

Welcome to the 48th issue of Type 2 & You

In this issue we look at cholesterol levels – one of the nine key tests to which you are entitled. Continuing with our series of articles on the differing groups of anti-diabetic medications, in this issue we look at the role of incretin mimetics, more commonly known as GLP-1 RAs. Although it is only September, we start to look at some of the preparations we can be making for Christmas and the winter months ahead. We have a piece on the common but troublesome problem of Restless Leg Syndrome. You will find a reminder about our annual event and also an order form for our Christmas cards, 2022 diary and other items that may be useful. As usual, we have a round-up of recently published research and articles, as well as the latest lottery winners.



YOUR 9 KEY TESTS EXPLAINED **PART 7**

Cholesterol

This is the seventh in our series of nine key tests that a person with diabetes is entitled to each year and looks at cholesterol. Not only do we look at the actual test itself but we also look at what cholesterol is, the role it plays in the body and what we can do to manage our cholesterol levels.

THE TEST

The test itself is a blood test carried out by your nurse or doctor either using a needle and syringe or a finger prick test. You may be asked to fast for 10 to 12 hours before the test (usually overnight). They will give you the results when they become available along with any advice to address the issues the results may raise.

WHAT IS CHOLESTEROL?

Cholesterol is a fatty substance produced naturally by the body, primarily by the liver. However, some foods also contain cholesterol. Cholesterol has several functions essential to the normal functioning of the body, including being an important building block for cell walls as well as functioning in the production of steroid hormones and vitamin D.

Cholesterol in your body comes from two main sources: your liver and your diet. Your liver, other organs, and other cells in your body produce about 75-80 percent of the cholesterol in your blood. The other 25 percent of cholesterol in your body is affected by the foods you eat. ▶

Cholesterol is carried around the body in the bloodstream by combining with proteins. These cholesterol/protein combinations are called lipoproteins. There are two different types of lipoproteins and these are often referred to as “good” and “bad” cholesterol.

- High-density lipoprotein (HDL): HDL carries cholesterol away from the cell and back to the liver, where it is broken down and passed out of the body as a waste product. It is referred to as “good cholesterol” and higher levels are better.
- Low-density lipoprotein (LDL): LDL carries cholesterol from your liver to the cells that need it. If there is too much cholesterol for the cells to use it can build up in the artery walls. For this reason it is referred to as “bad cholesterol” and lower levels are better.

While having high levels of bad cholesterol does not in itself cause any symptoms, it increases the risk of other health conditions, including narrowing of the arteries, heart attack and stroke. People with diabetes are already pre-disposed to these conditions so it is especially important that they get their cholesterol levels checked and take action if needed.

The Government recommends that healthy people should not have a total cholesterol level of more than 5mmol/L with LDL levels of not more than 3mmol/L. At present the UK average levels are 5.5mmol/L and 5.6mmol/L in men and women respectively.

Those at high risk, such as people with diabetes, should have a total cholesterol level of 4mmol/L or less, with levels of LDL being 2mmol/L or less.

WHAT CAUSES HIGH CHOLESTEROL?

Lots of different factors or combinations of factors can contribute to having high levels of bad cholesterol, including lifestyle, family

history and ethnic group. Lifestyle factors such as an unhealthy diet, being overweight, smoking and lack of exercise can all contribute to having high levels of bad cholesterol.

Having diabetes itself increases the risk of having high cholesterol levels, as do other conditions including high blood pressure, kidney disease, liver disease and underactive thyroid. Treating these underlying conditions can help to reduce cholesterol levels.

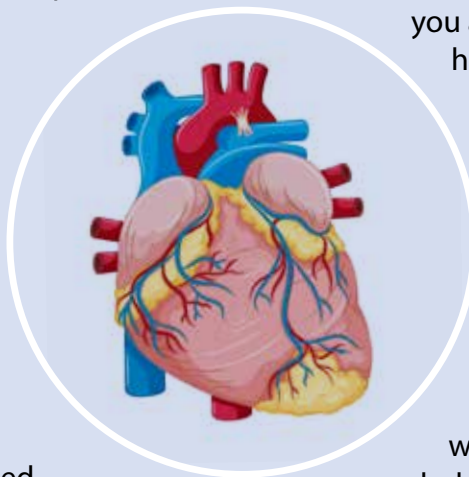
There are also several “fixed” factors that can contribute to having high cholesterol and unfortunately these cannot be changed. These include having a family history of early heart disease, stroke or cholesterol related conditions. Age is a factor; the older

you are the more likely you are to have narrowing of the arteries due to high cholesterol

levels. Ethnicity also plays a part and people of Indian, Pakistani, Bangladeshi or Sri Lankan descent have an increased risk of high blood cholesterol. There is also a genetic condition, called familial hypercholesterolaemia, which causes high blood cholesterol and about 1 in 500 people inherit the condition from a parent.

