WE ARE BREAKTHROUGH T1D!

Type1 discovery

Issue 99/ Spring 2025

How does research become a reality?

Find out how we take research from the lab to real life

T1D and neurodivergence

New resources for managing T1D with autism and ADHD

Small Grant Awards

Kick-starting new projects and careers in T1D research

Rufus, we love you!

A celebration of everyone's favourite bear with T1D

MEET MASON

Find out how his T1D diagnosis brought with it a life-changing love of baseball

Breakthrough T1D™
Formerly JDRF

A SUMMER REVOLUTION:
HOW VISIBILITY WITH DIABETES TECH CAN REDEFINE ACCEPTANCE

BY JASMINE JAFFAR*
CONTENT CREATOR LIVING WITH TYPE 1

Summer is in the air. The skies are blue, the sun is shining, short sleeves are back in action, and diabetes tech is getting its turn to be under the sun. After months of sitting cosy behind winter layers, diabetes tech becomes as visible to others as it is to those who live with diabetes, and all of a sudden, it's not just exposure to the sun that lingers in their minds, but exposure of their diabetes to the world. According to a recent survey by Abbott, 1 in 4 people with diabetes directly experience a negative throwaway comment about their condition[1], so having tech be so visible in the summer can feel intimidating, because fun in the sun doesn't feel synonymous with stares, reactions and assumptions. But while stigma is present season round, accepting and embracing diabetes and its tech helps bring an empowering experience of living with diabetes to light.

Visibility can lead to even greater insight into diabetes when it creates conversations that shift perspectives and confront unconscious bias.

Feeling confident and comfortable with a visible medical device comes from feeling confident and comfortable with the medical condition itself. And while the relationship someone has with their diabetes is dynamic and isn't always linear, when diabetes itself is accepted and embraced, diabetes tech becomes an extension of a person living with it. When that happens, when it is fully embraced, wearing one feels so natural, and it is so embodied, that visibility of it no longer has an impact on the person wearing it. However, the impact it has on others is profound. Stigma stems from a lack of understanding, and because diabetes is a medical condition that is so often unnoticed and misunderstood, insight into it is so important for the diabetes community. For those who don't live with diabetes, seeing diabetes tech can plant a seed of curiosity that can spark conversations, change perspectives and raise awareness. And for those who do live with diabetes, spotting someone else with diabetes tech is a uniquely special and comforting experience, and can be so helpful to them in their own journey of acceptance.

With diabetes predicted to impact 5.5 million people in the UK by 2030[2], awareness and empowerment is crucial so that while the number of people living with diabetes grows, stigma doesn't rise with it. Visibility can lead to even greater insight into diabetes when it creates conversations that shift perspectives and confront unconscious bias.

The emotional and physical wellbeing of the community is nurtured by how society perceives people with diabetes and how they perceive themselves, and visibility of diabetes tech has a significant role in both. Essentially, visibility is a form of advocacy, and with the summer season in full swing, the simple act of enjoying it to its fullest can be transformative in building awareness, de-stigmatizing diabetes and creating a sense of empowerment for those living with it.

Summer is in the air. The skies are blue, the sun is shining, short sleeves are back in action, and diabetes tech is *happily* getting its turn to be under the sun.

For more information about Abbott's Let's Change Perspective campaign, visit **https://www.abbott.co.uk/lets-change-perspective.html**

You can also sign up for a two-week free trial of FreeStyle Libre 2 by visiting **https://www.freestyle.abbott/uk-en/home.html**

Abbott

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*Jasmine Jaffar is a FreeStyle Libre Ambassador.

1. Abbott Diabetes Care. Data on file. Survey among 1,500 participants in the UK, 2022. **2.** Diabetes UK, 2021. 1 in 10 adults living with diabetes by 2023. 1-in-10 adults living with diabetes by 2030 | Diabetes UK Accessed May 2023.

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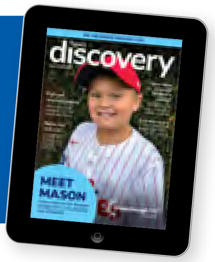

A year of Breakthroughs

As we step into 2025, we are proud to do so under our new name: Breakthrough T1D UK. This year promises to be an exciting one as we continue to build momentum.

We started the year by sharing the exciting news that research you helped fund has led to the development of engineered islets capable of producing insulin without the need for immunosuppression. While this research is still in its early stages, breakthroughs like this, once thought impossible, are now within reach thanks to the dedication of researchers and the generosity of supporters like you. You can read more about this development on our news pages.

We are especially grateful to everyone who shared their stories for this issue, including Mason Barnaby, whose inspiring journey you can read about on page 8. His story serves as a powerful reminder of why our work matters.

In this issue, we also celebrate Rufus, the bear with T1D, who has become a beacon of support for children and families going through a type 1 diabetes diagnosis. Rufus has comforted thousands of families during one of life's toughest moments, and we're proud to share his story.

You'll also find details about four new research projects you've helped fund. These initiatives are critical in answering vital questions and sparking ideas that could lead to even bigger breakthroughs.

As always, thank you for your loyal support. We couldn't fund critical research, provide essential support, or advocate for better access to treatments without you. I hope to meet many of you at one of our events this year. In the meantime, I hope you enjoy this issue of Discovery Magazine.

