



David Kerr
Editor

Try now and analyse later with home glucose testing

'Get this passed (economic reforms). Later on, we can all debate it.' – George W Bush

Similar to George Bush's approach to making 'progress', home blood glucose monitoring in type 2 diabetes was introduced using the 'good idea at the time' basis – it seemed intrinsically sensible but was applied without the rigour of large randomised controlled studies. Subsequently, systematic reviews have failed to show clear benefits from the technology (Coster et al, 2000) but professional agencies in Europe and the United States continue to view its use in type 2 diabetes as an 'essential' component of modern diabetes care (Goldstein et al, 2004). Arguments for monitoring are fairly clear cut:

- it allows for the detection of hypoglycaemia before profound neuroglycopenia develops
- it provides quantitative information on achieved levels of control
- it allows individuals to see for themselves the effects of different foods, exercise, etc, on glucose levels
- it provides information that allows healthcare professionals to make rational decisions on changing treatments.

However, the arguments against home blood glucose monitoring are also very plausible:

- there is no evidence of the benefit of the technique in terms of glycaemic control or frequency of hypoglycaemia
- the procedure itself is painful, time consuming and troublesome
- it costs a lot of money
- for a variety of reasons, not all of the results are accurate – indeed some are possibly fabricated by the patients (Williams et al, 1988)
- although healthcare professionals would like to believe that the tests are performed regularly and with diligence, data from prescription monitoring suggest otherwise
- there continues to be enormous variation in the use of home blood glucose monitoring according to geography, patient and professional preferences (Gulliford and Latinovic, 2004)
- it can cause an enormous amount of stress and anxiety for patients.

Coster S, Gulliford MC, Seed PT, et al (2000) Monitoring blood glucose control in diabetes mellitus: a systematic review based protocol. *Health Technology Assessment* **4**: 1–93

Goldstein DE, Little RR, Lorenz RA, et al (2004) Tests of glycemia in diabetes. *Diabetes Care* **27**: 1761–73

Gulliford M, Latinovic R (2004) Variations in glucose self-monitoring during oral hypoglycaemic therapy in primary care. *Diabetic Medicine* 2004; **21**: 685–90

Owens D, Barnett AH, Pickup J, et al (2004) Blood glucose self-monitoring in type 1 and type 2 diabetes: reaching a multidisciplinary consensus. *Diabetes and Primary Care* **6**: 8–16

Williams CD, et al (1988) Use of memory meters to measure reliability of self-blood glucose monitoring. *Diabetic Medicine* **5**: 459–62

Recently Diabetes UK surveyed 800 lay members, the majority of whom are type 2 patients, and 478 healthcare professionals (50% from primary care, <0.5% consultants) for their views on this topic (www.diabetes.org.uk/infocentre/b.htm). The results probably say more about the professionals than the patients! Only a minority recommended testing for tablet-treated type 2 patients as there was no clear benefit they felt that the individual would not be able to cope with the practicalities or that they did not know what to do with the results. Worryingly, a quarter of the patients claimed not to have received any guidance or encouragement to help them adjust their diet, activity or treatment based on home-monitored values. Urine testing for glucose is still widely used but rarely debated in the literature.

Until alternative, non-invasive techniques for glucose monitoring become available, or novel treatments that do not require monitoring are introduced (possibly GLP-1 analogues?), home blood glucose monitoring will continue to be used. Hopefully, in the not-too-distant future, the concept of 'knowing what to do with the results' will become de rigueur for type 2 patients and health-care professionals. Meanwhile, readers are directed to consensus guidelines on this topic recently published in our sister journal (Owens et al, 2004).