



# Welcome

Welcome to the fifty-sixth issue of Type 2 and You and the autumn issue for 2023. It may seem like early days but in this issue we have a reminder about the benefits of winter vaccinations.

We have a look at, what can be considered, one of the lesser recognised complications of diabetes – Osteoporosis, as well as articles on kidney health and our usual round up of bits and pieces.

We are also very pleased to announce our new charity partnership with the national event Diabetes Professional Care which will

be held at Olympia in London in November.

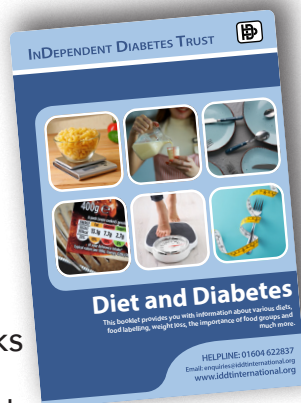
As usual, we have the results of our last Lottery draws and news of the Christmas Bonus Draw Prizes that you can win in the December draw – TOP PRIZE £1,000.

To end, we have a final call to book places for our annual event "Tips, Techniques and Trials" and also attend our Annual General Meeting. But first:



## New, FREE booklet from IDDT – 'Diet and Diabetes'

**This booklet provides you with information about various diets, food labelling, weight loss, the importance of food groups and much more.**



There are many different diets and this booklet looks at the most common ones but it is also important that we recognise the importance of carbohydrates for people with diabetes.

As we know, 'Diet' is one of the three key elements to managing diabetes. IDDT believes in the right of everybody to have an informed choice as to how their diabetes is managed and that includes diet.

With this in mind, IDDT is not an advocate of any particular diet or the automatic superiority of one diet over another. IDDT

believes that choice of diet is a matter for the individual, wherever possible, and that decisions about choice of diet may change, dependent on factors such as lifestyle, belief, culture and health. As such, this booklet is not about giving advice but about giving information.

For your FREE copy, contact IDDT using the details at the end of this issue.

## IDDT's new membership database

In August we changed to a new computer system for members' details, so while it is new, please bear with us if you find any errors or receive something twice but do let us know and we will make corrections.

## What's in a BMI?

Essentially, your BMI is a numeric value that is calculated using your height and weight to screen for weight categories that may indicate a risk of associated health problems. Although BMI can be used as a screening tool, it does not diagnose the body fatness or the health of an individual. If an abnormal BMI is identified then additional diagnostic tests will be carried out to identify any health issues. Although, the correlation between the BMI and body fatness is fairly strong, two people can have the same BMI but their level of body fatness may differ. So, in general:

- At the same BMI, women tend to have more body fat than men.
- At the same BMI, the amount of body fat may be higher or lower depending on the racial/ethnic group.
- At the same BMI, older people, on average, tend to have more body fat than younger adults.
- At the same BMI, athletes have less body fat than do non-athletes.

## How was the BMI developed?

What we now know as the BMI was developed by Adolphe Quetelet, a Belgian astronomer, mathematician, statistician, and sociologist, between 1830 and 1850. Originally called the Quetelet Index, it was never intended to be used as a means of medical assessment but rather a means of discovering the socially ideal human being. The modern term "body mass index" (BMI) for the ratio of human body weight to squared height, was coined in a paper published in the July 1972 edition of the Journal of Chronic Diseases by Ancel Keys and others. In this paper, Keys argued that what he termed the BMI was "if not fully satisfactory, at least as good as any other relative weight index as an indicator of relative obesity". Keys explicitly judged BMI as appropriate for population studies and inappropriate for individual evaluation. Nevertheless, due to its simplicity, it has come to be widely used for preliminary screening.

## How is your BMI calculated?

BMI is calculated by dividing an adult's weight by their height squared. So, for example, an adult who weighs 70 kg (around 11 stone) and whose height is 1.75 m (around 69 inches) will have a BMI of 22.9.

Both an imperial and metric Adult BMI calculator can be found here:

[www.bupa.co.uk/health-information/bmi-calculator](http://www.bupa.co.uk/health-information/bmi-calculator)

## What are the BMI Weight Ranges?

**Your BMI will fit into one of 5 bands:**

**under 18.5** – This is described as underweight.

**between 18.5 and 24.9** – This is described as the 'healthy range'.

**between 25 and 29.9** – This is described as overweight

**between 30 and 39.9** – This is described as obesity

**40 or over** – This is described as severe obesity

## Screening for health risks with the BMI

If you have a BMI less than 18.5 (underweight), you may be at higher risk for developing the following conditions:

- Malnutrition.
- Anaemia.
- Osteoporosis.
- Infertility.
- Weakened immune system, which could lead to more frequent infections and illnesses.

If you are underweight, your healthcare provider will likely order certain blood tests and other tests to check your overall health and to see if you're malnourished. In general, the higher your BMI, the higher your risk for the following conditions:

- Heart disease.
- High blood pressure (hypertension).
- Type 2 diabetes.
- Gallstones.
- Osteoarthritis.
- Sleep apnoea.
- Certain cancers, including colon, breast, endometrial and gallbladder.
- Depression and other mental health conditions.

It's important to remember that you could have any of the above health conditions without having a high BMI. Similarly, you could have a high BMI without having any of these conditions. Genetics and other factors, such as smoking cigarettes, play a large role in the development of these conditions.

## Metabolically Healthy Obesity

Notably, a sizeable minority of people with obesity will live free of disease during their lifetime and this is described as 'metabolically healthy obesity'. People with metabolically healthy obesity have a reported lower risk of Type 2 diabetes than those with metabolically unhealthy obesity, but why is this?