Karen Addington
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We would like to thank all the trusts and foundations that generously support our work, including:

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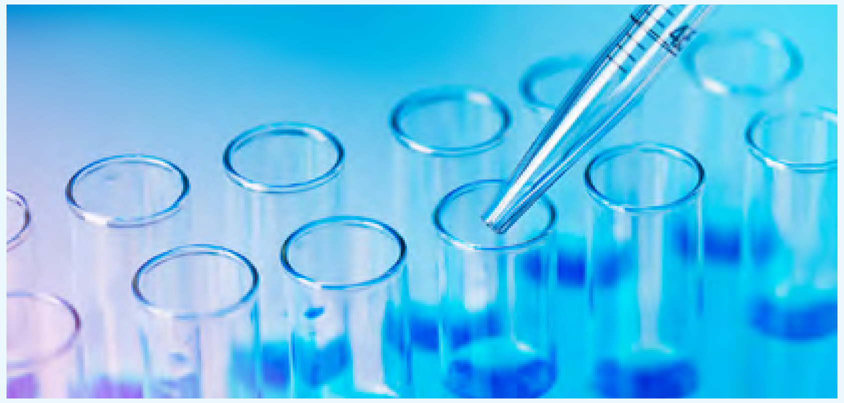
The Syncona Foundation
TIOC Foundation

To find out about the projects you help to fund, visit breakthrough1d.org.uk

Breakthrough in T1D treatment:

Engineered islets produce insulin without immunosuppression

In a major step forward in cell-based therapies for T1D, clinical data shows that the first person receiving engineered islets from organ donors is now producing insulin without the need for immunosuppressive drugs. The news was announced by Sana Biotechnology, a US-based biotech company, in early 2025.



Islets are clusters of cells in the pancreas, with beta cells within these islets responsible for making insulin. In T1D, the immune system attacks and destroys these insulin-producing cells. To combat this, Sana's trial used islets from organ donors, which were genetically modified and then implanted into the muscle tissue of a person with T1D who had volunteered to be part of the study.

After just four weeks, the research team could tell that the person was making significantly more insulin than before, by measuring their C-peptide levels – an important marker of insulin production. Critically, this was achieved without the need for immunosuppressive drugs. This marks the first time that engineered islets have successfully avoided immune destruction in humans.

While this represents an important breakthrough, islets from organ donors are in short supply. Islets created from stem cells could offer a more scalable solution for treating a larger number of people with T1D. The results from this clinical trial provide hope that using this technology with stem cell-derived islets could lead to the development of immune-evasive, insulin-producing cells that are more widely available.

Progress will take significant time, effort, and money. Thanks to your support, every day we take another step toward a possible life-changing T1D cure.

Rachel Connor, Director of Research Partnerships says: "This breakthrough offers the tantalising prospect of insulin-producing, immune-evasive cells for many more people living with T1D. Eliminating the need for immunosuppressive drugs makes a significant stride toward making cell therapies that allow people with T1D to make their own insulin again accessible to all. At Breakthrough T1D, we're thrilled to support research that brings us closer to life-changing cures for T1D."

Our awareness raising film reaches over 1.4m people

We were thrilled to introduce our new brand film 'What a Cure Feels Like' in November last year. Developed with and featuring people living with T1D, the film shows the daily realities of living with T1D and the life-changing impact a cure would have.

We created this film to drive awareness, inspire action, and bring us closer to a future with better treatments and, ultimately, cures for T1D. So far, it's resonating. 1.1 million of you have watched the full film, 4.5 million have viewed the shorter version, and over 60,000 have taken the next step to learn more about our mission.

Joe, star of the film who lives with T1D, says: "The premise of the film is wonderfully aspirational and balances that very well with raising awareness of the daily challenges of living with T1D."

Amy Sommariva, our Head of Marketing and Brand said: "I am incredibly proud to have been part of this campaign, where individuals with T1D were involved in every step, from conception to delivery. I'd like to say a huge thank you to everyone who took part, as well as everyone who watched, shared, and shared their thoughts with us. Together, we can continue to amplify voices, raise awareness, and make a real difference for the T1D community."

You can watch the film at **breakthrought1d.org.uk/film**

Grand Challenge brings together experts to drive forward T1D research

In November, the Beta Cell Therapy and Root Causes Symposium united the rapidly growing Type 1 Diabetes Grand Challenge community. More than 100 researchers and people with lived experience of T1D came together to share progress and fresh ideas, and to explore new collaborative opportunities.

Funded by the Steve Morgan Foundation, The Type 1 Diabetes Grand Challenge is a partnership between the Steve Morgan Foundation, Breakthrough T1D and Diabetes UK to drive forward research in areas with the greatest potential to find cures and improve the lives of millions of people with type 1 diabetes.

At the symposium, 107 experts from 27 institutes from across the world gathered in London for the first time to focus on two of the Grand Challenge's strands; root causes of type 1 diabetes, which investigates why the immune system attacks the pancreas and how can it be stopped, and; replacing beta cells, which focuses on how to make new beta cells, so that the body can start making insulin again.

Dr Mirjam Eiswirth, who lives with type 1 diabetes and leads the Patient and Public Involvement activities for one of the research projects, said: "It's a marathon, not a sprint, but as we heard at the Symposium – we're well on track."

Find out more at
type1diabetesgrandchallenge.org.uk

When we come together, we make change happen. Whether it's volunteering our time, taking on a fundraising challenge, or making a donation, together we are improving the lives of everyone living with T1D

Get ready for One Walk 2025 – Walk together, help make breakthroughs happen!

From picturesque parks to iconic cityscapes, One Walk is back for 2025, bigger and better than ever. Walks will be taking place in Nottingham, Manchester, Cymru, Falkirk, Bristol, London, Belfast, Leeds and Aberdeen across May, June, and September this year.

Events feature a lively event village, entertainment for all ages, and the choice of a 5km or 10km walk. Every step you take helps drive progress toward a world without type 1 diabetes.

Find out where your nearest walk is and register now **breakthrought1d.org.uk/onewalk**

For the latest type 1 news go to **breakthrought1d.org.uk/news**

Rufus
– our bear with T1D

Rufus is the bear with type 1 diabetes, and he's been helping children through their diagnoses for 30 years. With felt patches to help children learn how to administer insulin and check their glucose levels, Rufus is on hand to help children feel less alone after a T1D diagnosis.

Rufus' story starts in June 1994. Like Breakthrough T1D itself, which was founded by parents who refused to accept that nothing could be done to make life better for their children with T1D, Rufus was born out of the love of a mother for her child.

In a Chicago suburb in June 1994, a three-year-old boy called Brian was diagnosed with T1D. After a difficult few months, his mother, Carol Cramer, decided to find a way to help them both deal with the challenges of managing T1D. She woke up with an idea. “It was like blinders were put on me. Nothing was going to be able to get in my way”, she says. “It was such a clear path.”

