ready chicken or 4 chicken breasts
- Half teaspoon paprika
- Half teaspoon onion powder or onion salt
- Half teaspoon oregano
- Tablespoon tomato puree mixed with some lemon juice or water

You can vary the quantities according to taste.

Mix the ingredients together and brush over the chicken. Roast according to the directions on the pack.

Serve with vegetables of your choice.

**IDDT remains committed to not accepting funds from the pharmaceutical industry, to maintain our independence and ensure that the information we provide is as unbiased as possible. It is vital that treatment is based on evidence and not influenced by the expensive marketing campaigns of pharmaceutical companies.**

However, IDDT membership is growing and the economic climate is not really improving, so the Trustees have had long discussions about ways of improving our income. It was agreed that there are no circumstances in which we would accept pharmaceutical industry funding but we can accept funding from certain cosmeceuticals and nutraceuticals. No doubt readers will be saying what on earth are they?

- **Cosmeceuticals** are skincare products, which bridge the gap between cosmetics and pharmaceuticals and used by skincare professionals in their practices.
- **Nutraceuticals** are nutritional products that provide health and medical benefits but unlike pharmaceuticals, these are not synthetic substances or chemical compounds formulated for specific purposes. Dietary supplements, dietetic and functional foods fit into this category.

## pomegreat



Pomegreat is a pomegranate juice drink with a low glycaemic index (low GI), so a 'nutraceutical'. It is made from pomegranates blended with a natural fruit extract containing pinitol, but never sugar. Pinitol is found mainly in legumes, such as carob and whole soybean and there is evidence that it can counter some of the harmful effects of sugar.

As sugar in drinks is a major risk factor for Type 2 diabetes, IDDT is pleased to partner with a brand that is taking this issue seriously and providing a healthy drink. Millions of people worldwide are at risk of developing Type 2 diabetes because of the intrinsic risks associated with modern convenience diets. We

look forward to working with Pomegreat and we hope that other juice and soft drink businesses will follow their important lead.

The company also make Mangogreat and both products are available in leading supermarkets. You can also visit their website at [www.pomegreat.com](http://www.pomegreat.com)



## Anyone for tea?

A study recently published in the Journal of Endocrinological Investigation has concluded that drinking chamomile tea can have benefits for people with Type 2 diabetes. The study took 64 people with Type 2 diabetes, and asked half of them to drink a cup of chamomile tea three times a day, after each main meal [3 grams of tea in 150mls of water]. The other half were asked to drink water. After eight weeks the researchers found some very interesting results. They found that, compared to the group that drank water, the group that drank tea had:

- Significantly improved glycaemic control [HbA1C].
- Significantly decreased insulin resistance.
- Significantly reduced levels of LDL [bad] cholesterol.

Chamomile tea is readily available in supermarkets.

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