Body composition, or more specifically where fat is deposited around the body, is a significant driver of metabolic health risk and can be measured using techniques such as magnetic resonance imaging (MRI). For example, elevated visceral fat (the fat typically deposited around the organs) but not subcutaneous fat (the fat typically deposited just underneath the skin), is associated with significantly greater levels of circulating insulin and blood glucose in BMI-matched persons. Putting this in more familiar terms, carrying weight round your waist is going to put someone at increased risk of Type 2 diabetes.

## So, is it time to abandon the BMI?

As we have already said, the BMI is only a screening tool not a diagnostic tool - it does not diagnose body fatness or health. While the BMI is pretty well embedded in clinical practice there is a growing body of health professionals and researchers who argue the BMI is fundamentally flawed. They argue that it brings all the elements of body composition, such as fat deposits and muscle mass, into a single measure. Hence, people can have the same BMI but different amounts of body fat.

## Limitations of the BMI

The BMI calculation is not suitable if you:

- have an eating disorder.
- are pregnant – your BMI will go up as your weight increases during pregnancy. Use your pre-pregnancy weight when calculating your BMI.
- are under 18 years old – children and young people's weight is measured in percentiles based on an average from national surveys.
- are from black, asian and ethnic minority groups who have a higher risk of developing some long-term conditions, including Type 2 diabetes.

In addition, the BMI calculation does not include muscle mass, which weighs more than fat. This means muscular adults and athletes may be classed as overweight or obese even though their body fat is low. Conversely, adults who lose muscle as they get older may fall into the healthy weight range, even though they may be carrying excess fat.

## What are the alternatives?

Alternative measures include waist-to-height ratio (WHtR) and waist-to-hip ratio (WHR), as well as imaging methods such as computed tomography (CT), magnetic resonance imaging (MRI), and dual-energy X-ray absorptiometry (DEXA) and bioelectrical

impedance to assess fat volume and location. All have made some inroads on the tight grip BMI has had on obesity assessment.

## Waist-to-height ratio (WHtR)

Measuring your waist to height ratio can tell you if you have excess tummy fat, even if you have a healthy BMI. To calculate your waist to height ratio, measure your waist and divide it by your height. Use measurements in the same units, either centimetres or inches. A waist to height ratio of 0.5 or higher means you may have increased health risks such as heart disease, Type 2 diabetes and stroke.

To measure your waist:

- Find the bottom of your ribs and the top of your hips (just above your belly button).
- Wrap a tape measure around your waist midway between these points.
- Breathe out naturally before taking the measurement.

The National Institute for Health and Clinical Excellence (NICE) began recommending the use of WHtR in clinical practice in 2013.

## Waist-to-Hip Ratio (WHR)

The waist-to-hip ratio is the ratio of the circumference of the waist to that of the hips. This is calculated as waist measurement divided by hip measurement. For example, a person with a 30" waist and 38" hips (or a 75cm waist and 95cm hips) has WHR of about 0.79.

To take WHR measurements, the individual should stand with feet close together, arms at the side and body weight evenly distributed, and should wear little clothing. The subject should be relaxed, and the measurements should be taken at the end of a normal breath. The waist is measured at the smallest circumference of the natural waist, usually just above the belly button, and the hip circumference may likewise be measured at its widest part of the buttocks or hips. The World Health Organisation defines abdominal obesity in men as a waist-to-hip ratio of at least 0.90. For women, it's a ratio of 0.85 or more. A ratio higher than 1.0 for either sex means a much higher chance of health problems.

## Imaging Options

Many health professionals would not disagree that imaging for body fat distribution, such as CT, MRI or DEXA scans are much more accurate and diagnostically useful than either BMI, WHtR or WHR. However, their increased use is hampered by their high cost and, in the case of CT and DEXA scans, the issue of radiation exposure.

## The Future?

Chances are that BMI will not fade away anytime soon, given how entrenched it has become in clinical practice, as well as its relative simplicity. However, some experts predict that BMI will come to be seen as a screening tool that categorizes people into general risk groups that need other metrics and variables, such as age, race, ethnicity, family history, blood glucose, and blood pressure to better describe health risk in an individual.

# Lottery Jackpot!

As a thank you to our members and Lottery players and as a celebration that 2024 is 30 years since IDDT formed, we are having JACKPOT Lottery draw.

The prizes will be:

- **First prize: £1,000**
- **Second Prize: £750**
- **Third prize: £500**
- **Fourth prize: £250**

The Jackpot Draw will take place in early January 2024. If you are already a Lottery player, then you will automatically be entered into the JACKPOT. However, if you would like to join the Lottery to have a chance of winning the JACKPOT, you still have time to set it up, just contact IDDT. Contact IDDT for a Lottery form by calling IDDT on 01604 622837, email [karl@iddtinternational.org](mailto:karl@iddtinternational.org) or write to IDDT, PO Box 294, Northampton NN1 4XS



# Diabetes and Flu

Although it is still only September, like it or not, the flu season is coming and people with diabetes are at increased risk of developing complications of flu and difficulties with the impact the flu may have on their diabetes. Influenza, commonly known as the flu, is a respiratory virus and causes symptoms such as fever, cough, sore throat, runny nose and can progress to more serious illnesses, such as pneumonia, and even death. In fact, flu causes between 10,500 and 25,000 deaths a year in England and Wales and is responsible for about 800,000 visits to GPs a year.

The flu virus infects cells at the back of the nose and throat, causing congestion and/or a sore throat. Inflammation of the mucus membranes inside the bronchial tubes, which carry air in and out of your lungs, cause a cough.

This inflammation also creates an opportunity for bacteria, normally present in our throats, to infect the lungs themselves, causing pneumonia. This can cause difficulty breathing, a cough, and chest pain, and, if not treated, it may become deadly.

