# Managing menopause with Type 1 diabetes

Hormonal fluctuations during menopause can cause unpredictable changes in insulin sensitivity and blood glucose levels, writes **Olivia McCabe**

Menopause can be a significant transition in a woman's life, marking the end of the reproductive years. For women with Type 1 diabetes, this phase presents a unique set of challenges that can impact on health and wellbeing, so it can be an important time to reflect on your diabetes management.

If you have Type 1 diabetes, it's important to know that blood glucose regulation can change during and after menopause. These changes can result in more hyperglycaemic episodes and higher glucose variability, which can lead to an increased risk of diabetes-related complications.

Changes in hormone levels make it important to try to optimise blood glucose control during menopause. The drop in oestrogen levels can make the body become more resistant to insulin, while a decrease in progesterone levels can improve insulin sensitivity. Closely monitoring and adjusting diabetes medication during menopause can help optimise blood glucose control.

## Symptoms of menopause

Symptoms of menopause include:

- Hot flushes
- Night sweats (occur in 80% of women)
- Sleep disruption
- Vaginal dryness, irritation
- Weight gain
- Joint pain
- Genitourinary symptoms
- Mood changes.

Some symptoms of menopause can mimic symptoms of diabetes events, such as episodes of hypoglycaemia, while some complications of Type 1 diabetes can have similar symptoms also experienced during menopause.

Below is listed some of the main things to be aware of during menopause so that you can optimise your management and avoid further complications.

## Hot flushes and hypoglycaemia

Menopause can introduce a range of new challenges for women with Type 1 diabetes, particularly concerning blood glucose management. Among these challenges, the interplay between menopausal hot flushes and hypoglycaemia is significant and warrants careful attention.

Hot flushes, one of the most common symptoms of menopause, can complicate blood glucose management. These sudden episodes of intense heat, sweating and flushing can mimic the symptoms of hypoglycaemia, such as sweating, palpitations and a feeling of anxiety.

This similarity can make it challenging to distinguish between a hot flush and an actual hypoglycaemic episode, potentially delaying necessary treatment.

## Risks of cardiovascular complications

Both menopause and Type 1 diabetes are linked to a higher risk of cardiovascular complications. When a woman reaches menopause, the cardioprotective effects of oestrogen diminish. This reduction in oestrogen levels can cause changes in lipid profiles, such as increased LDL (bad) cholesterol and decreased HDL (good) cholesterol levels, which can further raise the risk of cardiovascular disease in women with Type 1 diabetes.

This is why managing blood pressure, blood glucose levels and cholesterol levels, along with maintaining a healthy lifestyle, is so important.

## Bone health and osteoporosis

A woman's bone density begins to decrease when oestrogen levels drop around the time of menopause. This decrease in oestrogen levels can cause changes in bone density and structure, potentially raising the risk of osteoporosis and bone fractures, particularly in weight-bearing bones such as the hips, spine and wrists.

For women with Type 1 diabetes, who may already face an elevated risk of bone fractures due to peripheral neuropathy, this is an additional concern.

Ensuring adequate calcium and vitamin D intake and engaging in weight-bearing exercises will help preserve bone health during menopause, but maintaining bone health during menopause requires a comprehensive approach that includes proper nutrition, regular exercise, lifestyle modifications and, in some cases, medical intervention.

### Nerve damage

Nerve damage, or diabetic neuropathy, is a common complication of Type 1 diabetes which occurs due to prolonged high blood glucose levels. Diabetic neuropathy can manifest in several forms, each affecting different parts of the nervous system.

In women with Type 1 diabetes, this complication can present unique challenges. Some symptoms resemble those of menopause, which can complicate diagnosis and management, for example through genitourinary symptoms such as:

- *Loss of sensation:* Nerve damage can reduce sensation in the genital area, affecting sexual function and pleasure
- *Vaginal dryness:* Reduced blood flow due to nerve and blood vessel damage can lead to vaginal dryness, making intercourse uncomfortable or painful
- *Bladder issues:* Autonomic neuropathy can lead to bladder dysfunction, causing symptoms like frequent urination, urgency or incontinence.