HOW IS HIGH CHOLESTEROL TREATED?

Your state of general health, associated risk factors and cholesterol levels will determine what steps your health professionals will advise you to take to reduce your cholesterol levels. The first things most people will be advised to do is to make some lifestyle changes, eating a healthier diet, stopping smoking and taking more exercise. The key to eating a diet that will help you to reduce your bad cholesterol levels is to try and avoid foods that are high in saturated fats, such as fatty cuts of meat, dairy products, cakes, biscuits and chocolate. The Food Standards Agency recommends that the average man consumes no more than 30g of saturated fat per day.



This figure is reduced to 20g for women. The amount of saturated fat in any food product will be given on the nutritional information label, so remember to check those labels!

If your cholesterol levels have not dropped after a few months then you may be advised to start taking medication to lower your cholesterol.

The most commonly prescribed cholesterol reducing medications come from a group of drugs called statins, which work by blocking the enzyme in the liver that is used to make cholesterol. Some people can suffer side effects from taking statins and these include muscle pain and stomach problems. If you do suffer from side effects, then there are alternatives and your doctor will discuss these with you.

Taking plant sterols is a third, homeopathic route to lower cholesterol but their effectiveness has yet to be scientifically proven.

PREVENTION

The rules for preventing high cholesterol levels are pretty much the same as those for reducing cholesterol levels. You should try to avoid foods that have a high saturated fat content, such as dairy products, as these will increase your levels of bad cholesterol, whereas eating foods that contain even a small amount of unsaturated fat or those fortified with plant sterols and/or stanols will have the effect of raising your good cholesterol levels.

Cigarette smoke contains a chemical that prevents the bad cholesterol from being transported back to the liver, so smoking should be avoided. It is also recommended that you take 150 minutes exercise a week. This does not need to be high intensity exercise but can simply be going for a brisk walk. Exercise stimulates your body to transport bad cholesterol back to the liver, where it is broken down, thus preventing high levels developing.



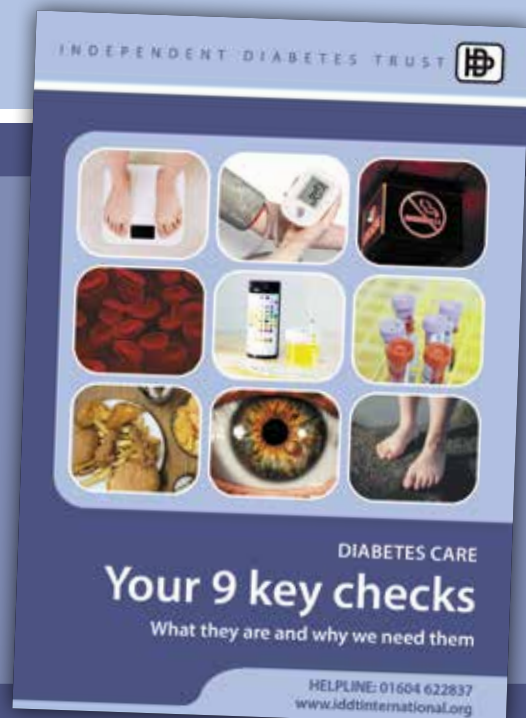
INDEPENDENT DIABETES TRUST

Diabetes Care

Your 9 key checks

What they are and why we need them

This booklet provides you with information on the 9 key health checks/tests which everyone with Type 1 & 2 diabetes is entitled to.



ASK FOR YOUR FREE COPIES TODAY

FOR MORE INFORMATION PLEASE CONTACT US:

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Registered Number: 3148360

GLP-1 Receptor Agonists

In this issue of Type 2 and You we have a look at Glucagon-Like Peptide -1 Receptor Agonists (GLP-1 RAs), also known as Incretin Mimetics. They are the most recently developed group of drugs used to treat Type 2 diabetes. They are injectable but should not be confused with insulin. Originally, they were not intended to be used with insulin but more recently thinking about this has changed and in the last few months a pre-mixed combination of a GLP-1 RA and insulin has been approved for prescription. There are several drugs within the group and the table below gives the generic name, brand name and the frequency with which they are given.

