

## A self-administered oral glucose tolerance test

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**Aims:** To determine whether untrained individuals can perform an oral glucose tolerance test (OGTT) in a home setting using a disposable electronic device and capillary blood samples.

**Methods:** In random order, 18 healthy volunteers and 12 individuals with Type 2 diabetes were guided by the device to perform 75g OGTTs unaided at home (twice) and unaided but observed in a clinic setting (twice). Each subject also had OGTTs performed (twice) by a nurse who took simultaneous 0 and 120min venous blood samples for laboratory plasma glucose assay. The device displays no results, but a detachable memory tab returned to the clinic provides 0 and 120min glucose values and key test parameters including date, start and end time, and time taken to consume the glucose drink.

**Results:** The device was universally popular with participants and was perceived as easy to use; the ability to test at home was well-liked. No training effect was seen with repeat testing, regardless of the setting order. Technical device issues meant that complete results were obtained from only 141 of 180 tests, a 78 per cent success rate that was independent of the setting. The glucose values obtained showed a mean bias compared with laboratory values, increasing from +0.9 at 5.0 mmol/l to +1.9 at 10.0 mmol/L and +5.4 at 15.0 mmol/l. **Conclusions:** Self-administered OGTTs are feasible without prior training and the possibility of home testing is well-liked. Device reliability and accuracy, however, need to be improved substantially before this novel technology could be used in routine practice.