She went out and bought a teddy bear. She sewed felt patches onto the teddy's arms, legs, buttocks and stomach, and a red heart on its chest. Dressing it in a Chicago Bulls shirt, Rufus the bear was born.

On Brian's fifth birthday, he declared that it wasn't in fact his birthday – he had promised himself that he would be cured of T1D by the time he was five. Carol took him to the Breakthrough T1D Chicago chapter (then known as JDF) for help. There, Robin Harding, then-executive director, promised Brian that every day, someone would be working towards a cure – something we still promise to this day.

Robin asked Brian about the teddy bear he was holding. Carol recalled Brian's reply, “This is Rufus. He is my bear who has diabetes.” Robin remembers the moment: “I could not get over the thoughtfulness and genius of this incredible and humble mum. What an amazing educational tool she created out of pure love.”

Soon, Carol had offered to make a Rufus bear for everyone who needed one, working through the night to fulfil demand. She sewed on patches for 1,637 bears by hand and her mother-in-law sewed outfits. Demand grew so much that eventually the production of Rufus was outsourced.

Now Rufus is a friend to newly diagnosed children all over the world, helping them learn about T1D as well as being a comforting and cuddly companion.

In recent years Rufus has had more updates. He is now made from 100% recycled materials - approximately 16 plastic bottles are used for each bear. Even his packaging is eco-friendly, from his FSC certified cardboard tag, to the recyclable clear bags he's packed in, which are also made from recycled materials.

In the UK we give out approximately 4,000 Kidsacs to newly diagnosed children every year, each containing their very own Rufus. We couldn't do that without your support – it's because of you that 4,000 children every year get a new friend to help them through their life-changing diagnosis and learn about T1D.

> “I could not get over the thoughtfulness and genius of this incredible and humble mum. What an amazing educational tool she created out of pure love.”

Here's what our supporters had to say about Rufus:

“Rufus was a beacon of strength and hope, who helped my daughter learn about her newly diagnosed condition and made it seem less daunting. Rufus is a special bear to her, who helped her to be brave enough to learn to inject insulin by herself, using his little coloured patches. Rufus still takes pride of place next to her and even now, she doesn't like to sleep without him. I think that attachment made will now continue for a lifetime. Such a special gift and lovely idea for a newly diagnosed child.”

“My daughter has had Rufus since 2021. She was five when she got diagnosed. She's now nine and Rufus still goes everywhere with her, even to school. She says Rufus makes her happy when she's feeling sad about her diabetes and when she was on injections she cuddled Rufus to make her feel better. Now she's on a pump and still cuddles Rufus when she's getting her cannula changed.”

“Rufus was a wonderfully welcome addition to our family when our son was diagnosed at three. He still cuddles him nightly now. He is a comfort blanket on sad nights for him.”

“When I was 11, I was diagnosed with type 1 and they gave me Rufus the bear. I didn't have my own comfort bear with me - he took that place and I still have him nearly eight years later.”

Would you like a Rufus for your child?
Visit **breakthrought1d.org.uk/kidsac**

This article was originally published by Breakthrough T1D's Illinois Chapter.

Curve balls and silver linings: how T1D and a love of baseball changed Mason's life

In 2024, **Mason Barnaby** was asked by Instagram influencer Zachery Dereniowski if he would like $1,000 or a ticket to a baseball game. His response – to see the baseball – went viral. We caught up with Mason to find out how T1D brought with it a new favourite sport.

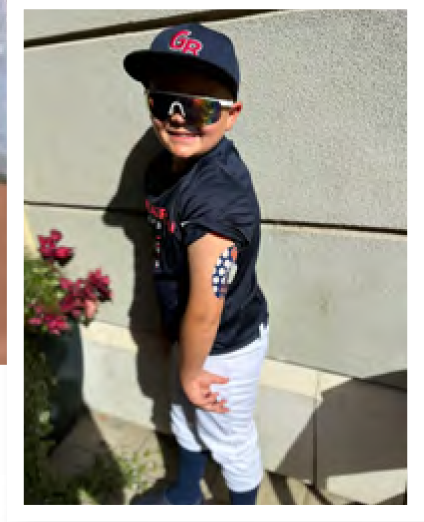
> If I could say one thing to kids who are newly diagnosed, it would be: know that you're not alone and there's many people out there to help you"

I was diagnosed with type 1 diabetes when I was five. I remember being in the hospital for five days.

I found it difficult being in hospital. Let's just say when they tried to give me my first pen injection I ran around the room, I hid under the bed, I hid behind the table, because I did not want to get injected. When they finally gave me the injection, I thought, 'Oh, that wasn't worth all the fuss.' Now I've got the Omnipod and the Dexcom so unless my sugars go high and I have to replace my pod or something, that's the only time we really give a pen injection.

With my pod, I don't like it, but it's much easier now because I know what it feels like. Sometimes now I even count: it's going to be this one click and then it goes in. On the next click it's going to shoot the canula in.

I got a Rufus when I was in the hospital. I sleep with Rufus every night. I can't sleep without him. He makes me feel safe.



Baseball

When I was in hospital, Dad brought the iPad from home and I was allowed to watch anything, and the first thing I saw was baseball. I watched a whole baseball match and ended up saying to mum and dad, when I get out of hospital, can I play this?

I also watched wiffleball, and that gave me my first two heroes that were diabetic. Last year I was in a wiffleball tournament in America that was raising money for type 1 and I got to meet them. I played on the All-Star Team. It was magical and amazing.

Playing for Great Britain

In 2024, I made the Great Britain Baseball team, and we went to Slovakia to play. It was just amazing. We were playing against other countries and it just felt magical.

With baseball there's nine innings. So, if it's not my turn to bat, we can sort my sugars out. So it works well that way.

When I went to Slovakia it was my first time flying without my mum and dad, they were on a different flight from the team and coaches. I hate airports. Whenever I go through security, I get pulled over because of my diabetes stuff, they think I'm wearing like a bomb on me or something. One of the kids made me laugh because afterwards he said, we thought you were getting arrested.

