

# HbA1c and what you need to know

## Patient information leaflet

Whiston Hospital  
Warrington Road,  
Prescot, Merseyside, L35 5DR  
Telephone: 0151 426 1600

St Helens Hospital  
Marshalls Cross Road, St Helens,  
Merseyside, WA9 3DA  
Telephone: 01744 26633

Southport Hospital  
Town Lane, Kew, Southport,  
Merseyside, PR8 6PN  
Telephone: 01704 547 471

Ormskirk Hospital  
Dicconson Way, Wigan Road,  
Ormskirk, Lancashire, L39 2AZ  
Telephone: 01695 577 111

If you need this leaflet in a different language or accessible format please speak to a member of staff who can arrange it for you.

اگر به این بروشور به زبان دیگر یا در قالب دسترس پذیر نیاز دارید، لطفاً با یکی از کارکنان صحبت کنید تا آن را برای شما تهیه کند.

Jeśli niniejsza ulotka ma być dostępna w innym języku lub formie, proszę skontaktować się z członkiem personelu, który ją dla Państwa przygotowuje.

Dacă aveți nevoie de această broșură într-o altă limbă sau într-un format accesibil, vă rog să discutați cu un membru al personalului să se ocupe de acest lucru pentru dumneavoastră

如果您需要本传单的其他语言版本或无障碍格式，请联系工作人员为您安排。

إذا احتجت إلى هذه النشرة بلغة أخرى، أو بتيسيق يسهل الوصول إليه، يرجى التحدث إلى أحد الموظفين لترتيب ذلك لك.

## What is HbA1c and why it is important?

HbA1c is a measurement that shows how much glucose is being carried around your body by your red blood cells. Glucose naturally binds itself to the part of your red blood cell called haemoglobin.

Your red blood cells survive in your body for around 2-3 months so when your HbA1c test is done, it reflects the amount of glucose attached to your haemoglobin at the time. This reading provides a long-term indication of your blood glucose results. If your blood glucose levels have been running high in recent weeks then your HbA1c will also be raised.

HbA1c is different to your finger prick test, as this shows how much glucose is in your blood now. Regular monitoring of your glucose levels with a finger prick or Continuous Glucose Monitor (CGM), will help you to keep track of your diabetes on a daily basis.

Research has shown that people who manage to reduce their HbA1c and maintain a lower HbA1c, can delay or prevent long-term health complications related to diabetes such as:

- ◆ Foot problems.
- ◆ Heart and circulatory problems.
- ◆ Eye problems (retinopathy).
- ◆ Kidney problems (nephropathy).
- ◆ Nerve problems (neuropathy).
- ◆ Infection.
- ◆ Impotence.

We will test your HbA1c when you attend your clinic appointment. We aim for 4 HbA1c results per year.

## Notes

## How to set your target goals

Although we are aiming for a target of 48mmol/mol, there will be times when it is higher than this and we are aware that it can be challenging to get your level back into range.

Things you can do:

- Monitor your glucose levels regularly (up to 8 times per day).
- Wear your sensor.
- Review your downloads every 1-2 weeks.
- Contact the team to support changes to your regime.
- Ensure you bolus for all meals and snacks that contain carbohydrates.
- Do not miss your long acting insulin.
- Check your injection and cannula sites for any lumps or bumps and if you notice any then avoid these areas.
- Change cannula sites for you pump every 2-3 days.

The Diabetes Team are here to support you, if you have any questions contact the Diabetes Team on:

### Ormskirk:

- Paediatric Diabetes Office: 01695 656 766 or 01695 656 867.
- Children's Ward, Ormskirk Hospital: 01695 656 912.

### Whiston:

- Whiston Hospital: 0151 430 1404.

## How we test your HbA1c?

We will use your finger pricker to obtain a glucose sample from your finger, so please bring your finger pricker to each clinic appointment. We will put the sample of blood onto a small cartridge and this will then be put into a special machine that will analyse the sample and give us a result in minutes.

We can also get an estimated Hba1c from your glucose download. You can monitor your estimated HbA1c by looking at your Glucose Management Indicator (GMI) on your download platform (Glooko, LibreView, Clarity, Careflow). We also get a HbA1c result from your annual review blood test that we perform each year. The unit of the HbA1c test result has been changed from percentage, to now being measured in millimoles per mole (mmol/mol).

National Institute for Clinical Excellence (NICE) guidelines recommend a target level of 48mmol/mol for type 1 and type 2 diabetes. However we will support you to lower your HbA1c level to an achievable target.

Type 1: If your HbA1c level is above 48mmol/mol, then we know that your body needs more insulin and your download will help us to support you to find out if this is basal or bolus insulin that is needed. It might be that we change your insulin to carb ratios or support you with ensuring that you bolus for carbohydrates and do not miss this at meal and snack times.

Your insulin sensitivity factor might not be working and bringing you back into target when you correct it. You might need to increase basal insulin as you have grown and your requirements have increased.

Type 2: Over time your body may produce less insulin and come less able to keep your HbA1c at the recommended target level. We may recommend new treatment or adjust your current treatment plan.

## Time in range

Time in Range (TIR) is a measurement of diabetes management, that reflects the percentage of time blood glucose levels stay within a target range.

### Why TIR matters

TIR is just as important as your HbA1c measurement. HbA1c is measured over 2–3 months but does not show daily fluctuations or hypoglycaemia risk. Time in range will show you how long you have been in target and if you have had a high percentage of high or low glucose readings.

Lower time in range is linked to higher risks of diabetes related complications.

Adequate time in range is associated with better energy, mood, and overall well-being.

### Tighter Time in Range (TTIR)

Definition:

A narrower glucose range, typically 3.9 to 7.8 mmols/L.

NHS NICE guidelines still primarily focus on the standard TIR (3.9–10 mmol/L), but there is growing interest in TTIR, especially in clinical trials and among certain patient groups.

TTIR is not yet a universal recommendation, but is being considered as a personalised goal for those who can safely achieve it with the right support.

|                             |                             |
|-----------------------------|-----------------------------|
| 10.1-13.0 mmol/L            | >13.9 mmol/L                |
| (Blood glucose above range) | (Blood glucose above range) |
| Time above range            | Time above range            |
| <25%                        | <5%                         |
| 3.9-10.0 mmol/L             |                             |
| (Blood Glucose in range)    |                             |
| 3.0–3.8 mmol/L              | <3.0 mmol/L                 |
| (Blood glucose below range) | (Blood glucose below range) |
| Time in range >70%          | Time below range            |
| <4%                         | <1%                         |