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Type1 discovery

Issue 101/Autumn 2025

Smart Insulin

Exciting updates from The Type 1 Diabetes Grand Challenge

Moving to University

Insights from a mum and daughter on navigating change

Lydia Bright

How living with T1D has shaped her as an artist

"The technology that's given me peace of mind"

Find out how HCL has supported new mum Manisha

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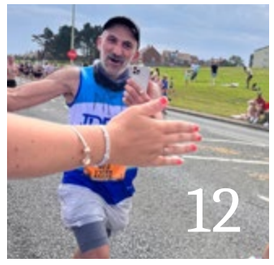
News
Find out the latest type 1 news
4



Q&A with T1D dancer Lydia Bright
8

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Living well with T1D

Welcome to the latest issue of Discovery magazine. In this magazine, you'll see how we're working with scientists, clinicians and the type 1 diabetes (T1D) community across the globe to prevent, treat, and ultimately cure T1D.

We're here for you, wherever life takes you. In this issue, we explore the stages of T1D and how early detection can make a difference before symptoms even appear. We also speak to Erin, who's just started university, and her mum Yvette, sharing both sides of the story as they navigate this new chapter together. We also speak to Justine, one of our supporters, about her experience of T1D and menopause.

A special thank you to Lydia, who reflects on the power of peer support and the need to raise awareness and reduce stigma around type 1 diabetes. Her story reminds us that connection, understanding, and shared experience are as vital as scientific breakthroughs.

As we look ahead to 2026 and the 40th anniversary of Breakthrough T1D in the UK, we're not slowing down, we're stepping up. You can read more about how we're marking this milestone in our news section, as we renew our commitment to making type 1 a thing of the past.

None of this progress would be possible without you. Your generosity fuels research, amplifies voices, and helps build a stronger, more informed community.

Karen Addington MBE
Chief Executive

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To find out about the projects you help to fund, visit breakthrought1d.org.uk

Steve Bates OBE, David Bruce and Dean Sowman

Breakthrough T1D UK welcomes new Board appointments

We are delighted to announce the appointment of three new Board Directors to Breakthrough T1D UK. Steve Bates OBE, David Bruce and Dean Sowman will join us in autumn 2025, strengthening the organisation's scientific research, communications and financial expertise within our existing Board.

Phil Aird-Mash, Chair of the Board of Directors said: "I am delighted to welcome Steve, David and Dean to the Board. Their appointments come at a pivotal time here at Breakthrough T1D, following our recent re-brand and the release of our new 10-year strategy. We are delighted to have on board the extensive skills of our new Board Directors to help bring us one step closer to a world free of type 1 diabetes."

This year, we also said goodbye to Wilson Leech, who stepped down as Vice Chair of the Board and Chair of our Audit and Risk Committee in early July. We thank Wilson for his dedicated leadership and service, both to our organisation and the wider T1D community, in support of all those living with type 1.

Find out more about our Board of Directors at **breakthrought1d.org.uk/board**

We won't stop until we find a cure

In 2026 Breakthrough T1D turns 40. To mark the milestone, you'll start seeing an anniversary logo across our work, from research updates to fundraising campaigns. It's a simple way to recognise how far we've come.

Whether you've donated, shared your story, volunteered or simply connected with us, you've helped shape the progress we're proud of today. This anniversary is yours as much as ours.

But this isn't just about looking back. We're here to finish what we started 40 years ago. We're funding the science to cure type 1 diabetes (T1D). That means creating a reliable, widely available source of the cells that make insulin. It means finding ways to keep those cells working. And it means protecting them from immune attack so the condition doesn't come back. This is how we move beyond managing T1D and towards curing it.

When the new logo pops up in your inbox or on your feed, we hope it reminds you not only of the impact you've already had, but of the progress still within reach. Together, we can drive our fundraising even further, accelerate the science, and bring us closer to a world without T1D.

Existing drug may slow the progression of type 1 diabetes

A clinical trial called MELD-ATG, run by the Breakthrough T1D-funded clinical trials network INNODIA, has announced positive results at the European Association for the Study of Diabetes conference in Vienna this year.

It investigated whether a drug called Anti Thymocyte Globulin (ATG) could help preserve insulin producing cells (beta cells).

ATG is an immunosuppressant drug, meaning it stops your body's immune system mistakenly attacking and destroying its own cells. It is currently used when someone has an organ transplantation, to stop their body from rejecting the new organ.

The drug was tested in people aged 5-25 years of age who had been found through screening programmes in the early stages of T1D.

Results, published in the Lancet, showed that ATG is safe and effective in preventing the progression of T1D in young people at lower doses than previously investigated.

Breakthrough T1D's Director of Research Partnerships, Rachel Connor, said: "These new results provide strong evidence of another therapy that slows the progression of T1D, and is a major step forward in diabetes research. Low dose ATG protects against the loss of beta cells and so could be a valuable treatment in the early stages of T1D."

MHRA licenses Teplizumab for use in UK

In August, the Medicines and Healthcare products Regulatory Agency (MHRA) approved licensing for teplizumab to be used in the UK.