GENERIC NAME	BRAND NAME	ADMIN. FREQUENCY
Exanatide	Byetta	Twice daily
Liraglutide	Victoza	Once daily
Dulaglutide	Trulicity	Once weekly
Albiglutide	Eperzan	Once weekly
Lixisenatide	Lyxumia	Once daily
Semaglutide	Ozempic	Once weekly
Exanatide prolonged-release	Bydureon	Once weekly

GLP-1 RAs are prescribed alongside other Type 2 drugs, including metformin, pioglitazone or a sulphonylurea. They improve blood glucose control in five ways:

1. They stimulate insulin production in response to eating meals, resulting in a higher, more appropriate amount of insulin being released. This in turn, helps to reduce the rise in blood sugar levels from eating.
2. They suppress the pancreatic release of glucagon after eating. This helps stop the liver producing unneeded sugar and prevents hyperglycaemia (high blood sugar levels).
3. They slow down gastric emptying and thus decrease the rate at which meal-derived glucose appears in the blood stream.

4. They have a subtle yet prolonged effect on the brain to reduce appetite and as such can help with weight loss and generally the greatest weight loss is achieved by those who are the most overweight.
5. They reduce liver fat content and can improve cholesterol.

All of these are benefits for the person with Type 2 diabetes but as with all drugs there are side effects, the commonest being gastro-intestinal upset, dizziness and/or headaches. There has been some suggestion that there is an increased risk of pancreatitis or pancreatic cancer, however research results are mixed and given that the drugs are relatively new more longitudinal studies need to be carried out.

WINTER IS COMING

BUT IT COULD BE DIFFERENT
(AGAIN) THIS YEAR...

This is the time when we normally advise about the seasonal flu jab but at the time of writing, it is not clear what will happen this year. Usually, we remind you that the flu jab is offered first to people in 'at risk' groups which includes people with diabetes, pregnant women and the elderly.

We also usually advise you about the 'pneumo' jab - a vaccination to protect against pneumonia. This jab 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.

Note: at the time of writing, we don't know what the lockdown situation will be and who will be able to attend surgeries for the jabs. We expect that there will be government announcements at some point in time but if in doubt, you should contact your GP surgery.



THINKING ABOUT CHRISTMAS

Included with this Newsletter is a leaflet entitled, 'Thinking about Christmas' and although it seems early, Christmas and the New Year will be here sooner than we can imagine. With the leaflet you can order IDDT Christmas cards, the Diabetes Diary 2022 and IDDT's Shopping List.

This Shopping List has magnets on the back to attach to your fridge for easy jotting down and so it will not get lost! On one half of the page you plan your meals for each day and on the other half you write down the items you need to buy. This is a tear off section to take to the shops with you or to order your online shopping. It works well with the 28-day meal planner in IDDT's FREE booklet, "Diabetes Everyday Eating".

Take a look at the leaflet for gift ideas and support IDDT!



Restless Leg Syndrome

WHAT IS RESTLESS LEG SYNDROME?

Restless Leg Syndrome (RLS) is a common neurological disorder that can affect any one at any time of life. It is also called Willis-Ekbom Disease. Symptoms usually present around middle age, affecting around 5% of the population but this rises to around 10% by the age of 60. Women tend to develop the condition twice as frequently as men. Because it can significantly disturb sleep it is also classified as a sleep disorder.

SYMPTOMS, TYPES & CAUSES OF RLS

The symptoms of RLS are characterised by unpleasant, uncomfortable feelings in the legs which causes one to wish to move the legs to minimise the sensation. Such sensations may include a burning feeling or an experience as though insects were crawling on or in the legs. Others describe it as a feeling of "an itch you can't scratch" or like there's fizzy water inside the legs.

People with RLS can experience varying degrees of pain. The condition can cause considerable discomfort during waking hours, particularly when the sufferer is in a relaxed state but can be made worse if in a confined

space such as in a cinema seat, a car or on an airplane. However, RLS is usually most acutely experienced in the evening or at night when people are trying to sleep. As they relax, the symptoms appear and the person has no choice but to get out of bed to stretch - this can happen many times in one night, offering some brief respite, as symptoms tend to return quickly. RLS can lead to long sleepless nights and daytime fatigue and invariably impacts on the quality of life of the sufferer, including their employment, and those close to them.