People with diabetes already have difficulty fighting off all sorts of infections, and likewise have difficulty mustering an appropriate inflammatory response to fight off an early pneumonia, meaning they have an increased risk of developing pneumonia as a result of a flu infection. Because of this it is very important that people with diabetes get their free flu vaccination.

## How the Flu Can Affect People with Diabetes

Whether you have diabetes or not, the body responds to illness, initially, in the same way. Any infection or injury causes a stress response in the body by increasing the levels of certain hormones, such as cortisol and adrenaline.

These hormones work against the action of insulin and, as a result, the body's production of glucose increases, which results in high blood sugar levels, which can make you feel even worse. On top of this, high blood sugars mean that your body cannot fight infection as well as normal, meaning that without good diabetes management, your recovery can be slower.

## How to prevent Flu

These steps apply to anyone looking to prevent the flu and complications like pneumonia, but they are especially important for people with diabetes.

- Get a yearly flu vaccine jab. (See below)
- Avoid physical contact with others who are coughing or sneezing.
- Wash your hands frequently.
- Flu virus can live for 24 to 48 hours on surfaces, so wash surfaces with soap or other disinfectants.
- Wear a face mask to indoor events during flu season.
- Keep tabs on influenza spread in your community, and consider staying home if cases are high.

## Flu and Pneumo Jabs

At this time of year, we like to remind you that the flu jab is offered as a priority to people in 'at risk' groups, which includes those with diabetes, pregnant women and the elderly. People with diabetes are eligible for both the flu and the "pneumo jab" vaccines. If you are offered both vaccines it is safe to have them at the same time.

The 'pneumo' jab - a vaccination to protect against pneumonia, is available to the following groups of people:

- children who are under two years of age – they are vaccinated as part of the childhood vaccination programme.
- adults who are 65 years of age or over.
- children and adults with certain chronic health conditions, including diabetes.

Bear in mind that getting vaccinated does not guarantee that you won't get the flu but research has shown that getting vaccinated reduces the likelihood of people with diabetes being hospitalised by 46% and of those admitted, there was a 26% lower risk of being admitted to intensive care.

## If all else fails – Sick Day Rules

In spite of all our best efforts and, like it or not, (and most of us don't) we, or our loved ones, can get sick at some time or another. Being sick can range from a relatively minor inconvenience to a pretty major life-event. Throw diabetes into this already unpleasant mix and life can get even more complex, having to manage not just being ill but also the effects of being ill on your day-to-day diabetes management. Over time, people living and working with diabetes have developed some "Sick Day Rules" to help people get through their illness, while minimising its impact on their diabetes.

The sick day rules you may or may not adopt will depend on two things, firstly, what your illness is, and secondly, how your diabetes is managed e.g., diet only, diet and medication etc.

The sick day rules focus on several areas:

- 1. Rest.** Avoid strenuous exercise.
- 2. Treat symptoms.** Symptoms such as a high temperature or a cough can be treated with basic over-the-counter medicines such as painkillers and cough syrups. These do not have to be sugar-free varieties as they contain very little glucose and are taken in small quantities. However, ask your pharmacist for advice.
- 3. Dehydration.** Prevent dehydration by drinking plenty of sugar-free fluids. Sip gently throughout the day (at least 2 ½ to 3 ½ litres or 4 to 6 pints in 24 hours). Staying hydrated is very important because becoming dehydrated can stop your medication working properly, can cause your blood sugar levels to rise and, in some cases, lead to ketoacidosis, which will require hospital treatment.
- 4. Medication.** If you take medication for your diabetes, then you may need to

change the dose of medication you are taking while you are ill. Below is some general guidance about taking medication while you are ill but do not hesitate to contact your doctor or diabetes team if you need further advice or have any concerns.

### If you manage your diabetes with tablets

Continue to take your tablets even if you are not eating. However:

- If you are taking metformin or an SGLT2 inhibitor (such as empagliflozin, canagliflozin, ertagliflozin, dapagliflozin) and you are vomiting or have diarrhoea, you should stop this medication until you have recovered.
- If you take Sulphonylureas (such as gliclazide, glimepride, glipizide) and you are unable to eat or drink, you should stop this medication as it can cause hypos.

### If you manage your diabetes with non-insulin injections

If you have non-insulin injections (GLP-1 Receptor Agonists) such as exenatide, semaglutide, dulaglutide or liraglutide, you should continue to inject as normal, but it is important that you continue to eat and drink normally.

However, if you have sickness and/or diarrhoea, you should not take these drugs until you start eating and drinking normally again.

### If you manage your diabetes with insulin

Monitor and record your blood glucose levels at least four times a day (at mealtimes even if you are not eating your usual meals, at bedtime and preferably through the night as well).

If your blood glucose readings are higher than usual, you may need to increase your insulin dose. Contact your GP or diabetes nurse if you are not sure how to do this.

If your blood glucose levels are lower than usual you may need to reduce your insulin or any tablet you are taking which helps your body produce more insulin. Again, contact your GP or diabetes nurse if you are not sure how to do this.

5. **Eating and drinking.** Your body uses a lot of energy when you are unwell, even if you are resting. Try to eat as normal but if you cannot manage your usual meals, replace these with light and easily digested foods such as soups and milky puddings.

6. **Hypoglycaemia.** Very occasionally your blood glucose levels may fall when you are ill, and you may experience a hypoglycaemic episode (a 'hypo' i.e., blood glucose level below 4 mmol/L). Make sure you have suitable hypo treatments available such as dextrose tablets, fruit juice or jelly babies.

### 7. Taking Steroids and other non-diabetic medicines

- **Steroids.** Steroids, are anti-inflammatory medicines used to treat a range of conditions including Addison's disease, severe asthma, rheumatoid arthritis, lupus and now, coronavirus. Some common steroids are prednisolone, betamethasone, dexamethasone and hydrocortisone.