The first-ever disease-modifying therapy for type 1 diabetes (T1D), this breakthrough treatment is the first of its kind to delay the onset of clinical T1D in people who are in the early stages of the condition. Breakthrough T1D played a key role in funding early-stage research into teplizumab and facilitating regulatory pathways. It represents a seismic shift in how we think about T1D and its management.

Karen Addington MBE, Chief Executive of Breakthrough T1D said: "After years of research, clinical trials and drug development, we have an incredible breakthrough. This innovative new therapy can help avoid life-threatening complications at diagnosis like diabetic ketoacidosis (DKA). Teplizumab not only has the potential to save lives but also to alleviate the financial strain of emergency diagnoses of T1D on the NHS."

Teplizumab is an immunotherapy designed to target the immune system's attack on insulin-producing beta cells in the pancreas. In clinical trials, a single course of teplizumab delayed the onset of T1D by an average of nearly three years. In some cases, it delayed the condition significantly longer. This window gives people and families precious time to prepare, plan, and potentially benefit from future treatments. We now await a final decision from National Institute for Health and Care Excellence (NICE) in the next couple of months on whether teplizumab will be approved for use on the NHS.

University of Oxford secures £10m gift to accelerate T1D research

The University of Oxford has received a £10 million donation from the Bukhman Foundation to establish the Bukhman Centre for Research Excellence in type 1 diabetes (T1D). Driven by its overarching goal to find a cure for T1D, The centre will bring together experts from across Oxford to drive collaborative, cross-disciplinary research. The Bukhman Foundation's gift will also support the recruitment and funding of senior academic posts, including fellowships and a professorship, to lead research into T1D. In addition, new scholarships will provide support for DPhil students.

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. Find out how you can support at **breakthrought1d.org.uk/get-involved**

New study shows that higher blood glucose levels does not affect babies when breastfeeding

A new study has found that people living with T1D need not let higher blood glucose levels deter them from breastfeeding.

Researchers measured glucose, fructose and leptin in breast milk, alongside infant weight gain and milk intake. They found that increased blood sugar concentrations of glucose and fructose had no impact on weight gain of the infants, and it had no impact on volume of milk ingested.

These findings offer valuable insight and reassurance for people with T1D, showing that pre-feed blood glucose levels do not need to influence their decision to breastfeed.

Find out more about managing T1D through pregnancy at **breakthrought1d.org.uk/pregnancy**

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

Annabel Steadman © Chris Close

“Anyone can be a unicorn rider.”

Sunday Times bestselling author Annabel Steadman (Skandar series) was diagnosed with T1D aged four. She always wondered where she fit into the adventure.

‘I think I spent quite a lot of my 20s trying to pretend I didn’t want to be a writer. I’d gone to Cambridge to study Russian and Spanish, before switching to a law degree and qualifying. I tried to force the law thing to work in various ways, becoming a social services lawyer. I’d even tried to become a teacher at one point because I thought ‘that’ll get me a bit closer to books’. But writing was always something I’d wanted to do’.

I was diagnosed with type 1 diabetes (T1D) when I was about four. I had a really bad kidney infection, I had quite a lot of kidney complications as a child actually. T1D doesn’t run in my family, my mum actually suspected that I might have it because she saw it on Holby City! There was an episode where a patient was really thirsty and going to the loo a lot. She took me to the doctor and said ‘I think she might have type 1 because I saw it on Holby City’, which is quite a cool example of awareness-raising.

I think my own experiences have helped make my writing as inclusive as it can be. Growing up, I loved reading fantasy and adventure books, but they would only really feature one kind of child. Now there’s lots of books that are much more diverse but in my time, there was very little. I remember this one book I loved where the main character had a heart murmur. It was the

only book that I’d ever read where a child went to this really cool realm that had dragons but also had to spend time in hospital because of his condition. Around that time I was also admitted to hospital and I think it had a massive impact on me. It made me realise what was missing from lots of other books.

As a child, if you don’t see yourself in a fantasy story, it makes you feel like maybe don’t fit in the real world. Because if that’s where you go to escape and have fun, when you come back into the real world you might think ‘well, I wasn’t in that. Should I be in this either?’

That’s really the aim with Skandar, anyone can be a unicorn rider. It’s the very premise of the series, it doesn’t matter where you’re from, who your parents are, how much money you’ve got. The whole point is if you’re destined for a unicorn, then you get to go to this island.

> I didn’t own many books growing up, relying on things like libraries and World Book Day tokens. So it’s a real full circle moment for me that Skandar’s been selected for World Book Day.

So for kids like me who genuinely would have been trying to work out whether they could survive in the magical worlds they read about, I made sure that the worlds I built accounted for that. The technical bits of managing a condition or navigating with a disability, I have always made room for that to happen from the beginning. Meeting children and parents at events, they notice these details. In the series, there’s a character called Prim who has T1D but I’d included jelly babies, a preferred unicorn treat and my own hypo treatment of choice, before she’d appeared in book four. So many parents noticed that! At signings they would ask ‘why jelly babies? Do you have type 1?’ I thought that was amazing because I hadn’t even introduced Prim in the series yet.

