

Blood glucose monitoring: Theory and practice



Sue Holmes

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 National Institute For Health and Clinical Excellence (NICE; 2002) *Management of type 2 diabetes - Managing blood glucose levels*. NICE, London
 National Diabetes Support Team (NDST; 2003) *Glucose Self Monitoring*. NDST, Leicester
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Sue Holmes is a GPwSI in Diabetes at Bridge Street Surgery, Cambridge.

Blood glucose monitoring might appear to be a straightforward issue. One could argue that every person with diabetes should be able to monitor their condition, after all, are we not advocating self-management and empowerment (DoH, 2006)? So what makes this such a complex and volatile issue?

Firstly, there is little strong clinical trial evidence that blood glucose monitoring actually improves glycaemic control.

Secondly, although frequent blood glucose monitoring in type 1 diabetes may be appropriate, the same cannot be said for those with type 2 diabetes on oral medication. Of course there are many scenarios that lie between these two extremes and teasing these varying situations out is complex.

Thirdly, education is key to blood glucose monitoring. This is time consuming and also requires trained educators equipped with clear guidelines in order for people to receive consistent information from the different health professionals they may see. However, there are a growing number of diabetes centres that are implementing successful education programmes.

Fourthly, blood glucose monitoring strips are expensive. They are generally dispensed in containers of 50, which after opening are

usable for 3 months. With infrequent use this can lead to wastage and PCT prescribing leads may seek to rationalise strip usage in order to reduce costs.

Case example

In our local diabetes network, blood glucose monitoring has caused many hours of impassioned debate. We have learned that there are wide variations in views and no uniformity of practice. Experiences of both healthcare professionals and lay members of the network were shared, then we reviewed guidance from the National Institute for Health and Clinical Excellence (NICE, 2002) and the National Diabetes Support Team (NDST, 2003). Also, a visiting academic presented research studying blood glucose monitoring.

With little agreement reached, the DSNs organised a debate for practice nurses. This led to draft guidelines being produced that were then further developed within the network. Thus, we were able to agree on the final guidelines that are included in our local diabetes guidelines (Southern Cambridgeshire Diabetes Network, 2006). However, the story does not end there. At present, we are being asked to agree on how many strips individuals are likely to need per month, see *Table 1*.

Our experience may be familiar to many. The key to successfully implementing effective blood glucose monitoring is having clear local guidelines that need to start life as discussions among the primary care team. This can act as a platform to produce a final working version. Guidelines need to encompass both the use of blood glucose monitoring and its frequency. This is a topic on which we can usefully share experience through the GP with a special interests in diabetes chat room! Details of how to join can be found below. ■

To join the GPwSI chat room contact Jan Procter King at psi@bradford.nhs.uk.

Table 1. Blood glucose test strip usage in the author's locality.

Approximate number of strips needed	Situation
300 strips per 2 months	Type 1 diabetes and those with type 2 diabetes on a basal bolus insulin regimen, who may be testing 4 or 5 times a day.
100–150 strips per 2 months	Type 2 diabetes on a twice-daily insulin regimen, who may be testing twice-daily or 4 times a day on 2 or 3 days per week.
50 strips per 3 months	Type 2 diabetes on oral treatments that include sulphonylureas who may test occasionally.
Joint decision: patient and healthcare professional	Type 2 diabetes on other oral treatments should only test <i>if</i> they are using the information to make decisions about their control, having discussed this with a healthcare professional.