If you are taking steroid medication, become unwell and your blood sugars start to rise then you should contact your GP or Diabetes Team for advice, as it may be that you need to change the dose of your current medicine or start a different type of medication.

If you take any of the following medications, then you should stop taking them and seek medical advice. These drugs can cause dehydration and stop your kidneys working properly.

- **ACE Inhibitors,** used for some heart conditions and include drugs such as ramipril, lisinopril, perindopril and captopril.

- **ARBs,** also used for some heart conditions and include drugs such as losartan, valsartan, candesartan and irbesartan.

- **Diuretics,** used for fluid retention and high blood pressure. They include such drugs as furosemide, indapamide and bumetanide. You should seek medical advice before stopping these medicines.

- **NSAIDs.** These are non-steroidal anti-inflammatory painkillers and include drugs such as ibuprofen and naproxen.

Various forms of these drugs are available over the counter, so check the ingredients of any painkillers before you take them.

### 8. Know When to Seek Help

Call your GP or diabetes specialist nurse for immediate help:

- If you have persistent vomiting and are unable to keep fluids down
- If you become drowsy and breathless
- If you have acute abdominal pain
- If your condition worsens



## Head to Toe

### From Head:

- **Foot Ulcers Red Flag for Eye Disease in Diabetes**

Sores on the feet can signal problems with the eyes in patients with diabetes. Previous research and anecdotal experience show that diabetic foot ulcers and diabetic retinopathy frequently occur together. New research further clarifies this link and shows that patients with foot ulcers may receive fewer treatments to protect their sight.

Researchers in the USA have presented the results of a study that adds an important dimension to the understanding of the association between the two conditions.

The researchers reviewed correlations between diabetic foot ulcers, diabetic retinopathy and their underlying causes. They found that patients with diabetic foot ulcers appeared to receive less attention to their diabetic retinopathy and received fewer treatments with eye

injections targeting vascular endothelial growth factor [VEGF], an important driver of progression of diabetic retinopathy. Those without ulcers received an average of 6.9 anti-VEGF injections per eye, while those with ulcers averaged 4.3.

They concluded that foot ulcers may hinder the ability of patients to get to appointments to receive the injections and that when clinicians detect either condition, they should involve a team that can intervene to help protect a patient's vision and mobility. Although this study is from the USA, it would be interesting to see if it would be replicated in the UK and, if so, whether a more integrated model could reduce the incidence and severity of both sets of complications.

#### • **The eyes have it!**

The Noctura 400 eye mask has been launched across the UK and has given UK optometrists access to an innovative treatment for diabetic retinopathy (DR). In a recent NHS evaluation, use of the mask showed a clinical improvement and avoidance of further deterioration in 96% of patients with diabetic eye disease.

The mask is an early-stage, non-invasive treatment for DR and is worn at night. The Noctura 400 works by beaming out a green light on a wavelength which is absorbed by the rod-shaped cells that provide our night-time vision. The delivery of this light during the night prevents the increased demand for oxygen by the retina during dark adaptation. The home-based treatment offers patients with early-stage DR a solution that can prevent or delay progression to intravitreal injections. The mask does not need charging, each lasting 90 days with replacements being sent through the post. The mask is available on the NHS for those who meet specific criteria (also privately through approved ophthalmologists and opticians) and is expected to save the NHS millions of pounds and free-up large numbers of appointments for those who need hospital-based treatments.

#### **To Toe:**

##### • **Beta Blocker Gel Shows Promise for Diabetic Foot Ulcers**

Esmolol hydrochloride is a beta blocker that is normally used to treat conditions such as tachycardia or hypertension. However, an Indian study has found that twice-daily esmolol hydrochloride gel appeared to significantly improve closure of diabetic foot ulcers, particularly in patients with risk factors for impeded wound healing.

As a gel, esmolol hydrochloride is administered topically to stimulate wound healing via mechanisms such as the migration of keratinocytes, fibroblasts and endothelial cells into wound tissue. The trial found that in 140 patients with Type 1 or 2 diabetes, target ulcer closure within 12 weeks was more than twice as likely in those assigned esmolol gel plus standard of care than those given standard of care alone. The impact of adding esmolol gel to standard of care was even greater in patients with a body mass index (BMI) over 25 kg/m<sup>2</sup> and in those who weighed more than 80 kg (176 lb). However, although the study has been described by some as "fascinating" and the results as "astounding", others are keen to point out that they need further confirmation and investigation.

##### • **A Promising New Approach to Treating Chronic Diabetic Foot Ulcers**

A new platelet-rich fibrin (PRF) matrix is becoming a promising and affordable alternative for treating diabetic foot ulcers suggests a pilot study conducted in São Paulo, Brazil. The researchers created the third generation PRF as a concentrate obtained by centrifuging the patient's blood. As such, the product can be considered an autologous healing biomaterial that contains white blood cells, platelets, and a broad array of crucial proteins in a dense matrix and contains no additives. The researchers point out that the advantage of their work is that their method allows for the creation of three-dimensional membranes of varying sizes that can be adapted to each patient's needs.



In this prospective and interventional pilot study, the authors used PRO-PRF on three male patients with Type 2 diabetes. Their average age was 54 (51-57) years and they had chronic ulcers on the lower limbs associated with complex and difficult-to-control diabetes. Patients with ulcers of other aetiologies were excluded from the study. Seven PRO-PRF membranes were applied between two and four sessions. In total, 11 liquid-phase infiltrations were applied between three and four sessions. Participants were assessed weekly. After the first session, the researchers observed an average reduction in lesion area of 36.6%. After the second and third weeks, the average reductions were 22% and 39%, respectively. On average, all patients achieved complete healing of the lesion within 9 weeks. The researchers commented, "All study patients progressed favorably, with a considerable acceleration of the healing process. Nevertheless, they continued to be regularly followed since, given the nature of the disease, there is the possibility of relapse." However, they added, "This is a tremendously promising line of research. The process is simple, easily reproducible, and affordable."