There’s definitely an increased awareness of type 1 now. Even in the last five years, I notice there’s more people each time I ask at events. I found it all quite difficult as a teenager, people didn’t really understand what it was and there were so many misconceptions. It’s why I always talk about it but now a lot of the time, audiences already know what it is, which is really lovely.

When you’re diagnosed, it’s really easy to worry about everything because obviously it’s a massive change. I can’t remember a life without T1D but I don’t think I’ve ever felt like there are things I couldn’t do. I think sometimes it requires more thought and planning, but that’s a great skill in general. As a lawyer, I had a seamstress put a load of holes in my skirt and jacket so I could have my insulin pump on the inside. You can always find a way to make it work, there’s no need to put a barrier or limit on your dreams.

I didn’t own many books growing up, relying on things like libraries and World Book Day tokens. So it’s a real full circle moment for me that Skandar and the Secret Element has been selected as a World Book Day story. The idea of children being able to get my book for free means a lot to me. You get lots of author copies of your books and I’d always give them away when I visited schools, which confused my publishers. But if you think about how children access books, whether that’s from a school library or teacher, I wanted to make sure everyone who wanted to read it could. That’s what makes World Book Day so special, I’m really excited to be a part of it.’

Read real life stories from people living with T1D at **breakthrought1d.org.uk/resourcehub**

Q&A - Lydia Bright

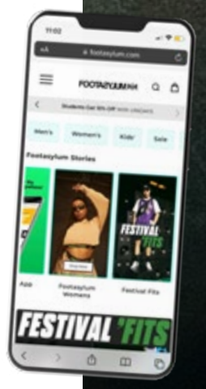
We caught up with dancer Lydia to learn more about how living with type 1 diabetes (T1D) has shaped her as an artist.

Tell us a bit about your journey as a dancer, how did you first fall in love with dance?

It's funny when I think back to how it all began - my parents bought a 90s hits CD, and Barbie Girl was on it. I was obsessed! I'd have it on repeat for hours, dancing and singing around the living room. My parents quickly noticed how much I enjoyed it and decided to enrol me in a theatre school when I was seven. Dance came most naturally to me. I loved acting and singing too but dance was definitely my strongest and truest passion.

Could you tell us a little about your diagnosis story?

I was 14 years old when I was diagnosed. For about two weeks, I was constantly thirsty and going to the toilet all the time. Thankfully, my mum recognised the early signs and booked me a blood test on a Monday. By Tuesday afternoon, we got a call telling us to go to the hospital immediately. I remember it all vividly, it was such a whirlwind.



How did your diagnosis initially affect your relationship with dance and your sense of identity?

It took me a couple of years to really merge the two parts of my life. At first, I kept them separate - dance was my escape, and type 1 diabetes (T1D) was something I didn't want to deal with while I was dancing. I had no idea how to manage my blood sugars around rehearsals or performances, so I often ignored it. I'd purposely keep my sugars high to avoid the fear of going low, which was my worst nightmare. But by the time I got home, I'd feel awful, both physically and emotionally. For about five years, I didn't allow diabetes to be part of my dance life at all.

Was there a particular moment when you began to move towards acceptance?

Yes, my first year at university. I'd lost a lot of weight and was feeling unwell, so I went to a doctor's appointment that really shook me. It was a reality check that I couldn't keep neglecting my health if I wanted to continue doing what I loved. That was the moment I realised I needed to start taking care of myself properly and accept diabetes as part of my life.

Do you use any T1D technology, and how does that help your day-to-day management?

Yes, I use the Freestyle Libre, and it's been a revelation. Tracking my glucose levels has become so much easier - especially compared to when I was finger-pricking, which was such a hassle during dance classes and daily life in general. The Libre makes everything feel more manageable. I'm still on injections for now, but I'm hoping to switch to a pump soon.

What role has peer support played in your journey?

Speaking to other people who live with type 1 has made me feel so seen and understood. There's a special kind of comfort in connecting with people who just get it. Hearing other people's stories reminded me that I'm not alone, and that community has given me the confidence to share my own journey more openly. It's been empowering and healing in so many ways.

How has living with T1D shaped you as an artist and as a person?

It's made me so much more independent and self-aware. I've learned to own my differences, especially in the dance world, where perfection is often expected. I've become more confident knowing that by being open and posting about my experiences, I've helped others feel less alone. That, in turn, fills the gap I once felt growing up. Many dancers are curious about my glucose sensor and are often impressed by how I manage everything in such a demanding and competitive industry. It pushes me to work even harder and to keep showing that living with T1D doesn't limit you: it can empower you.

What does confidence look like for you now?

Confidence, for me, is being unapologetically myself. I wear my sensor proudly - if it's visible, it's visible! I honestly forget it's even there most of the time. I'm bold, loud, and open about it, and that confidence has actually helped me stand out.

How do you think conversations about T1D can be made more open in the arts world?

It's definitely not talked about enough, mainly because there's a lack of knowledge, so people shy away from it. I think artists with medical conditions should feel encouraged to share their experiences more. It doesn't have to be a big social media announcement - even small conversations with peers or teachers can make a difference. So many people around me now understand T1D better because I opened up about it. You never know who you might inspire or who might carry that awareness forward into someone else's life. I truly believe it should be celebrated more in the arts, because visibility breeds understanding and empathy.

