Kardia Mobile

COST (£) OF CURRENT PATHWAY

First GP visit (incl. ECG test)	£81
Outpatients	£230
24hr ECG	£163
7 day Holter test	£163
Outpatients and decision	£230
7 day Holter test	£163
Outpatient and decision	£230
Implantable loop recorder (ILR)	£4,021-£4,556
Second GP visit	£45

Total (with ILR) £1,305 (£5,861)

COST (£) WHEN USING KARDIA MOBILE

First GP visit (incl. ECG test)	£45
GP supplies Kardia Mobile	£99
Second GP visit	£45

Total £189

PHE estimates that 2,000,000 people in the UK have Atrial Fibrillation and that the current cost pathway per patient is £1,305 without interventional procedures. This includes three GP visits, 12 lead ECG and Holter recordings, and outpatient costs.

The cost reduction achieved by using Kardia Mobile is significant. Assuming the patient requires two GP visits and a Kardia Mobile is provided for each patient, the cost is £189 rising to £352 if a patient is also sent for a 12 lead ECG. The minimum saving is therefore in the region of £950.

People suffering from AF have a five times higher risk of stroke that is generally accepted as being particularly debilitating. Ongoing costs for lost productivity, disability and informal care are estimated to be in the region of £7 billion per year for all stroke victims.***

The cost to the NHS of screening the population with the current pathway is prohibitive. Kardia Mobile makes it possible.

***R Luengo-Fernandez, A Gray, Z Mehta, and P Rothwell (2004) Acute costs of stroke in the UK National Health Service in 2002-2004. Value in Health, 7(6):692.

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Why use Kardia Mobile

Kardia Mobile

CLINICAL BACKGROUND

1.4 million people in the UK have atrial fibrillation; that's 2.4% of the population.

It's known that in the 45 – 65 age group, over 80% of people will suffer from the condition.

Public Health England believes almost half a million people with AF remain undiagnosed.

AF is known to be a direct cause of a third of all strokes and consequently 2,000 premature deaths per year. Early diagnosis could help avoid this.

AF and AF-related illness costs the National Health Service over £2.2 billion annually – a cost that is expected to rise as the incidence of AF increases due to the aging population.

The current clinical pathway varies according to each GP surgery and CCG but generally it can be a lengthy and costly process to achieve a definitive diagnosis.

Typically beginning with a pulse check and then auscultation, a 5 or 12 lead ECG in the surgery is followed by 24 hour tape or seven day Holter recording which then has to be analysed. With a positive or indecisive test, the patient is then referred to a cardiologist. If confirmed, the patient is then referred back to the GP for anticoagulant therapy.

AN ALTERNATIVE PATHWAY

A faster, simpler and more cost effective pathway can be achieved by using Kardia Mobile from AliveCor.

What is it?

Kardia Mobile is a tiny portable device that can be fitted to the back of your smart phone or tablet and, using the free app, it will provide diagnostic quality ECG immediately on screen wherever the patient may be.

How to use it

Making gentle contact with the device's two metal pads with two fingers from each hand produces a medical grade ECG of lead I live on screen. This takes just thirty seconds and once complete, analysis is made by Kardia Mobile to indicate AF if present.

With 98% accuracy and 97% specificity*, a GP can document the presence of AF ready for the cardiologist to review, saving the patient a trip to the hospital. It could also avoid the necessity of a 12 lead ECG**. In practice however, patients are typically given a 12 lead to check for other possible issues. Either way, time is saved in both confirming the diagnosis and in the start of anticoagulant therapy.

Not being assigned to a single device, Kardia Mobile can be transferred from phone to phone or tablet so each member of the practice staff can use it when required. It does not need to be attached to the phone and will operate within a distance of approximately one metre from that phone.

Kardia Mobile can be issued to patients to take home enabling them to catch events as they happen. A simple clip can be fitted to the back of the phone which holds Kardia in place when on the move.

Results can be emailed by pdf to the practice or cardiologist or printed on A4 paper to give a recognised ECG print out.

Powered by a standard watch battery, Kardia will operate for six to nine months depending on usage.

When and where to use it

Kardia Mobile can be used anywhere in or outside the practice, being fully self-contained and battery powered. All that is needed is a smart phone or tablet with the Kardia app installed.

Every 18 minutes someone has a stroke due to an undiagnosed heart problem.

In surgery, the GP or the nurse may use the device for a quick check when a patient presents with palpitations, fast heart rate or irregular rhythm. The presence of AF can be immediately identified.
Due to its simplicity, speed of use and low cost, Kardia Mobile can routinely be used to screen patients for AF and become part of the protocol for health checks in key age groups. It is also used to screen newly registered patients, in the well woman/well man NHS health checks and to form part of the routine in flu clinics.

As AF may be transient in nature, a test in the GP's surgery may still not reveal the presence of the condition. A doctor can then issue a Kardia device to the patient for home use to make a recording when he or she experiences symptoms.

Kardia Mobile will also provide a simple ECG rhythm strip recording with heart rate when used during home visits.

*Khaldoun G. Tarakji, (2015) Clinical Validation for Use of the AliveCor Heart Monitor for Monitoring Post AF Ablation Patients, Heart Rhythm Journal, Jan 05, 2015 ** ESC AF guidelines

COST/BENEFIT ANALYSIS

- The impact of Kardia is threefold:
- Reduction in the number of ECG tests, 24 hour tapes and 7 day Holter recordings.
- Reduction in the number of GP appointments and outpatient appointments.
- Savings to the NHS through early diagnosis of AF and prevention of stroke.

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