# Update from Ukraine

As we reported in our June issue, our March consignment of 103 boxes was sent to Ukraine before Easter and above is some of the children receiving sweets and knitted toys and hats for Easter.

Everything we sent reached the people in need, mostly people in Kherson and Kharkiv areas. It is especially important that the help is reaching people in the villages where people can't afford expensive medicine and equipment.

One person reported to us that his grandma is 83 years old and her monthly pension is 51 pounds. Most of the elderly people in the villages are in the same position.

He asked one lady why she doesn't monitor her blood sugar level regularly and she answered, that test strips are expensive for her and she economises on them...

He tells us that this is just one more example of how great your help is...

At the time of writing, we are preparing for our next consignment of over 80 boxes to be sent to Ukraine. A huge thank you to everyone who is helping IDDT to help people with diabetes in Ukraine, to the drivers who transport the boxes and the people in Ukraine who are enabling this help to reach the people in need.





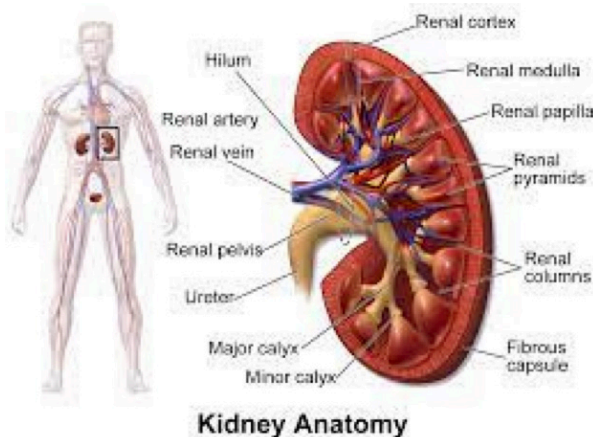
# Looking after your Kidneys

## What and where are the kidneys and what do they do?

Our two kidneys are about the size of a fist and are shaped like beans. They are situated just above the waist in your back and are partly protected by the ribs.

The kidneys get rid of the body's waste products and excess water as urine. The waste products formed from the breakdown of the protein we eat and from normal muscle activity. The kidneys also produce hormones that help in the production of red blood cells, build strong bones and help to keep blood pressure under control.

The kidneys are essential to maintaining healthy, balanced body chemistry. It is possible to live a healthy life with just one kidney.



Kidney Anatomy

## Facts about diabetes and the kidneys

- Between 30 and 50% of people with diabetes are at risk of kidney disease and older people are particularly at risk.
- Diabetes is the single most common cause of end-stage renal disease [ESRD] in Europe and the US.
- People with kidney disease are at higher risk of heart disease.
- A doctor who specialises in treating diseases and problems of the kidneys is called a nephrologist.
- People with Type 2 diabetes are often found to have microalbuminuria and overt nephropathy shortly after the diagnosis of their diabetes because diabetes is often present many years before diagnosis and damage occurs during this time.

## Kidney disease and diabetes

Kidney Disease is termed Chronic Kidney Disease (CKD) if the kidneys are not working at full capacity for more than 3 months. It is sometimes called Diabetic Nephropathy or Renal Disease.

Kidney disease is one of the most common complications of diabetes and the risks of developing it are increased by some lifestyle factors and/or the presence of other complications of the condition. In the early stages of kidney disease there are usually no symptoms, so the only way to know is to get your kidneys checked. Over time however, certain symptoms will appear if kidney damage progresses.

Symptoms may appear when at least 75% of your kidney function is lost.

## Risk Factors

- High Blood Pressure
- Heart Disease
- Diabetic Retinopathy
- Diabetic Neuropathy
- Smoking
- Eating high-sodium foods
- Being overweight
- Sedentary lifestyle

## Symptoms

- Nausea & vomiting
- Lack of appetite
- Trouble sleeping
- Fatigue & Weakness
- Weight loss
- Itching
- Muscle cramps
- Swelling of the face, feet, ankles
- Anaemia
- Shortness of breath
- Chest pain
- Worsening of high blood pressure

So, what actually happens? Blood sugars that are high over a long period of time can damage the millions of tiny blood vessels in the kidneys which prevent the kidneys from working well. If both diabetes and high blood pressure are present, the risk to the kidneys is greater. Inside each kidney there are about one million tiny units called nephrons that filter and remove excess fluid and waste products from the blood. The waste products and the fluid that are filtered out are excreted as urine. If the kidneys fail then the harmful waste products build up in the blood, called uremia, and you feel ill.

### Prevention

As with any complication of diabetes, prevention is better than cure. Even if you already have kidney disease, you can slow the progression.

Here are some steps you can take:

- Get tested. Kidney function tests for urinary albumin (protein) and serum creatinine are two of the nine annual key checks to which everyone with diabetes is entitled. IDDT produces two booklets "Kidneys and Diabetes" and "Your 9 Key Checks" which explain more about these tests – contact us for your FREE copies.
- Try to meet HbA1c targets. Again, these should be checked at least annually. Discuss what your targets should be with your healthcare professional.
- Control your blood pressure. As above, this should be checked at least annually. Discuss what your targets should be with your healthcare professional and what your treatment plan should be if your blood pressure is high.
- Stop smoking. If you smoke, make a plan to stop. Smoking can affect medicines that treat high blood pressure, slow blood flow to the kidneys, and raise the risk of having a heart attack or a stroke.
- Eat healthily. Eating healthily will help to prevent kidney disease and will help you manage your diabetes, blood pressure and cholesterol levels. IDDT produces two booklets "Diet and Diabetes" and "Diabetes – Everyday Eating" which explain more about the importance of diets – contact us for your FREE copies.