One Walk

Last summer, I got to talk at the Breakthrough T1D One Walk in London. I handed out medals, though I had to untangle them all first. It was really special meeting other people with type 1. Knowing that I'm not the only person. One kid came up to me and said they'd seen me on social media and he was like, 'thank you for showing me that I'm not alone'. He said how much I inspired him, so it was really special. I was already really happy being there, and it just warmed my heart and made my day.

Looking to the future

If I could say one thing to kids who are newly diagnosed, it would be: know that you're not alone and there's many people out there to help you. If you want to play sport, do it. Type 1 doesn't stop you from playing. It doesn't stop you from anything. When I grow up, I want to play in the Major League Baseball in America. I'll keep doing things for Breakthrough T1D too. A cure for type 1 would be amazing. It would mean no more injections, no more carb counting, no more pods, no more Dexcoms,

Feeling inspired? Join Mason and help drive breakthroughs in T1D research. Visit **breakthrought1d.org.uk/fundraise**

What are immunotherapies, and why are people excited about them?

Treatments that target the immune system, known as immunotherapies, are emerging to tackle type 1 diabetes. Learn what they are and their potential to be life-changing for people living with T1D.

Teplizumab – what's the big deal?

In November 2022, drug regulators in the US approved the first medicine for T1D that tackles the root cause of the condition, teplizumab.

In a landmark clinical trial, which Breakthrough T1D helped to fund, a two-week course of teplizumab slowed the immune attack on beta cells and preserved insulin production for an average of three years in people with early-stage T1D. At this point T1D hasn't fully developed - the immune attack has begun but there are still enough beta cells to produce some insulin, and the symptoms of T1D aren't showing.

Delaying the development of T1D means more years without insulin injections, constant blood glucose monitoring and carb counting. It can also reduce the risk of developing diabetes complications.

How do immunotherapies work?

Our immune system works by identifying invaders in our bodies – such as bacteria and viruses – and launch an attack in which immune cells called killer T cells are taught to recognise and destroy the invader.

In people with T1D, their immune system mistakenly attacks their own beta cells. Meanwhile, the peacemakers of the immune system – called regulatory T cells, or Tregs – are underpowered against the barrage. Teplizumab works by attaching to a protein on the surface of killer T cells. This stops the T cell from recognising beta cells, effectively hiding them from the immune system to evade attack.

Many more immunotherapies for T1D are in the pipeline. Some work in a similar way to teplizumab, whiles others take a different approach. Through the Type 1 Diabetes Grand Challenge, we're funding research into different immunotherapy strategies.

Interleukin-2 (IL-2): Boosting the Tregs

Dr James Pearson is leading a Grand Challenge project investigating a way to boost the peacekeeping force of Treg cells, to limit the immune attack on beta cells. A protein called interleukin-2 (IL-2) is an important nutrient for Tregs and has been tested in clinical trials in people with T1D before. The results have been promising but inconsistent.

James has a theory that may explain why the results vary. He said: "We've seen that there's a time in mice, in the evening, when the number of Treg cells is at its lowest point in the 24-hour cycle. We think that might be the best time to give IL-2 therapy, because you're then boosting them back up to a higher level to try to limit activation of the damaging killer T cells."

His team are testing this theory in blood samples taken in the morning and the evening from volunteers with T1D. IL-2 is already known to be a safe treatment in children and adults. So, if the results from James' study show a potential benefit to timed therapy, then a trial in people with T1D could take place.

Abatacept and IL-2: more than the sum of their parts?

Dr Danijela Tatovic's Grand Challenge project is also exploring IL-2's potential, in combination with another immunotherapy called abatacept. Abatacept is used to treat rheumatoid arthritis, another autoimmune condition. In trials of people with T1D it's been shown to stop killer T cells attacking beta cells, but it also weakens the helpful Tregs, which limits its usefulness.

Danijela is running a small clinical trial in people with T1D in which one group will receive abatacept and another will receive abatacept and IL-2 at different doses and timings. After two months, the researchers will see how the different types of immune cells are responding in each group.

Once they've established the best combinations of the two drugs, the team can design a larger trial to find out whether the therapy can protect beta cells and slow T1D progression.

Getting closer to a cure

The discovery of insulin in 1921 has enabled countless people to survive and thrive with T1D. The approval of teplizumab in the US one hundred years later represents the start of a new era of medicine for people living with T1D.

Immunotherapies hold incredible potential for preventing, slowing down and stopping the destruction of beta cells by the immune system. And – by combining immunotherapy with promising therapies to replace beta cells – there's a growing chance of a cure for people who may have never imagined it was possible.

Find out more about the different ways you can get involved with type 1 research at **breakthrought1d.org.uk/research**

Breakthrough T1D UK Small Grant Awards

Thanks to generous supporters like you, four new year-long research projects are now underway across the UK into different aspects of type 1 diabetes.

Our Small Grant Awards programme helps to support researchers in the early years of their career and progress their research in T1D.

This year, four researchers will be exploring a range of different aspects of T1D, including;

- A brand-new tool to help people with T1D to exercise without worrying about their blood glucose levels dropping too much.
- A project helping to improve our understanding of how we can help protect insulin-producing beta cells from immune cell attack.
- A dressing to help diabetic wounds heal more quickly, which should reduce the risk of infections and serious complications.
- A study investigating how hormones involved in blood glucose regulation are affected by T1D.

Helping people with T1D exercise safely

Regular exercise is important for everyone regardless of whether they have T1D or not. Maintaining a regular exercise routine may be more difficult for people with T1D as it can often require careful planning and management of blood glucose levels.

Dr Richard Pulsford and his team at the University of Exeter are developing a tool called 'GlucoseGo'. Their aim is to help people with T1D overcome fear of potential hypos during exercise, which is a common barrier to exercise. The tool uses a traffic light colour system to predict the chance that a person might become hypo during exercise, helping them to better plan their activities throughout the day.

In this project, Dr Pulsford will test GlucoseGo using data from children under 12 and ask adults and children with T1D to help design what the tool should look like and how it could be used.