Some people have the symptoms of restless legs syndrome occasionally, while others have them every day. The symptoms can vary from mild to severe. In severe cases, restless legs syndrome can be very distressing and disrupt a person's daily activities. For this reason, RLS can be referred to as a spectrum disorder.

There are two recognized types of RLS:

1. Primary RLS. This is also known as idiopathic restless legs syndrome, and it can run in families. Some neurologists believe the symptoms of RLS may have something to do with how the body handles a chemical called dopamine.

Dopamine is involved in controlling muscle movement and may be responsible for the involuntary leg movements associated with restless legs syndrome. Others believe it to be related to poor circulation.

2. Secondary RLS. This often has a sudden onset and is usually associated with another medical condition (e.g. iron deficiency, diabetes, nerve problems or kidney failure) or the use of certain drugs. Some medications, such as the antihistamines in cold and allergy remedies, make the symptoms worse for some people (so while Benadryl tends to make most people sleepy, for example, it may actually intensify the symptoms in a person with RLS, making it harder for them to sleep.)

CAUSES OF RLS

In the majority of cases, there's no obvious cause of restless legs syndrome but there are some factors that you and/or your doctor should look into. These could be:

- Daily habits, such as caffeine or alcohol
- Pre-existing health conditions such as anaemia, Parkinson's Disease or diabetic retinopathy
- Prescribed medication. Can trigger or worsen RLS.

Make sure your doctor knows about all drugs you're taking, both prescription and over the counter as well as your health history. Talk to your doctor about whether they could be making your RLS worse,

RLS & DIABETES

RLS is far more common in people with Type 2 diabetes than the general population, where uncontrolled high blood sugars in people with diabetes can cause nerve damage, and may lead to diabetic peripheral neuropathy.

Damage to the nerves of the feet and lower leg from peripheral neuropathy is a contributor to restless leg syndrome.

Previous studies have shown that restless leg syndrome is common in patients with Type 2 diabetes, who can also suffer poor quality sleep believed to be associated with impaired glucose metabolism.

TREATMENT OF RLS

RLS is often unrecognised or misdiagnosed but there is a growing awareness of the condition amongst medical practitioners. In many people, the condition is not diagnosed until 10-20 years after symptoms begin. However, once correctly diagnosed, RLS can often be treated successfully.

Your first step in addressing RLS should be to figure out if something is causing it. While RLS can be related to things that are largely out of your control, such as genetics or pregnancy, other possible factors can be addressed.

Treatments for RLS can roughly be divided into two groups:

Pharmacological interventions

Medication is a key treatment for moderate to severe RLS. Dopaminergic drugs are typically the first medications prescribed. They're effective in relieving RLS symptoms, but they can cause side effects and other problems.

- Supplementation with iron or vitamins D, C, or E can help certain people with RLS. Your doctor can tell you if trying supplements would be a good idea for you.

Several classifications of drugs have been found to help with RLS. These include:

- Dopaminergic drugs including pramipexole, ropinirole, rotigotine,
- Gabapentin is an antiseizure medication. It's not entirely understood how gabapentin works to relieve RLS symptoms,

but studies show it to be effective.

- Benzodiazepines are drugs used to treat anxiety and sleep problems. Clonazepam and other types of these drugs are often prescribed for people with RLS in combination with other drugs. While these drugs may not relieve RLS symptoms themselves, their benefit of improved sleep can be very helpful for people with RLS.
- Opioids are typically used to treat pain. In some cases, usually when other medications aren't helpful or cause augmentation, opioids can be used carefully in low doses to help treat RLS. As with all opioids, use of these drugs should be carefully overseen by a doctor, due to their risk of misuse and dependence.
- Surgery for varicose veins. For people with certain circulatory issues, surgery could be the most effective treatment for their RLS. However, more research is needed on this surgery as a treatment for RLS.



Non-pharmacological interventions and lifestyle changes

Mild cases of restless legs syndrome that are not linked to an underlying health condition may not require any treatment, other than making a few lifestyle changes.

These include:

- adopting good sleep habits (for example, following a regular bedtime ritual, sleeping regular hours, and avoiding alcohol and caffeine late at night)
- quitting smoking if you smoke
- exercising regularly during the daytime. Given its benefits for reducing RLS symptoms and improving sleep, regular exercise is a good habit to develop for people with RLS.
- trying yoga and stretching. Although it's

not clear why, yoga and other stretching exercises could help relieve RLS symptoms.