- Try to take exercise. Again, IDDT has a booklet "Exercise and Diabetes" which explains the importance of exercise and has ideas for how to take exercise even for those with limited mobility.
- Stay hydrated. Staying well hydrated helps your kidneys clear sodium, urea and toxins from the body.
- Go easy with NSAIDs. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), such as ibuprofen and naproxen, can injure the kidneys and may cause progression of kidney disease.

### Kidney Failure

Each kidney contains about 1 million nephrons to carry out the filtration of waste products. If the number of nephrons is reduced by damage to the kidneys, then the remaining nephrons work harder and the overall kidney function is maintained. However, once a certain amount of kidney tissue has been damaged the surviving nephrons are under increased pressure, become damaged and the kidney function declines to the point of failure.

If your kidneys fail then you will be treated like any other kidney patient. Several treatment options become available:

- Dialysis. There are two forms of dialysis which remove extra water and can keep you fit and well while you are waiting for a transplant. The most suitable type will depend on medical factors.
- Kidney transplantation replaces the lost kidney function. It is a treatment not a cure. For many people it provides the optimum method of treatment because it removes the constraints of dialysis and restores a 'normal' lifestyle. There are two barriers to widespread successful kidney transplantations – a shortage of donor organs and rejection after surgery by the body's immune system.
- A kidney and pancreas transplant may also be considered as an option.
- Medications from your doctor to help other problems such as blood pressure and water removal may be offered, as may be dietetic advice on what foods can help to make you feel better.

Please contact IDDT to request your FREE copies of any of the leaflets mentioned in this article, using the details at the end of this newsletter.

# IDDT secures Charity Partnership with Major National Event

IDDT is thrilled to announce that it has secured a position as the charity partner for the UK's most prestigious event for Health Professionals with an interest in diabetes – **Diabetes Professional Care**.

Bringing together over 3,500 healthcare professionals, Diabetes Professional Care is the UK's leading event for the entire team involved in the prevention, treatment and management of diabetes and its related conditions.

Held annually at London Olympia, the event is attended by over 3,500 healthcare practitioners to explore the future of diabetes care, learn about the latest technology, and gain key clinical updates, alongside colleagues from primary, secondary and community care. The event is a cutting-edge, CPD accredited event, featuring a blend of presentations from top leaders and practitioners in the diabetes world and a range of exhibitors, including IDDT, displaying an extensive range of products and services.

If you are a health professional and are interested in attending this **FREE** event, you can register your interest here:

[www.diabetesprofessionalcare.com](http://www.diabetesprofessionalcare.com)



## Diabetes Professional Care

15 - 16 November 2023  
Olympia London



## Diabetes and Osteoporosis

### What is Osteoporosis?

Osteoporosis is the most common type of bone disorder, with over 3 million people in the UK estimated to have osteoporosis and another estimated 500,000 fragility-related fractures that occur each year.

It is a chronic condition characterised by reduced bone strength, low bone mass, and a higher risk of bone fracture, especially of the hip, spine, and wrist. If you are over the age of 50, there is a 55% chance that you are at increased risk for osteoporosis or have it already. Although, the risk of osteoporosis increases with age, it is not limited to older individuals.

### What are the signs and symptoms of Osteoporosis?

There are no symptoms of osteoporosis in its early stages. As the condition progresses symptoms may include:

- Lower back pain.
- Neck pain.
- Bone pain or tenderness.
- Loss of height or stooped posture over time.

### What are the risk factors for Osteoporosis?

It is critical for people at high risk for osteoporosis to get screened for it so that fractures can be prevented.



The major factors that increase the risk of osteoporosis are the following:

- Older age.
- Female gender (especially at the time of or after menopause).
- History of fragility fractures as an adult.
- History of osteoporosis or fractures in a parent or sibling.
- Low body weight.
- Smoking.

Additional factors that may increase the risk of osteoporosis include the following:

- Low calcium or vitamin D intake, especially lifelong.
- High alcohol intake (more than two drinks per day).
- Lack of exercise.
- Oestrogen deficiency in women, especially at an early age.
- Testosterone deficiency in men.
- Some medicines for thyroid conditions.
- Use of corticosteroids or immunosuppressive drugs (for asthma, arthritis, cancer, or transplant surgery).
- A variety of other medical conditions including chronic intestinal disorders, nutritional disorders, endocrine disorders, stroke, kidney failure, and organ transplantation.
- The quantity and quality of dietary carbohydrates may also have an impact on bone health. Diets that are rich in refined or processed carbohydrates with added sugar are pro-inflammatory and increase oxidative stress, which may lead to increased bone loss, low bone density, and increased fracture risk.

If any of these factors apply to you, you may want to discuss having a bone density test with your health-care provider. In general, the more of these factors you have, the greater your risk of osteoporosis and fracture.

### How is it diagnosed?

According to National Institute of Health and Clinical Excellence (NICE), the initial phase of diagnosis is to complete an assessment of fragility fracture risk. This should be calculated using the QFracture® (preferred) or FRAX® online assessment calculators. Then:

- People at high risk should be offered a DXA (dual energy X-ray absorptiometry) scan to confirm osteoporosis.

- People at intermediate risk whose fracture risk is close to the recommended threshold and who have risk factors that may be underestimated by FRAX®, such as people taking high doses of oral corticosteroids, should be offered a DXA scan.
- People at low risk should not be offered treatment or a DXA scan, but given lifestyle advice.