Defending insulin-making beta cells

Dr Rebecca Dewhurst-Trigg and her team at the University of Exeter are investigating how mesenchymal stem/stromal cells (MSCs) in the pancreas, also known as islet helper cells, may be involved in stopping harmful immune cells attacking insulin-making beta cells.

Islets, are clusters of cells inside the pancreas. Islets contain the insulin-making beta cells which are destroyed in T1D, and other cells, which are all protected by a barrier around the outside, called the basement membrane. This membrane is weakened in T1D meaning immune cells can enter the islet and attack the beta cells.

Islet helper cells in the pancreas act as the building blocks of the islet basement membrane and may support the basement membrane to protect beta cells against immune attack.

The team hope that by studying how islet helper cells work they can see if they are involved in maintaining or repairing the protective islet border. This project could help in developing targeted treatments to help delay or prevent T1D or treatments to help protect beta cells that have been replaced through islet transplants.

Helping diabetic wounds heal more quickly

Having T1D means that wounds can take longer to heal, increasing the risk of infection and development into pressure ulcers. Pressure ulcers can be very painful and there are very few treatment options available.

Together, we're making this vital research possible

For this reason, we are funding **Dr Mandeep Kaur Marwah** and her team at Aston University in their work on a new type of dressing to help diabetic wounds heal more quickly.

The new dressing uses a molecule called hydrogen sulphide, which plays an important role in healing. The team will test how safe and effective this new type of dressing is using a 3D model of a diabetic wound.

The team hope that this new dressing will be able to improve the treatment of diabetic wounds and improve the quality of life for people affected by them.

Understanding hormonal changes in T1D

Dr Thomas Hill and his team at the University of Oxford are looking into how the cells in the pancreas that make different hormones affect each other. These hormone-making cells - including alpha, beta and delta cells - live together in the islets.

Alpha cells make glucagon, which increases the amount of glucose in the blood. Delta cells make somatostatin, which stops beta cells releasing insulin and alpha cells releasing glucagon. In people with T1D, delta cells don't work as they should and release too much somatostatin during low blood glucose, stopping glucagon being released and increasing the risk of hypos.

The team hope that by studying the changes to the delta cells that occur during the development of T1D they may be able to understand how these cells cause low blood glucose in T1D and develop new ways to help prevent hypos.

Help fund more T1D research like this at **breakthrought1d.org.uk/donate**

New T1D and neurodivergence resources

Managing type 1 diabetes alongside autism or ADHD can be tricky, but the right strategies and support can help. We recently launched new resources to support both adults and children living with T1D and neurodivergence, developed with Dr Rose Stewart and Dr Jacq Allan, both clinical psychologists. Here, they share their top tips to help you, or your child, navigate T1D and neurodivergence.

Type 1 diabetes and autism

Get the right tech

Talk to your Diabetes Healthcare Team about what tech might suit you best. For example, if sensory issues are a challenge, you might prefer a tubeless pump over a tubed one. When it comes to changing your sensors or pumps, choose a calm day rather than a hectic one to help keep stress levels low.

Dealing with sensory issues

If inserting devices is uncomfortable, try numbing creams or distraction techniques, like playing music, using a fidget toy or taking deep breaths – whatever works for you. If alarms on your tech are too loud or jarring, you can switch them to vibrate.

Adjust your clinic experience

Overwhelmed by noisy waiting rooms or busy clinics? You can ask for adjustments like having appointments at quieter times of day or a separate waiting space. Even if you don't have a formal autism or ADHD diagnosis, you can explain your needs by referring to a 'working diagnosis.'

Prepare for appointments

Planning ahead can make a big difference. Write down your questions or concerns and share them with your Diabetes Healthcare Team before your visit. Bring a trusted person to help you take notes or just provide support. You can also ask your Healthcare Team for a written summary or bullet points for you to review later.

Type 1 diabetes and ADHD

Get as organised as you can

Technology can be your friend. Tools like CGMs, insulin pumps, or phone reminders can help you stay on top of your diabetes care. If something isn't working, chat with your Diabetes Healthcare Team to adjust.

Simplify your tasks

Big tasks can feel overwhelming, so break them into smaller steps. Start with one thing, like testing your blood glucose regularly, and then build up from there. Don't try to tackle everything at once.

> “Autism is a life-long condition. Instead of trying to change the way you interact with your hospital or clinic environment, focus on how the hospital or clinic environment can be changed to support you”
>
> – Dr Rose Stewart

Plan together

If you're supporting a child with ADHD, involve them in preparing for appointments. Help them write down or record their questions in advance and send your own list to the clinic to keep the visit focused.

Be flexible with requests

For kids who struggle with direct demands, offer choices instead. For example, ask, 'Do you want to change your pump now or after dinner?' This gives them a sense of control while keeping things on track.

Get more information and support

Always talk to your Diabetes Healthcare Team if you are experiencing any issues as they may be able to refer you for specialist support.

For more information about managing T1D and autism or ADHD, visit **breakthrought1d.org.uk/children-neurodiversity** or **breakthrought1d.org.uk/adults-neurodiversity**

Help create a world without T1D – Leave a gift in your Will

Our promises to you

We are extremely grateful for any gift – large or small – that you leave to **Breakthrough T1D** to help us find ways to cure, treat and prevent T1D. In return, we make these promises to you:

- We always understand your family and friends come first, just as they should.
- We will use your gift carefully and cost-effectively, so it has the greatest research impact possible.
- We would love to know if you decide to leave a gift in your Will, so we can say thank you. But we respect your privacy and if you prefer to let us know anonymously, or not at all, then we do understand.
- You never need to tell us what or how much you want leave to Breakthrough T1D. Simply letting us know you have made such a special and important gift is very helpful.
- You can change your mind at any time. Even if you tell us you plan to leave a gift in your Will to Breakthrough T1D, it is not legally binding.