- massaging your leg muscles could help ease your RLS symptoms. This could be because of production of dopamine it stimulates or the aid it gives to relaxation. Whatever the reason, leg massage is an easy and relaxing treatment that could help ease your RLS symptoms.
- A foot wrap has been shown to help relieve RLS symptoms. Called restiffic, the foot wrap puts pressure on certain points on the bottom of your foot. The pressure sends messages to your brain, which responds by telling the muscles affected by RLS to relax. This helps relieve your RLS symptoms
- Pneumatic compression. If you've ever stayed overnight in hospital, you may have had pneumatic compression. This treatment uses a "sleeve" that goes over your leg and inflates and deflates, gently squeezing and releasing your limb and is typically used to improve circulation and prevent blood clots. It has also been shown to relieve RLS symptoms. However, research is conflicted.

- Hot and cold treatments. Some people's RLS symptoms are aggravated by cold, while others have problems with heat. This could explain the benefits of these hot or cold treatments. However, people with diabetes and loss of sensation need to be particularly careful when trying these treatments.
- TENS machines. With transcutaneous electrical nerve stimulation (TENS), a device sends small electrical currents to parts of your body to help relieve pain. There's not a lot of research on the use of TENS to treat RLS, but it could work.
- Acupuncture. This can be helpful in the treatment of many health conditions, and RLS might be one of them. However, more research is needed to confirm acupuncture as a reliable treatment for RLS.

BITS + PIECES

BASAL-BOLUS INSULIN SWAPS

Basal-Bolus Insulin regimens have long been a staple of managing diabetes with insulin. The regimen involves giving a (usually) once daily injection of long-acting/background insulin (basal) with a shorter/quicker acting basal insulin with food. A recent study looked at the feasibility of replacing the bolus insulin with either a GLP-1RA (e.g. exenatide) or an SGLT2i (e.g. canagliflozin). The results were measured by HbA1c levels after 6 months. They found that by adding an SGLT2i to basal insulin it was possible to achieve similar blood glucose control with fewer injections of insulin and fewer hypos.

MORE MUSHROOMS ANYONE?

A study recently published in the journal *Advances in Nutrition* has found that eating 18 grams of any type of mushroom daily had a 45% reduced risk of cancer, the strongest association being with breast cancer. Researchers pointed out that mushrooms are the highest dietary of ergothioneine which acts as an antioxidant and cellular protector and may lower the risk of cancer.

DISEASE/DIABETES MODIFYING DRUGS (DMDS) – A SIMPLE APPROACH TO TREATING TYPE 2 DIABETES

A team of researchers have put forward a paper arguing for a rethink about the treatment of patients with Type 2 diabetes and the introduction of combination therapies. They argue that with the availability of a new and increasing range of drugs treatment has been ever more complex and without such an approach many of the additional advantages of these drugs may be missed and the early initiation of such multiple therapies is advantageous. These benefits are long-term and could assist with conditions that are associated with Type 2 diabetes including weight management, hypoglycaemia and improved heart and kidney function.

A COMPARISON OF SGLT2S AND DPP-4 INHIBITORS

The study looked at over 24,000 people receiving treatment with either an SGLT2i or a DPP4i, comparing the two groups for a range of health outcomes. They found that those treated with SGLT2s had a reduced risk of all-cause mortality, heart failure and chronic kidney disease. They concluded that this highlighted the need for early introduction of SGLT2s in the management of Type 2 diabetes.

SODIUM-GLUCOSE COTRANSPORTER 2 INHIBITORS (SGLT2I) AND CARDIAC ARRHYTHMIAS: A SYSTEMATIC REVIEW AND META-ANALYSIS

This study aimed to investigate the association of SGLT2i treatment with arrhythmia outcomes in clinical trials of patients with heart failure (HF), Diabetes Mellitus (DM) or Chronic Kidney Failure (CKD) who have poorer health outcomes. The study provides further robust evidence for recommending the use of SGLT2i in patients with DM, CKD, and HF to reduce related cardiac complications and comorbidities. However, the mechanisms by which SGLT2i protects against heart arrhythmias are complex and the researchers said further study is needed.

ANNUAL FOOT EXAMS FOR DIABETES MAY HELP IDENTIFY ATRIAL FIBRILLATION (AF)

A study presented at a European Society of Cardiology virtual meeting found that annual foot examinations of patients with diabetes, which are done to assess blood flow, could also help identify undiagnosed atrial fibrillation. Lead researcher Dr. Ilias Kanellos said that the exams could be a "simple, quick and low-cost way to identify patients with diabetes who have a heart rhythm disorder they were unaware of and help patients avoid strokes and preserve quality of life."