If you could send a message to other young people with T1D who might feel the way you once did, what would you say?

I'd tell my younger self this: life with T1D is still your life - beautiful, full, and limitless. It's part of you, but it's not all of you. The same discipline, resilience, and self-awareness that diabetes teaches you will only make you stronger, both in dance and in life. You are not defined by your diagnosis, you're defined by your determination. Dance through the highs and lows (literally!) because every step is proof that you're unstoppable.

“After a month on HRT, I started to feel like myself again.”

Justine Steventon, 53, has had to navigate the challenges of the menopause while living with type 1 diabetes (T1D). Diagnosed 14 years ago, 18 months after initially recovering from gestational diabetes in her late thirties, she now uses a hybrid closed loop system (HCL) and hormone replacement therapy (HRT) to restore her energy, confidence and sense of control.

Getting started with hybrid closed loop

About four years ago, my diabetes nurse called to say I could get NHS funding for a hybrid closed loop system. I’d been self-funding my CGM at the time, so it was brilliant news.

However, I spent the first year feeling disillusioned and convinced it wasn’t right for me. I couldn’t get my blood glucose levels stable.

I talked through what was happening with my diabetes nurse and the HCL rep. The problem was, I was self-correcting and making things worse. HCL works on an algorithm that needs time to learn, so they told me to relax and let the system do its job. Over time, I started to see the difference.

It’s an amazing bit of kit, but the one thing I always tell people thinking of moving to a pump or HCL system is that it’s not a magic wand, it takes work. Now, I wouldn’t be without it.

Making it part of everyday life

My HCL is a tube system, and I know a lot of people don’t like the idea of being attached to something. But within a couple of months, I’d completely forgotten it was there. I keep it in a belt pump tucked away, it never catches or wakes me up. It’s comfortable, reliable and just becomes part of you.

My blood glucose levels are far more stable now, with fewer hypos and hypers. It’s given me a level playing field to work from. This is the closest I’ve ever felt to being non-diabetic.

Living better with HCL

Because my blood glucose stays stable and in range with HCL, I get much better sleep. Poor sleep with type 1 can throw you off for the whole day – it’s like partying all night and then having to go to work the next day. With HCL, I wake up refreshed and my levels are steadier the next day too.

> After a month on HRT, I started to feel like myself again. My symptoms eased and the insulin spikes settled. The gel can feel inconvenient at first with the drying time, but it quickly becomes a habit.

It’s also adaptable depending on your day. You can set up different duplicate profiles. For example, one for active days and another for quieter weekends. That flexibility, and the fact the system adapts with you, makes life so much easier.

HCL is brilliant for all women, menopausal or not. It’s great for when you’re dealing with shifting hormone levels.

When menopause hit

Around three years ago, I started getting menopause symptoms. I’d go four months without a period, I was tired all the time and had brain fog that felt like I was trying to punch my way through my job every day.

My blood glucose levels were also very unpredictable. I’d hit a wall of insulin resistance and correction doses weren’t touching the sides. It really affected my mood and confidence.

I spent a frustrating year fumbling around, so I thought I’d go to my GP. I was apprehensive because I was expecting resistance to HRT. Thankfully, the GP started me on HRT without any hesitation. I could’ve cried with relief because she was so receptive to me trying it.

The difference HRT made

I started with progesterone tablets and an oestrogen gel. A private test later showed my testosterone was low, so I now also use a testosterone gel prescribed on the NHS.

After a month on HRT, I started to feel like myself again. My symptoms eased and the insulin spikes settled. The gel can feel inconvenient at first with the drying time, but it quickly becomes a habit. I see HRT as an important part of my care routine.

Now my blood glucose levels are more stable and I’m more relaxed. I’ve been on HRT for about three years, and I haven’t looked back. Plus my family say I’m a much nicer person to live with!

Finding the right support

When you’re living with type 1, especially during menopause, it can feel like wading through mud. Seeing the right person at your GP surgery makes a huge difference, so mention both when booking to get someone who understands.

I’m part of a WhatsApp group for women with type 1 going through menopause. That peer support has been a lifeline.

Before HRT, I suffered anxiety and low moods, and each day I couldn’t predict if I was going to fight fluctuating glucose levels. Managing that alongside work and parenting was exhausting. So, if you’re offered something that might help - HRT, HCL, whatever it is - seize the opportunity with both hands. Anything that eases the load is worth giving a go.

Find more information and T1D support at **breakthrought1d.org.uk/resourcehub**

“The only goal is to find a cure.”

When his daughter was diagnosed with type 1 diabetes (T1D) in 2012, Mehdi Taheri made a promise: he wouldn’t stop until there was a cure.

Mehdi’s journey with Breakthrough T1D began in 2012, when his daughter Scarlett, now aged 14 was diagnosed with T1D. Faced with the life-changing reality of the condition, Mehdi made a deeply personal commitment: to do everything he could to help find a cure not just for Scarlett, but for everyone living with T1D.