Gifts in Wills are powering research around the world to build a brighter future for everyone living with T1D. To find out more about leaving a gift in your Will, you can download your free legacy pack by visiting breakthrought1d.org.uk/legacy or by scanning the QR code

Type 1 diabetes and everyday life

Managing T1D can be tough, especially on top of everything else life can throw at you. We've got information and tips to help you navigate everyday life with T1D.

Work

There's no reason that you can't have a fulfilling career if you have type 1 diabetes. The only job that people with T1D aren't allowed to do is join the Armed Forces, and some emergency services who may have restrictions. The Equality Act 2010 protects you from discrimination at work and you are allowed to ask your employer to make reasonable adjustments to support you, like offering flexible breaks, providing a private space for injections, or making space to keep a hypo kit handy. You don't have to tell them about your T1D unless you want to, but doing so might help them support you. You also have the right to time off for medical appointments without it affecting your job.

Travel

T1D doesn't have to stop you having adventures, whether in the UK or abroad. Pack three times the amount of diabetes kit you need so that you have plenty of spares if something gets lost. If you use an insulin pump, make sure to bring backup insulin pens and cartridges. If you're flying, keep insulin in your hand luggage to stop it freezing in the hold and bring a doctor's letter for airport security – you can also bring a copy of your prescription and use a sunflower lanyard to show you have a hidden medical issue. Before you go, find out where the local pharmacies and hospitals are and take a cooling pack to keep insulin cool in hot weather. Remember that you may have to adjust your insulin doses based on what activity you're doing and the weather. And one more thing – have fun!

Driving

If you have type 1 diabetes, you can still drive but it's important to take some precautions for your safety, and others. Legally, you need to check your glucose levels no longer than two hours before setting off and you need to stop and check them again every two hours on long journeys. You'll need to tell the DVLA that you have T1D and carry emergency supplies with you.

Exercise and physical activity

A lot of people with T1D are nervous about exercise and physical activity because of the impact it may have on their glucose levels. But regular exercise can improve insulin sensitivity, lower blood sugar levels, and make you feel good. Whether you're runing, dancing, playing sports or doing a good session of gardening, it's important to monitor blood glucose before, during, and after physical activity. That will allow you to adjust your insulin doses and carbohydrate intake to keep you safe while being active. Learning how different types of exercise affect your glucose levels will help you keep going with the exercise you enjoy.

Find out more at: **breakthrought1d.org.uk/everyday-life**

Turning Research into Reality:

Breakthrough T1D's Policy and Advocacy Work in the UK

At Breakthrough T1D, we believe research is just the beginning. To truly transform lives, we must ensure that the breakthroughs you help fund move beyond the lab and into real-world impact. From expanding access to new treatments to securing better technology on the NHS, our Head of Policy and Public Affairs, **Rachael Chrisp**, explains how our advocacy bridges the gap between discovery and delivery.

"Changing the future of type 1 diabetes (T1D) takes more than scientific innovation. It requires relentless advocacy to ensure life-changing advances become accessible to everyone who needs them. At Breakthrough T1D, our policy work turns breakthroughs into tangible improvements for everyone affected by T1D.

We don't stop at scientific progress. Our mission is to make these advancements accessible across the UK. That's why we collaborate with the NHS, policymakers, and other key stakeholders to shape policies that accelerate access to new treatments and technologies. The advocacy breakthroughs we achieve wouldn't be possible without the backing of the people who fund our work."

Amplifying the voices of the T1D community

Advocacy is about more than influencing policy. It's about making your experiences heard. Every meeting, briefing, and consultation we participate in reflects the lived realities of people with T1D. Your stories, insights, and support are what drive every policy success.

We work closely with the NHS, the National Institute for Health and Care Excellence (NICE), and parliamentarians to advocate for change that matters. By sharing your stories, we help decision-makers understand the human impact of living with T1D and create policies that reflect your needs.

By turning research into reality, we are creating a future where scientific breakthroughs lead to meaningful, life-changing advancements for the entire T1D community. Together, with your continued partnership, we'll keep pushing for the change that matters."

> By turning research into reality, we are creating a future where scientific breakthroughs lead to meaningful, life-changing advancements for the entire T1D community

Rolling out hybrid closed loop technology

Breakthrough T1D has been leading research into hybrid closed loop (HCL) technology, often called the artificial pancreas, for nearly two decades. However, research alone wasn't enough to drive access.

Thanks to the funding and dedication of our supporters, our policy team worked tirelessly, contributing to pivotal technology appraisals, organising discussions with healthcare leaders, and presenting compelling evidence for change. Scotland became the first country to offer HCL systems, followed by England. Within five years, over 100,000 people with T1D in the UK will have access to HCL technology, and we won't stop until everyone can choose the technology they need.

Ensuring access to continuous glucose monitoring (CGM)

One of our proudest advocacy achievements is making continuous glucose monitoring (CGM) available on the NHS for everyone with T1D. Our role in shaping policy included engaging directly with decision-makers and demonstrating the profound health and quality-of-life improvements CGM delivers.

This success wouldn't have been possible without the incredible backing of our community. By working alongside NICE and healthcare providers, we helped establish comprehensive guidelines that ensure equitable access to this transformative technology.

Shining a light on type 1 diabetes and disordered eating (T1DE)

In January 2024, a groundbreaking Parliamentary Inquiry-chaired by the Rt Hon Theresa May MP and Sir George Howarth MP delivered a report on type 1 diabetes and disordered eating, highlighting the severe health risks and urgent need for action.

This milestone followed years of advocacy by our Policy and Public Affairs team. We raised awareness within the healthcare sector, amplified personal stories, and provided robust evidence to Parliament. The resulting recommendations call for better diagnostic practices, improved mental health services, and greater investment in specialist care.

This critical work was made possible through the generosity and support of our donors like you, whose contributions help us keep issues like T1DE at the forefront of national health conversations.

Influential reports that drive change

Our influential reports provide vital data and insight, helping policymakers prioritise the treatments and services that improve lives.

Some of our recent reports have been:

- **Research to Reality:** We examined how to overcome barriers between research breakthroughs and everyday care, ensuring new discoveries swiftly reach everyone who needs them.
- **Pathway to Choice:** Advocates for policies that help people to make informed choices about their care, including access to tailored treatments and advanced technologies.
- **Access for All:** Highlights inequalities in access to T1D treatments and technologies, offering clear recommendations to close gaps and ensure fair access for everyone.