HOSPITAL ADMISSION RATES REDUCE AFTER IMPLEMENTATION OF CONTINUOUS GLUCOSE MONITORING (CGM)

A study in France looked at the hospital admission rates of over 74,000 people with Type 1 or Type 2 diabetes 12 months before and 12 months after the initiation of CGM. Admissions were for diabetic ketoacidosis (DKA), severe hypoglycemia, diabetes-related coma, and hyperglycemia. The study found significant reductions in admissions for DKA and diabetes-related coma after starting CGM.

DISORDERED SLEEP MAY BE LINKED TO HIGHER MORTALITY

A study from a team working in the Netherlands looked at 8,001 adults with disrupted sleep patterns, such as unconscious wakefulness, may have a higher risk of all-cause mortality and cardiovascular-related mortality. They found that women were affected to a greater degree than men. They believe that such disturbance could play an important part in assessing mortality risk but stated that further study in this area is needed.

Don't forget the IDDT EVENT

Saturday 23rd October 2021!

Members have already received an invitation and a copy of the programme inviting them to our Annual Event on Saturday 23rd October 2021. It will be held at our usual venue, the Kettering Park Hotel and Spa, where all necessary safety measures will be in place. In fact, since re-opening, the company has won various awards for their Covid security arrangements including being accredited Covid-19 Confident by the AA.

We start the day with our Annual General Meeting and remind you that if you would like to nominate someone to become a Trustee of IDDT, then please put this in writing to IDDT along with the agreement of the person you are nominating.

The programme is a combination of speakers and discussion groups so should include something for everyone and as ever, it is an opportunity to meet other people who live with diabetes. For some people, lockdown has resulted in changes in diet and exercise routines, so having the dietitian speaking will give us a few reminders. We also welcome for the first time Abban Qayyum, a senior



physiotherapist, who will be able to provide information to help us look after our long-term health.

In these still uncertain times, we recognise that some people may not wish to join us but there may be others who are just waiting for the opportunity! Therefore, it may be that we have to have some flexibility with the programme once we know how many people wish to attend. I am sure that you will understand this as it has become part of life.

We do hope as many of you as possible will join us on the day, teas, coffees and a meal at lunchtime are provided, so please do complete the booking form and return to IDDT by 1st October 2021. 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.

Diabetes Everyday Diary

A diary with a difference

This diary is for anyone who lives with diabetes, whether you have diabetes yourself, you have a partner with diabetes or you are a parent of a child with diabetes.



This year Diary's daily pages are laid out in a week-to-view format so not only can you record things like medical appointments, social events and family occasions, such as birthdays, You can also record things like blood glucose tests and results, mealtimes, medication and so on, while allowing you to see at a glance any patterns that become apparent, such as high blood sugars before medical appointments. We have again included other pages to record your annual 9 Key Checks, pages to record monthly goals and achievements as well as pages to record any notes/thoughts you may have. These are only suggestions and you can use the diary however is most useful to you.

Diabetes at Christmas

Christmas can be a worrying and stressful time, especially if it is your first time with diabetes. Celebrating Christmas is not just a time for presents but also about food! This booklet helps you to cut calories and carbs for Christmas dinner, giving carb and calorie contents for starters, mains and afters. It also provides buffet ideas and much more... What's more, it is **FREE!**

Visit the IDDT website or call us for your order form
WWW.IDDT.ORG or 01604 622837





THE IDDT'S LOTTERY DRAW WINNERS

We are delighted to announce the winners of our latest monthly lottery draws. They are as follows:

Winners of the April 2021 draw are:

- 1st prize of £576.00** goes to Sylvia from Kettering
- 2nd prize of £432.00** goes to Anon. from Swanley
- 3rd prize of £288.00** goes to Owen from Anglesey
- 4th prize of £144.00** goes to Alan from Worcester

Winners of the May 2021 draw are:

- 1st prize of £561.12** goes to Anon from Enfield
- 2nd prize of £420.84** goes to Anon. from Bingley
- 3rd prize of £280.56** goes to Anon from Wolverhampton
- 4th prize of £140.28** goes to Anon. from Cambridge

Note: The winners of the draws for June, July, August and September 2021 will be announced in our December 2021 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 jenny@iddtinternational.org

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

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website: www.iddtinternational.org