Since then, driven by a deep passion for making a difference, Mehdi has rallied over 100 people from his hometown of Plymouth to stand beside him in his fundraising journey. Each year, he brings the community together in a powerful show of unity and purpose, taking on a wide range of challenges. In November 2024, Mehdi and his team ran 12 ultra marathons in 12 days - that’s 50km every single day. He also participates in marathons across the globe, from Dubai to Amsterdam to London, always flying the flag for Breakthrough T1D. In 2026, Mehdi will be lacing up his running shoes for his 10th consecutive London Marathon, an extraordinary milestone that marks a total of 260 miles run in this iconic event alone.

In a powerful gesture of solidarity, Mehdi had a tattoo of a CGM (Continuous Glucose Monitor) device inked on his lower back to match Scarlett’s - a symbol of love, empathy, and the promise that she would never face this alone.

This year, Mehdi and his team already have the Boston Marathon under their belt and are gearing up for the Plymouth Half and the Great North Run, raising over £20,000 with much more to come. Mehdi’s commitment is unstoppable; continuing to take on challenge after challenge, fuelled by hope and determination. Since 2012, Mehdi has raised an incredible £100,000 for Breakthrough T1D.

“I want everyone who has T1D to feel at peace. The only dream is to love. We can make life better for people with type 1 and the only goal is to find a cure.” said Mehdi. “To all the T1D superheroes out there, this is for you. We keep going and going to make life easier and find a cure.”

This year, Mehdi was a finalist at the ITV West Country Pride of Britain Awards, sharing his powerful story across regional television and social media. Our work would not be possible without supporters like Mehdi and we are so proud of all that he has achieved in pursuit of a world free from T1D.

> I want everyone who has type 1 diabetes to feel at peace. The only dream is to love. We can make life better for people with type 1 and the only goal is to find a cure.

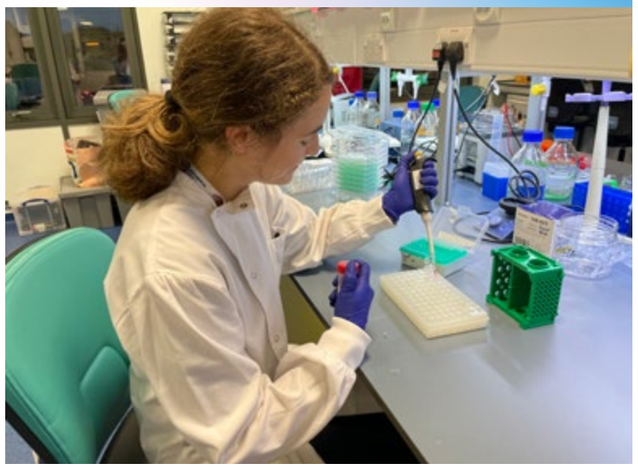
Stages of T1D

For many years, type 1 diabetes (T1D) was thought of as a condition that only became visible once symptoms like the 4Ts (toilet, thirsty, tired, thinner) started to appear. But, thanks to the support of people like you, research has transformed that view. We now know that T1D begins developing long before these symptoms, as the immune system gradually starts attacking the insulin-producing beta cells in the pancreas.

This process makes T1D an autoimmune condition. This happens when the body's defence system, which usually protects against infections, mistakenly targets its own beta cells. The proteins that cause this attack are called autoantibodies. These can be detected in the blood before a person experiences any symptoms, giving us a vital window of time to understand what's happening and act earlier.

That early knowledge can make a life-changing difference. When T1D goes undetected until symptoms become severe, there's a higher risk of developing diabetic ketoacidosis (DKA) which is too often the way many people first discover they have T1D. By identifying people at risk and in the early stages sooner, through simple blood tests that detect autoantibodies, we can monitor people closely, prepare families, and help prevent DKA at diagnosis.

This shift in understanding is changing everything about how we think about type 1. Instead of only responding once symptoms appear, researchers and clinicians are now focused on early detection, monitoring, and even delaying or preventing the onset of T1D altogether.



The stages of T1D

After years of dedicated research, we now know that people can start developing T1D years before symptoms show. The development of the condition can be split into four separate stages. We're here for you whatever stage you or your loved ones are at.

Stage 1

In the first stage of T1D, the immune system has developed autoantibody proteins, which attack and destroy the beta cells. This immune attack happens gradually and can happen at different speeds for different people. People in this stage do not experience any symptoms and their blood glucose levels are stable and in a normal range (normoglycaemia).

