Telemetric Home Blood Pressure Monitoring in Stroke Prevention

Home BP monitoring can improve accuracy and help provide more appropriate treatment. We are evaluating the effectiveness and acceptability of Bluetooth-based remote home blood pressure (BP) monitoring in transient Ischaemic attack (TIA) and stroke patients.

High blood pressure (hypertension) is one of the most prevalent diseases worldwide and a major modifiable risk factor for recurrent stroke and vascular disease. However, in practice, rates of control are low, often partly due to reliance on single BP readings taken in clinic.

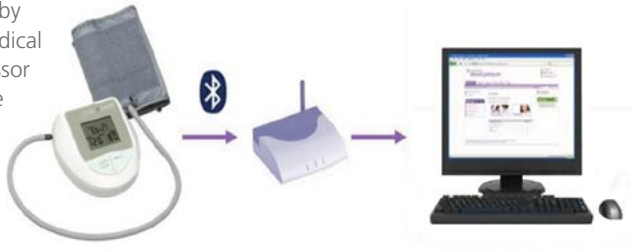
Home BP monitoring is becoming increasingly important in the diagnosis and management of hypertension, and it has been recommended in international guidelines.

It negates the effect of 'white coat hypertension' and allows for multiple BP readings to be collected, thus giving better prognostic accuracy than clinic measurements alone and helping detect BP variability. This allows for more informed titration of treatment.

Patients are also able to see the direct effect of antihypertensive medication on their BP, which may aid long-term compliance.

A team led by Professor Peter Rothwell at the University of Oxford have been working on a project to introduce Bluetooth-enabled home BP monitoring to patients following a TIA or stroke. The benefit of this system is that the BP readings are transmitted automatically at the time the measurement is taken, so clinicians can see up-to-date readings and adjust treatment if necessary.

The main aims of the project are to evaluate whether home Bluetooth BP monitoring will help us identify post-TIA/stroke patients with variable blood pressure, thus enabling us to refine our understanding of the causes and consequences of BP variability. This will hopefully lead to more effective future treatment of hypertension with existing medication.



The project, supported by the NIHR Oxford Biomedical Research Centre, Professor Lionel Tarassenko at the University of Oxford and OBS Medical Ltd, now has data from over 1000 patients. Results so far have shown that regardless of age, telemetric home BP monitoring is feasible and acceptable in patients with TIA and non-disabling stroke. Monitoring-informed titration of medication in the majority of patients is also associated with good BP control.

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