These resources give NHS leaders and Parliamentarians the context they need to drive policy improvements that reflect the realities of living with T1D. Every report we produce, every piece of evidence we share, is fuelled by the support of our incredible community.

For more information about our policy and advocacy work visit **breakthrought1d.org.uk/advocacy**

Inspirational, committed and amazing

Isobel Knowles –
Shout out to Isobel Knowles for organising a charity netball match for Breakthrough T1D! Isobel, who was diagnosed with T1D nearly nine years ago at the age of twelve, raised a fantastic £1,000 – thank you so much!

Sinead Kinsey –
We'd like to say a massive thank you to out amazing supporter Sinead, who recently took on the Dubai Marathon for Breakthrough T1D!

Sinead chose to run the Dubai Marathon for our charity in support of her friend Emma and her family. Emma and Sinead have been best friends since they were three, and Emma's eldest daughter, Niamh, was diagnosed with type 1 diabetes at the age of two.

Sinead has raised a phenomenal £760 for type 1 diabetes research, smashing her original £500 target. Thank you so much for all your support Sinead, you're incredible!

> Your passion and support make our vital work possible - thank you!

Kilimanjaro Trek

3-12 October 2025

Take on the tallest freestanding mountain in the world – a challenge like no other and the experience of a lifetime.

Help us build a team, all raising vital funds to treat, prevent and cure T1D!

Breakthrough T1D™
Formerly JDRF

To join, scan the QR code below, or email **events@breakthrought1d.org.uk** for more information.

Fabulous fundraisers

We love to celebrate our amazing fundraisers, whether they're taking on tough physical challenges or coming up with creative ways to raise money. In this issue we're highlighting Mehdi, who ran 12 ultramarathons in 12 days, and Sofia, who sprinkled some Christmas magic into her festive fundraiser.

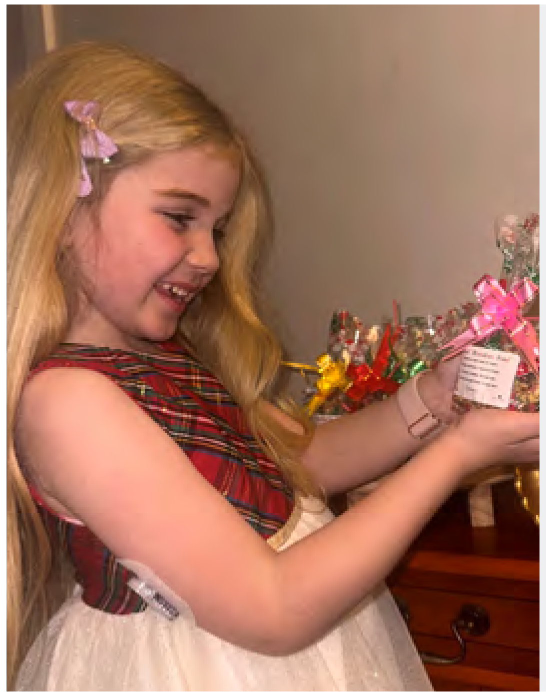
12 ultramarathons in 12 days

In November 2024, our incredible fundraiser Mehdi Taheri accomplished the extraordinary feat of running 12 ultramarathons in 12 days. An ultramarathon is 31 miles, meaning that Medhi ran a total of 186 miles in just under two weeks - we're tired just thinking about it! He raised over £7,000 for Breakthrough T1D.

Mehdi is a dedicated Breakthrough T1D supporter, and he has taken on lots of amazing challenges in support of us over the years. Medhi's motivation is very personal; his daughter Scarlett was diagnosed with T1D in 2012. By running 12 ultramarathons, Mehdi represented the 12 years Scarlett has been living with T1D.

In his final race around Plymouth, Mehdi was joined by more than 60 supporters who ran with him, starting from as early as four in the morning. This group of Breakthrough T1D supporters call themselves Team Plymouth. In 2025, various members of the team will be taking on the Rome, Chicago and London Marathons, and many more to raise vital funds for type 1 diabetes research. As Mehdi says, "We care for the type 1 diabetes community... raising awareness and funds for them. I will do more with the team that I've got, and anything is possible."

Thank you so much Mehdi, and everyone on Team Plymouth, for all your hard work and support!



Sofia's magical reindeer food

Santa is now having a well-earned rest, but his reindeers got a bit of extra help last Christmas thanks to Sofia, an imaginative Breakthrough T1D fundraiser.

Five-year-old Sofia made and sold bags of Magical Reindeer Food to help guide Santa's reindeer on Christmas Eve. Using a wildlife-friendly recipe, Sofia made every bag herself and even paid for the production costs out of her pocket money.

Sofia, diagnosed with T1D when she was two and a half years old, decided to raise money for our mission to find cures and better treatments for T1D, and raise awareness of the condition. She said: "It is hard to have type 1 diabetes, but I get on with it. You have to settle into it. Every day you have to get on and be happy."

Thank you, Sofia, for spreading Christmas magic and helping us make lives better for everyone living with T1D!