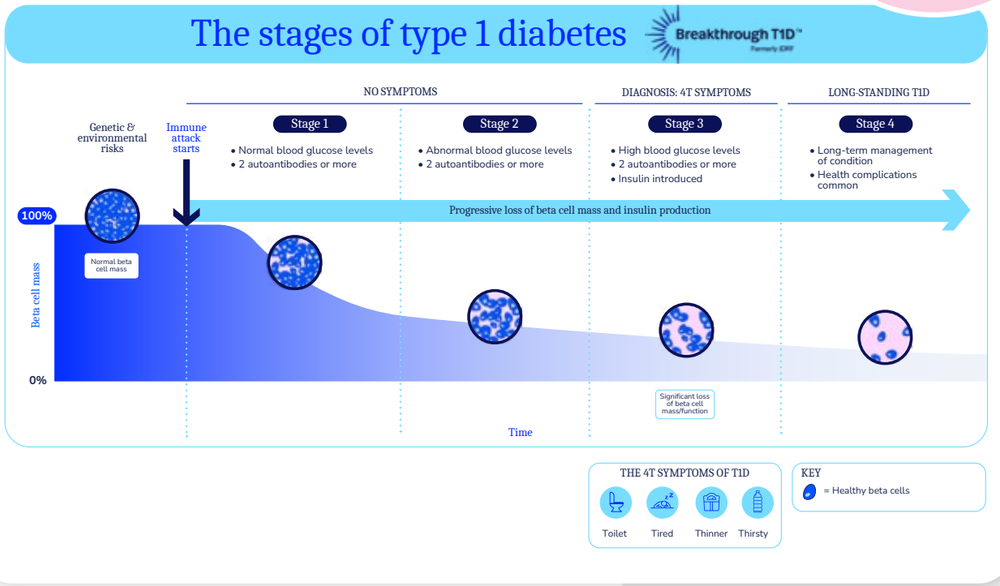
Stage 2

Once people move into stage 2, their blood glucose levels begin to fluctuate but they still don't experience any symptoms. This is known as dysglycaemia. Stage 1 and 2 T1D are also known as pre-symptomatic, preclinical, or early-stage T1D. This is because, although people in these stages show biological signs of T1D (autoantibodies present in blood), they don't yet experience the medical symptoms which are traditionally used to diagnose T1D (frequent urination, extreme thirst, unexplained weight loss etc).

Stage 3

Stage 3 is when people begin to develop symptoms of T1D, including the four Ts: thirst, needing to urinate more frequently (toilet), losing weight quickly (thinner) and feeling exhausted (tired). It is at this point that most people go to the doctor and are diagnosed with 'clinical' T1D. This is also when people start on insulin therapy as they can no longer produce enough of their own insulin to keep their blood glucose in a safe range independently.

Together, we're making this vital research possible



Stage 4

Stage 4 is used to describe people who have lived with T1D for many years, known as long-standing T1D. At this stage, complications of diabetes can be more common as they are caused by repeated high and low blood sugars over time.

Early detection of T1D

If someone is tested for T1D, it can be identified earlier. There are ongoing screening programmes in the UK which can test people within a certain age bracket for T1D. These tests look for two or more autoantibodies which have begun the attack on the immune system. If these are identified, it can tell people that they are in the early stages of the condition. This early detection can give families precious time to prepare for life with diabetes and can allow for a safer diagnosis and avoid DKA.

Current ongoing screening programmes in the UK include the ELSA study and the T1DRA study. The ELSA study is currently available for children between the ages of three-13 years, and T1DRA is for adults aged 18-70. As T1D can be diagnosed at any age, both studies are important to identify as many people as possible who will develop T1D to enable safe diagnosis and preparation for this. Breakthrough T1D is a proud funder of the ELSA study.

Find out more about screening for T1D at **breakthrought1d.org.uk/screening**

In combination with early detection programmes, we hope there will soon be treatment options for people who are identified in the earlier stages of T1D. They are called disease modifying therapies and work to delay or slow down the onset of T1D. A drug called teplizumab has recently been approved for use by the Medicines and Healthcare products Regulatory Agency (MHRA) in the UK. It is not yet available on the NHS. There is also additional, ongoing research into drugs approved for different uses and their ability to delay the onset of T1D and preserve the beta cells.

With continuous research and development of early detection and treatments to preserve beta cells for people diagnosed in early stage, there are increased chances of a longer time without the need to take insulin. Precious time without the worry of blood sugar levels, of insulin administration and the mental burden of T1D. Breakthrough T1D funds all areas of research into early detection and prevention, and we are proud, global leaders in this area.

Early research on ‘smart’ insulin brings hope for safer type 1 diabetes management

Research funded by the Type 1 Diabetes Grand Challenge, a partnership between Breakthrough T1D, Diabetes UK and The Steve Morgan Foundation, has developed a new insulin–glucagon molecule, which could reduce dangerous drops in blood glucose known as hypoglycaemia.

For people living with type 1 diabetes (T1D), where hypoglycaemia is a constant risk, this development has the potential to make daily management safer and more reliable.

Findings by US-based researchers, published in ACS Pharmacology and Translational Science, show success in engineering a product that combines both glucagon and insulin in the same molecule. This molecule was then able to take advantage of the body’s built in ‘on/off switch’ in the liver. The liver naturally responds more to insulin when glucose is high and more to glucagon when glucose is low. When blood glucose is high, the insulin part of the molecule is active, lowering blood glucose like regular insulin. However, when blood glucose is low, the glucagon part is active, telling the liver to release glucose and preventing low blood sugar episodes (known as hypoglycaemia or hypos).