### Menopause treatments

Some common treatments used in menopause can affect blood glucose levels. These include:

- Hormone replacement therapy (HRT)
- Non-hormonal treatments
- Alternative and complementary therapies
- Lifestyle modifications.

For women with Type 1 diabetes going through menopause, it is important to closely monitor blood glucose levels and to work with the diabetes team to adjust treatment plans as needed, especially if commenced on treatment for menopause.

If you (or your doctor) is considering menopause treatment, make sure you are aware of how, if any, effects the treatment/therapy may have on your blood glucose levels. Ask your doctor and diabetes team for information and don't start any alternative therapies at home without consulting your diabetes team first.

### The role of technology

Using a hybrid closed-loop insulin pump for diabetes management during menopause can provide substantial improvements in blood glucose control compared to multiple daily insulin injections. Menopause-related hormonal fluctuations can cause unpredictable changes in insulin sensitivity and blood glucose levels. Hybrid closed-loop insulin pumps help stabilise glucose levels by continuously monitoring glucose and adjusting insulin delivery accordingly, reducing both the frequency and severity of glucose fluctuations.

The automated nature of these insulin pumps also helps reduce the risk of hypoglycaemia by adjusting insulin delivery in response to falling glucose levels, even suspending insulin delivery until glucose returns to the target range.

By automatically adjusting insulin delivery to maintain target glucose levels, hybrid closed-loop insulin pumps aim to increase the glucose time in range, promoting better overall glucose control and helping reduce the risk of long-term complications. This can be particularly beneficial in women with Type 1 diabetes going through menopause.

If you are not already on HCL insulin pump therapy, do consider that HCL is a very good option for women with Type 1 diabetes during menopause and if you have not been considered for HCL insulin pump therapy, ask your diabetes team about it at your next appointment.

Incorporating hybrid closed-loop insulin pumps into your diabetes management during menopause could offer significant advantages in glucose control, hypoglycaemia prevention and overall quality of life.

**– Olivia McCabe is an Advanced Nurse Practitioner in Diabetes working at the Diabetes Day Centre, Our Lady's Hospital, Navan, Co Meath**

### Case study: Using a hybrid closed-loop insulin pump in menopause

**Jane* is 52 years old and has lived with Type 1 diabetes for 37 years. She has been managing her condition with multiple daily injections, but despite best efforts, her time in range (TIR) on a continuous glucose monitor (CGM) has fluctuated between 55-65%.**

**Jane has also experienced hypoglycaemia unawareness since her last pregnancy 20 years ago. This is making her Type 1 diabetes difficult to manage, particularly after entering menopause in the past year. Since beginning HRT, blood glucose fluctuations have become more challenging and have significantly impacted on her life.**

**Jane's diabetes team decided to try and improve her TIR, reduce her fear of hypoglycaemia and achieve more stable glucose levels during menopause, in order to reduce long-term complications.**

**Jane had previously completed the Dose Adjusted for Normal Eating (DAFNE) education programme. She was commended on an HCL insulin pump paired with a CGM in order to address the challenges posed by hormonal fluctuations during menopause.**

**The transition to the HCL insulin pump led to significant improvements. Her TIR increased to 75-85%, indicating better overall glucose control. The pump's ability to reduce hypoglycaemia has significantly helped reduce Jane's fear of hypoglycaemic events, making diabetes management more manageable and less stressful for her.**

**The HCL insulin pump effectively minimised glucose fluctuations associated with hormonal changes. This change has been effective in managing diabetes during menopause with Jane commenting that the HCL insulin pump was a 'game changer'.**

**Jane is a made-up name*

## WEBINAR:

### MENOPAUSE AND DIABETES

Diabetes Ireland is hosting a webinar on menopause and diabetes for both Type 1 and Type 2 diabetes on Thursday, April 3 from 7-8pm. Keynote speaker is Olivia McCabe.

The webinar will provide valuable insights into the effects of menopause on diabetes management and offer practical tips for navigating this stage of life while living with diabetes.