A DXA scan assesses Bone Mineral Density (BMD) using a central DXA machine. It is simple, painless, takes 5 to 10 minutes and uses very little radiation. Typically, the scan measures bone density of the hip and spine and can give an indication of an increased risk of fracture.

BMD is a core indicator of bone strength. A test for BMD measures the amount of a mineral, usually calcium, in a bone.

### Why are people with Type 2 diabetes at higher risk?

The reasons for this are unclear and different studies have pointed to different factors which may work in isolation or combination:

- Low levels of insulin, as can occur in the progression of Type 2 diabetes may cause a reduction in BMD.
- High blood sugar levels are known to interact with several proteins leading to a reduction in bone strength.
- High blood sugar levels also lead to frequent urination (glycosuria), which in turn can lead to decreased levels of calcium and poor bone quality.
- Type 2 diabetes is associated with low levels of vitamin D which, in turn, is associated with poor bone quality.
- Microvascular complications of the condition may lead to reduced blood flow to bones and may contribute to bone loss and fragility.

More research on diabetic complications is needed to better understand their impact on BMD and fracture risk.

### Pioglitazone (Actos)

Use of pioglitazone, may be associated with an increased risk of fracture in women. Women taking pioglitazone should be warned of this potential adverse effect. It is unclear whether the risk of fracture can be mitigated by use of other agents (e.g., bisphosphonates, calcium or vitamin D),

and further research is needed to allow clinicians to pinpoint women who may be at increased risk. Talk with your doctor about whether Actos is safe for you to take.

### Prevention and Treatment

Osteoporosis can be prevented or slowed down but once damage to the bone has taken place, it can be difficult to reverse. Several steps can be taken to prevent or treat low BMD. These include:

- Eating calcium-rich foods, such as low-fat milk, yoghurt, cheese, lean meat, fish and leafy green vegetables.
- Taking calcium supplements. If you need a calcium supplement to meet your calcium requirements, choose one that contains calcium citrate, calcium lactate, or calcium carbonate.
- Not smoking.
- Not consuming alcohol in excess.
- Exercising regularly (especially weight-bearing activities such as walking, jogging, stair climbing, and weight training).
- If you already have osteoporosis, you may want to discuss the variety of drug treatment options available with your doctor.

### Fall Prevention

If you are diagnosed with osteoporosis, it is important to take steps to prevent fractures. However, not all people with low BMD will break a bone, and some people with high BMD will break one.

No official recommendation currently exists for fracture prevention that is specific to people with diabetes, since further research is needed to more fully understand how diabetes and fractures are related.

However, adults with diabetes may want to observe general fall prevention measures, which include:

- Wearing rubber-soled shoes both indoors and outdoors to prevent slipping.
- Keeping walkways clear of tripping hazards.
- Maintaining adequate lighting in and around the house.
- Having a grab bar installed in your shower or bath, and placing a rubber mat in the shower or bath.
- Having your vision and hearing checked regularly, and correcting any problems (with glasses or a hearing aid, if necessary), can also help prevent falls.

Some medicines could make a fall more likely. These include some sedatives and sleeping pills, antidepressants, anticonvulsants, muscle relaxants, blood-pressure-lowering drugs, and medicines for heart conditions.

Interestingly and for unknown reasons, taking four or more prescription medicines, regardless of what they are, has also been shown to increase the risk of falls. If the medicines you take fit into any of these categories or you take four or more medicines, you should go over all of your medicines with your doctor and discuss whether there are other treatment options that are less likely to increase your risk of falling.

If you want to find out more about joint, muscle and bone problems, contact IDDT using the details at the end of this newsletter and ask for your FREE copy of "Joint, Muscle and Bone Problems Associated with Diabetes"

## BITS AND PIECES

### • The Relationship Between Glucosamine Supplements, Type 2 diabetes and Dementia Risk.

A recently published study has shown that habitual use of glucosamine was significantly associated with a reduced risk of dementia and this association was mediated by the incidence of Type 2 diabetes. However, while the study found that glucosamine users had a reduced risk of vascular dementia, this

association was not seen in Alzheimer's disease risk. The researchers concluded that there is growing evidence of the relationship between glucosamine use, Type 2 diabetes and dementia and further research is warranted.

(Xu C, Hou Y, Fang X, Yang H, Cao Z. The role of Type 2 diabetes in the association between habitual glucosamine use and dementia: a prospective cohort study. *Alzheimer's Res Ther.* 2022 Dec 13. doi: 10.1186/s13195-022-01137-x. PMID: 36514123)

### • **Drop in hospitalisations seen with glucose sensor**

A retrospective study has analysed the hospitalisation data of patients with Type 2 diabetes who used Abbott's Freestyle Libre glucose sensor system for a year or more and are on once daily, basal insulin therapy. It found a 67% decrease in acute diabetes event-related hospital admissions. (Diabetes Technology & Therapeutics, September 2022)

### • **Can Traffic Noise Trigger Diabetes?**

The major risk factors for Type 2 diabetes are well-known: overweight, poor diet, inactivity, age, family history, and so on. But traffic noise? A new study recently published in the journal *Environmental Research* by investigators in Denmark concludes that this is, indeed, a factor. The researchers collected data from 286,151 subjects, following them over a four-year period, looking at a wide variety of factors, including lifestyle, education and their residential addresses. The researchers then calculated road and railway noise at the most exposed and least exposed dwellings. From the group of subjects, the researchers identified 7,574 cases of Type 2 diabetes. Based on residential address history, they then calculated 10-year time-weighted mean road and railway noise and concluded that long-term exposure to traffic noise was associated with Type 2 diabetes. They concluded that the impact of noise on sleep acts as a central mechanism on the pathway between noise and Type 2 diabetes. So, not a strange as it first sounds.