The research team tested the new insulin in rats, with positive initial results. The insulin behaved as designed; lowered blood glucose when high and helped raise blood glucose when low – unlike regular insulin. It also reduced the need for emergency glucagon injections during hypoglycaemia. The two parts of the molecule (insulin and glucagon) worked independently but in balance, just like separate hormones. The results were extremely promising, with the potential protection from hypoglycaemia being the stand-out result from this study.

Rachel Connor, Director of Research Partnerships at Breakthrough T1D UK, said: “This new development in novel insulins research holds exciting promise for people with T1D. Avoiding low blood glucose is a constant balancing act for people with type 1 diabetes, as so many factors can combine to affect blood glucose levels. An insulin offering protection from hypoglycaemia could have a profound impact on the mental burden of living with T1D. With funding from the Type 1 Diabetes Grand Challenge, we’re excited to be driving innovations as fast as possible toward testing with people who live with T1D.”

> “This new development in novel insulins research holds exciting promise for people with T1D.
> – Rachel Connor, Director of Research Partnerships at Breakthrough T1D UK

With new research such as this, there is a possibility to reduce the number of hypos, which would be safer for all people living with type 1 diabetes. This research is in its early stages, with many more steps to occur before it will be made available to the public. The eventual aim is to create two different types of insulin; a longer lasting version for use once a week, and a short acting version for use in insulin pumps.

Find out more about the Type 1 Diabetes Grand Challenge at **type1diabetesgrandchallenge.org.uk**

Moving to University with T1D

We caught up with Erin and her mum Yvette to find out how they both felt about Erin moving away to university for the first time.

Erin

How it felt to move away from home

Moving away from home was definitely nerve wracking... especially with having type 1 diabetes (T1D). Moving to university was the first time I would properly have to 'look after' myself and decide how much to bolus etc. without my mum giving me advice too! I was also nervous about having to explain that I had T1D to my professors, people in my flat, and peers. However, I was also excited to move away, meet new people and have some more independence!

Managing T1D alongside uni life

In the end I shouldn't have worried as much as I did about what people might think. I was very open with my flatmates and told them on the first day I moved in that they might have noticed my pump on my arm, and that I wore it because I have T1D. They were all so understanding and I encouraged them to ask me questions if they wanted to!

I also carried extra hypo treatment in case of unexpected lows, as I do a lot more walking now that I am at university and have a different routine.

During Freshers' Week I made sure the people I was going out with knew that I had T1D, and I explained the symptoms of having low blood sugar to them. I also found Breakthrough T1D's website useful to understand how alcohol affects blood sugar levels.

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Tips for other young people

The first thing I would advise is to contact the disability services at the university you are planning to attend. It is important that your chosen university is aware that you have type 1 so that they can support you. For example, my university provided a mini fridge in my bedroom so that my insulin would not have to be stored in a shared fridge. They also drafted a care plan, which I was able to read and adjust, that was sent to teaching staff so they were aware.

I would also recommend being open about type 1 with new people you meet. Everyone coming to university have different experiences and stories to share. Diabetes should not be something you are embarrassed about, and it is not helpful to hide it.

Finally, give yourself grace. University is a big change, but diabetes should not stop anyone from having fun. In the first couple of weeks, my blood sugars definitely were not perfect (especially during Freshers' Week). My routine changed so I adjusted some settings on my pump to help. Remember, your diabetes specialist team is always available to chat if you are feeling unsure and parents are only a phone call away.

Yvette

Navigating Erin's move to independence

When Erin left for university, I felt a mix of emotions. Like all parents, I was proud of her getting into university and taking that next step in life, but she will always be my little girl. Because she has T1D, this moment had the additional weight of letting go of the role I had in helping her to manage daily life.

Erin was diagnosed when she was only four years old, so for the last 14 years I've been part of her daily management, helping count carbs, watching for lows in the night and just being around. It became second nature to quietly monitor things in the background or make the odd comment that her blood was going high or low (much to Erin's annoyance).

It is difficult to let go and university meant she would be managing things on her own. I worried about what would happen if she had a low at night or, as she would be walking much more, how her blood sugar levels would be. Would her new flatmates understand her condition? Would she keep up with the constant tasks that T1D demands, especially now in a new place with new stresses?

But Erin has always worked hard to be independent, not just academically but in terms of managing her type 1 too. She has always been incredibly strong and capable of handling a lot herself.

> It takes time to adjust to not being involved in something so central to her life. But a part of parenting is preparing them to do it without you. Advances in technology also meant I can quietly follow her levels in the background and be there if she needs me.

Preparing for university

Before she left for uni, there were additional things to sort out for her accommodation, including a personal fridge to store insulin. She also applied for an ensuite room in halls as this would be a better option if her bloods were high and she had to go to the toilet frequently.

I remember packing her things, making sure that she had enough supplies and a special box to take with her. I was glad though that she wasn't too far away and had the added reassurance of being able to reach her by car in a few hours.

It takes time to adjust to not being involved in something so central to her life. But a part of parenting is preparing them to do it without you. Advances in technology also meant I can quietly follow her levels in the background and be there if she needs me.

Erin keeps me updated when needed but mostly, she just gets on with it. I sometimes still wake in the night wondering if she's okay. However, I also see her growing stronger, confident, and building a life that isn't defined by her condition.

