

Freestyle Libre® flash glucose monitoring for patients with diabetes mellitus treated with intensive insulin therapy

What is diabetes mellitus?

Diabetes mellitus is a chronic illness that can result in serious health complications or premature death if not managed appropriately. There are around 300,000 people in Scotland currently living with this condition.

What is Freestyle Libre® flash glucose monitoring?

Freestyle Libre® is a device for measuring sugar (glucose) levels in the body. The use of Freestyle Libre® may allow some people with diabetes, who need to regularly monitor their glucose levels, to reduce the number of times per day they need to measure their blood glucose by pricking their finger and testing a small drop of blood. With Freestyle Libre®, a disposable sensor is worn on the arm. This sensor contains a fine fibre which pierces the skin and measures glucose levels in the body tissues. Scanning across the sensor with a mobile phone app or handheld device provides the user with information on glucose levels and on how they are changing over time. Readings can be conveniently obtained at any time.

What we did

We brought together published evidence on whether Freestyle Libre® was safe and effective, expert input from healthcare professionals, and information from the charity Diabetes Scotland. We also assessed how much the technology might cost NHSScotland and how likely it is to be good value for money.

What we found

Published studies report that Freestyle Libre® helps adults with diabetes avoid having episodes of low (and in some cases, high) glucose levels - which can be distressing and harmful to health. Using Freestyle Libre® reduces the number of finger-prick blood tests required.

Healthcare professionals and patient representatives from Diabetes Scotland emphasised the potential benefits to the health and quality of life of adults and children with diabetes - from having convenient access to more detailed information about their glucose levels, and being able to reduce finger-prick testing.

Weighing up the costs and the benefits of Freestyle Libre® suggests that this device is good value for money.

What is our advice to NHSScotland?

Freestyle Libre® is recommended as an option for people with diabetes who use multiple daily insulin injections to manage their condition or are on insulin pump therapy.

Use of Freestyle Libre® should only be started in consultation with a diabetes specialist. Users must be willing to attend formal training in the proper use of the device and have regular contact with healthcare professionals to make sure the technology continues to be the most appropriate device for them.

Future work

More research is needed on the use of Freestyle Libre® in children and young people. Research is also required on the long term outcomes of using the device.

This plain language summary has been produced based on SHTG Advice Statement 009-18 (July 2018)