T1D

You can join the movement to end T1D at **breakthrought1d.org.uk/how-to-help**

What's on

Connect with the T1D community, share stories and tips, raise funds and have fun when you join a Breakthrough T1D event. For full details and to view the latest list, visit breakthrought1d.org.uk/events

Run

breakthrought1d.org.uk/runningevents

Paris Marathon	13 April 2025	Hackney Half Marathon	18 May 2025
Great Manchester Run (10k & half marathon)	18 May 2025		

Walk

breakthrought1d.org.uk/events

Easter 50km Ultra Challenge	12 April 2025	Jurassic Coast Ultra Challenge	17–18 May 2025
Breakthrough T1D: Yorkshire 3 Peaks	3 May 2025		

Special events

breakthrought1d.org.uk/events

Skydive for Diabetes Awareness Week	16–22 June	Wear it Onederful	Anytime
Kilimanjaro Trek	3 October		

Type 1 Discovery Days

breakthrought1d.org.uk/discover

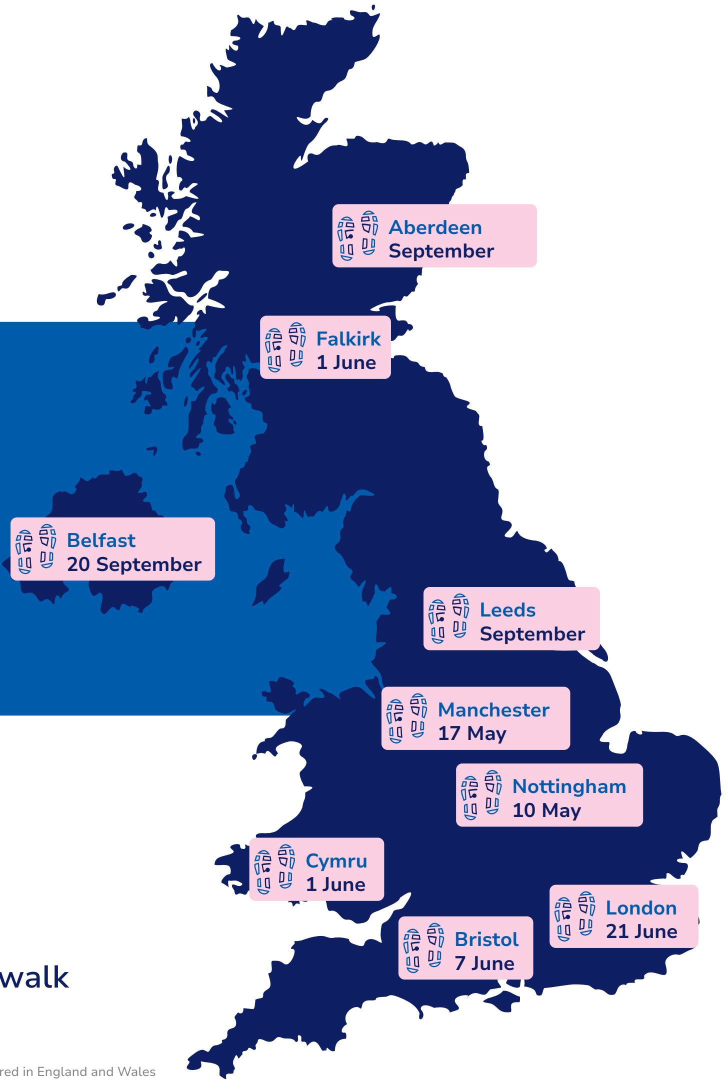
Virtual Discovery Event: Research	4 March	Discovery Day: Scotland	29 March

To sign up to any of our events, go to **breakthrought1d.org.uk/events**

Breakthrough T1D™
One Walk

Join a One Walk near you!

Sign up to one of our family-friendly sponsored walks and together let's walk towards the next big breakthrough.



Celebrate your loved ones

Find your community

Walk to change lives

Contribute to a cure

Sign up here

To find out more visit
breakthrought1d.org.uk/onewalk

Breakthrough T1D is the operating name of Juvenile Diabetes Research Foundation Limited and is a charity registered in England and Wales (No. 295716) and in Scotland (No. SC040123). Registered address: 17/18 Angel Gate, City Road, London EC1V 2PT. Tel: 020 7713 2030

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Pod shown without necessary adhesive.
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*The Pod has a waterproof IP28 rating for up to 7.6 metres (25 feet) for up to 60 minutes. The PDM/Controller is not waterproof.

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DMM25

I want to give a gift towards life-changing research

1 Here is my gift of....

☐ £20 ☐ £50 ☐ £100

☐ Other

2

Please make any cheque payable to Breakthrough T1D. To give by Mastercard/Visa (delete as appropriate) please fill in below:

Card no.

CVV Expiry Date

Card Holder's Name

3 Your details

Name: ....

Address: ....

.... Postcode: ....

4 Keep in touch

To sign up to our emails and hear about the latest type 1 research, news, events and how you can help advance our work please complete your email address below:

You can change the way we contact you at any time by calling us on 020 7713 2030

5 Gift Aid

giftaid it

Yes I want to increase the value of my donation to BreakthroughTD1 by 25% at no extra cost.

☐ Yes, I want to increase the value of my donation to Breakthrough T1D by 25% at no extra cost. I am a UK taxpayer and want to Gift Aid this donation and any donations I make in the future or have made in the past 4 years to Breakthrough T1D. I understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference.

Date: ☐ I am not a UK tax payer.

Thank you. Please return your form in the **freepost envelope provided** or to **Freepost RTYC-XAJB-ZGUG, BreakthroughT1D, 17/18 Angel Gate, City Road, London EC1V 2PT**.

You can also donate online at **breakthrought1d.org.uk/donate** or call us on **020 7713 2030**.

DMM25

Leaving a gift in your Will

We understand that deciding to leave a gift in your Will is a very personal decision. But if you are happy to let us know your plans it would be a great help. Anything you tell us is strictly confidential.

☐ **I am considering** leaving a gift in my Will

☐ **I intend to** leave a gift in my Will

☐ **I have already** left a gift in my Will

To find out more about leaving a gift in your Will, you can download your free legacy pack by visiting breakthrought1d.org.uk/legacy or by scanning the QR code.

> "Children should never have to struggle with type 1 – it's so important to come up with a cure and better treatments. I want to leave a gift in my Will to help".

Margaret
grandmother to Fleur who was
diagnosed with type 1 aged 9

Thank you.

Please return your form in the freepost envelope provided or to **Freepost RTYC-XAJB-ZGUG, Breakthrough T1D, 17/18 Angel Gate, City Road, London EC1V 2PT**.

Breakthrough T1D Ltd is a charity registered in England and Wales (No. 295716) and in Scotland (No. SC040123). Registered as a company limited by guarantee, in England and Wales (No 2071638). Registered address as above.

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