I'm proud of her, not just for managing her type 1 but for living boldly in spite of it.

For more support on living well with T1D, visit **breakthrought1d.org.uk/resourcehub**

Inspirational, committed and amazing

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

Thank you to the Story family

This year, the Story family experienced the devastating loss of their two-year-old daughter, Lyla, who died from diabetic ketoacidosis (DKA) before she had the chance to be diagnosed with type 1 diabetes (T1D).

Since Lyla's death, her father John has been working to raise awareness of type 1 diabetes and advocate for earlier diagnosis. He has also raised more than £10,000 for Breakthrough T1D through family fun days, sponsored walks, and community events.

We want to thank John. Not only for his incredible fundraising, but for the time, energy and commitment he brings to everything he does. His efforts have inspired friends, family, and the wider community to stand with him in calling for change. His fundraising is directly supporting our mission to fund world-class research to treat, prevent and cure type 1 diabetes, and to campaign for better access to treatments and technologies for everyone living with the condition.

John's work is a powerful reminder of the impact one person can have. In honour of Lyla, he has helped create greater awareness and real momentum for change. We are deeply grateful for his support and his determination to help build a future where no family loses a child to undiagnosed type 1 diabetes.

Youth Ambassadors

A big thank you to our Youth Ambassadors who supported some of our recent events. Bethany and Ella volunteered as Event Crew at our Discovery Day in London last month, Maja took part in the Lived Experience Panel at same event, and Katy volunteered at our One Walk in Leeds. Phoebe, Ella and Theo all took part in photoshoots with our Marketing team for our new brand in August.

Imane El Mannaoui

Thank you to one of our top 400,000 Step Challenge fundraisers Imane El Mannaoui. Imane was diagnosed with type 1 diabetes in February this year, but hasn't let that stop her. Alongside Rufus and Cheeky the Monkey, she has smashed her 400,000 Step Challenge being a top fundraiser aiming to raise £5,000 for Breakthrough T1D.

The technology that's given me peace of mind

We caught up with new mum Manisha to find out how hybrid closed loop (HCL) technology has supported her post-partum journey.

'When I found out I was pregnant, I worried constantly about how I'd manage my type 1 diabetes (T1D) alongside looking after a newborn. Now, ten weeks after giving birth to my son Dillan, I can honestly say my hybrid closed loop (HCL) has been a blessing.

During pregnancy, the technology helped me maintain excellent control - my HbA1c was in the mid-forties, and I was really happy. But I did worry that I'd struggle to keep that up once our baby arrived. The reality of recovery from an unplanned caesarean section, plus sleep deprivation and the overwhelming responsibility of a newborn, felt like it could knock my diabetes management off course.

Those first few weeks were incredibly hard. I was recovering from major surgery, trying to establish feeding, and dealing with the normal postpartum exhaustion. My hormones were all over the place, and my insulin needs dropped dramatically - from 160-180 units a day in my third trimester to about a third of that now.

Without technology, I would've been back to finger pricking and using insulin pens, trying to manually work out the right doses whilst recovering and caring for Dillan. Instead, the HCL reacts to my glucose readings in real time and adjusts the insulin delivery. Within a few weeks everything had balanced out.

One of the things that has made a huge difference is not having hypos at night. A few years ago, night hypos were common for me. Now, with the HCL, they're very rare. When you're finally getting a chance to sleep between feeds, the last thing you need is waking up with a hypo. The system keeps my sugars stable overnight, which means when I do get to sleep, it's uninterrupted... Unless Dillan needs me, of course!

Being a new mum I'm constantly thinking about feeding, nappies, whether he's too hot or too cold, whether that cry means he's hungry or tired, or all the above. Adding diabetes management on top did feel really daunting at first.

But the HCL is doing about 70% of the work. Even when I'm too tired to calculate carbs perfectly, or forget to give insulin because I'm prioritising Dillan's needs, the system catches it and adjusts. My HbA1c is now in the mid-fifties, which is still excellent, and I'm not having to obsess over every reading.

There have been moments when both Dillan and my pump are crying for attention. But having technology that works in the background has given me peace of mind to focus on being Dillan's mum, whilst keeping myself healthy too.'

> During pregnancy, the technology helped me maintain excellent control - my HbA1c was in the mid-forties, and I was really happy. But I did worry that I'd struggle to keep that up once our baby arrived.

To find out the latest on type 1 technology, visit **breakthrought1d.org.uk/technology**

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

Brighton Marathon	12 April 2026	London Marathon	26 April 2026
London Landmarks Half Marathon	12 April 2026	Hackney Half Marathon	17 May 2026
Manchester Marathon	19 April 2026	Cape Town Marathon	24 May 2026

Walk

breakthrought1d.org.uk/events

Yorkshire Three Peaks	18 April 2026	Snowdon (Yr Wyddfa)	23 May 2026

Special events

breakthrought1d.org.uk/events

London Ball	20 November	Breakthrough T1D 40th Anniversary Ball	16 May 2026

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

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

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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**.

Leaving a gift in your Will

We understand that deciding to include 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**.

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