### • **Bempedoic Acid Cuts CV Events in Statin-Intolerant Patients**

People with Type 2 diabetes are frequently prescribed statins to lower cholesterol levels and reduce cardiovascular (CV) risks. However, it is well-documented that a significant number of people are unable to tolerate statins because of their side-effects. An American study has trialled a new approach to lowering LDL cholesterol levels. It found that Bempedoic Acid, on its own, lowered cholesterol levels by 21%. Researchers believe that *"the drug will mainly be used in clinical practice in combination with ezetimibe, a combination shown to reduce LDL by 38% — that's about the same as 40 mg simvastatin or 20 mg atorvastatin"*.

### • **Study Suggests High Caffeine Levels May Lower Body Fat and Type 2 Diabetes Risks**

Researchers from Sweden noted that previous short-term studies have linked caffeine intake with reductions in weight and fat mass. Also, observational data have shown associations between coffee consumption with lower risks of Type 2 diabetes and cardiovascular disease. Researchers examined two specific genetic mutations that have been linked to a slower speed of caffeine metabolism and found they were associated with lower body mass index and fat mass, as well as a lower risk of Type 2 diabetes. However, researchers were also keen to point out that this does not prove cause-and-effect and that the study does not recommend drinking more coffee. They did say that the link between caffeine, fat mass and Type 2 diabetes warrants further investigation.

### • **One Type of Older Diabetes Drug Cuts Dementia Risk, Another Ups It**

Thiazolidinediones (TZDs), such as pioglitazone, appear to be protective against dementia whereas sulfonylureas appear to increase the risk, a new US observational study in patients with Type 2 diabetes suggests. Pioglitazone is the only TZD licenced for use in the UK. They also found that the combination of metformin and TZD also lowered the risk of all-cause dementia, while regimens including sulfonylureas raised the risks for all-cause and vascular dementia. A third finding of the study was that the effects were more pronounced in those with obesity.

### • **Weight Loss Benefits Persist Even After Regaining Some Pounds**

A new analysis gives a promising answer to the weight loss question: Is it better to have lost and gained, than never to have lost at all? The study found that people who lost weight but regained some of it, experienced sustained health improvements for at least 5 years after the initial weight loss. The prolonged benefits included lowered risks of heart disease and Type 2 diabetes, as well as improved blood pressure and cholesterol levels.





**Don't forget IDDT's Get Together on Saturday, 30th September 2023!**

An invitation and copy of the programme and booking form for IDDT's Annual Event on Saturday, 30th September 2023 was sent to all IDDT members in July. It is being held at our usual venue, the Kettering Park Hotel and Spa. We start the day with our Annual General Meeting and this is the opportunity for members to nominate new Trustees. If you would like to nominate someone, then please put this in writing to IDDT along with the agreement of the person you are nominating.

We hope you will find the programme for the day interesting. It is a combination of speakers and discussion groups so should include something for everyone. We are pleased to welcome Dr Mayank Patel, consultant in diabetes at University Hospital Southampton NHS Foundation Hospital where he has been clinical lead for diabetes, run the diabetes renal clinic, worked tirelessly to improve the Diabetes Inpatient Service, foot clinics and adult insulin pump services.

We are also pleased to welcome Samina Ali who works as an advanced pharmacist with a special interest in diabetes. She runs diabetes clinics in one of her practices in Glasgow South and also at a practice in Ayrshire & Arran. She is a chair of the Diabetes Specialist Interest Group and won a Quality in Care Diabetes award last year.

We welcome back Jane Cheetham and her colleague from Abbott Laboratories who will be speaking about the FreeStyle Libre 2 and have a stand where your questions can be answered. I am sure the discussion groups and other guests will be interesting for you.

We do hope as many of you as possible will join us on the day. Teas, coffees and a meal at lunchtime are provided. If you have any questions or would like another booking form, don't hesitate to give IDDT a call on 01604 622837 or email [enquiries@iddtinternational.org](mailto:enquiries@iddtinternational.org)

**If we can be of help in any way, please contact:**

InDependent Diabetes Trust (IDDT), PO Box 294, Northampton NN1 4XS

Tel: 01604 622837 email: [enquiries@iddtinternational.org](mailto:enquiries@iddtinternational.org) Or visit our website: [www.iddtinternational.org](http://www.iddtinternational.org)



## LOTTERY RESULTS

### Winners of the April 2023 DRAW ARE:

**1st prize of £485.76** goes to Audrey from Birmingham

**2nd prize of £364.32** goes to Anon. from Chepstow

**3rd prize of £242.88** goes to Heather from  
Hartlepool

**4th prize of £121.44** goes to Thelma from Liskeard

### Winners of the May 2023 DRAW ARE:

**1st prize of £479.04** goes to Anon from Canterbury

**2nd prize of £359.28** goes to Kenneth from Porth

**3rd prize of £239.52** goes to Sylvia from Kettering

**4th prize of £119.76** goes to Kathleen from  
Huddersfield

### Winners of the June 2023 DRAW ARE:

**1st prize of £481.44** goes to Stephen from Blyth

**2nd prize of £361.08** goes to Patricia from Wimborne

**3rd prize of £240.72** goes to Anon from Northwich

**4th prize of £120.36** goes to Anon from Treharris

Note: The winners of the draws for July, August and September 2023 will be announced in our December Newsletter and on our website.

A huge 'Thank You' to everyone who supports IDDT through the lottery. If you would like to join in for just £2.00 per month, then give us a call on 01604 622837 or email [karl@iddtinternational.org](mailto:karl@iddtinternational.org)