

Kardia Mobile

Care for the heart



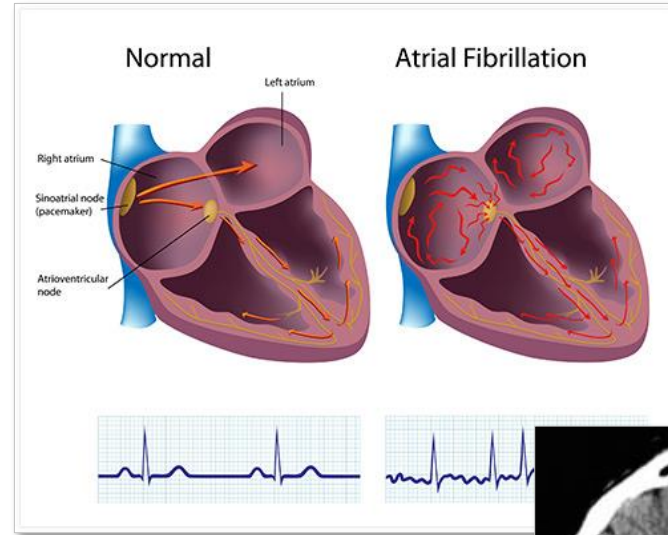
How to set up and use the Kardia App

AliveCor®

Background

UK AF figures

- 1.4 m people with AF (500k people undiagnosed)
- Approx. 2.4% population with AF, varies geographically and socio-economically
- Five times more likely to stroke with poor outcomes
- Cost to NHS England approx. £2.2bn per year



(H. E. Heemstra, corresponding author¹ R. Nieuwlaar, M. Meijboom, ¹ and H. J. Crijns³)

Kardia Mobile

- Diagnostic quality ECG on your smartphone or tablet
- Records ECG lead I
- Takes just 30 seconds
- Captures events immediately
- Instant analysis
- Does not require Wifi or Bluetooth



Quick and easy

- Place fingers on each electrode
- Watch the 'real-time' trace on screen
- Stops after 30 seconds and automatically analyses the recording



Kardia connectivity



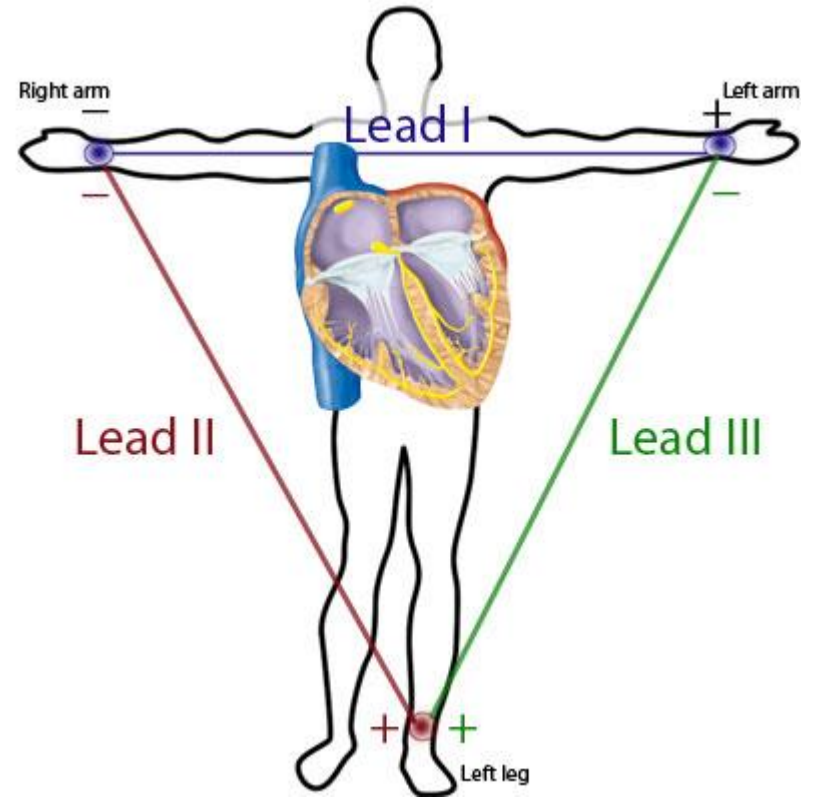
Works with most common smartphones and tablets, Apple and Android

Free download of the app from iTunes or Google Play

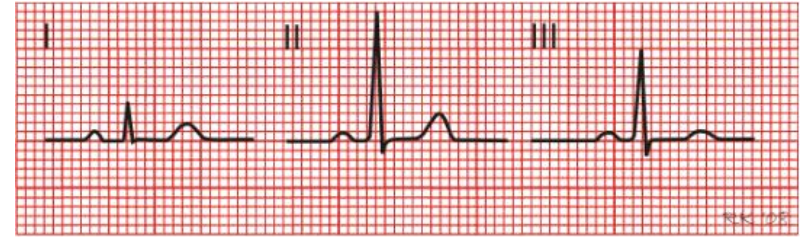
ECG's can be encrypted and password protected before emailing

Email to a physician or nurse from anywhere in the world

- The two Kardia electrodes equate to the left and right arm electrodes of a standard ECG machine
- Thus giving you lead I



- Lead II can also be seen by placing the left hand electrode on the knee or ankle of the left leg
- Similarly, lead III can be seen holding the left electrode and placing the right one on the left knee/ankle
- For patients with severe tremor, place and hold the Kardia directly on the chest at the 4th intercostal space to the left of the sternum. Watch the ECG record on screen for 30 s



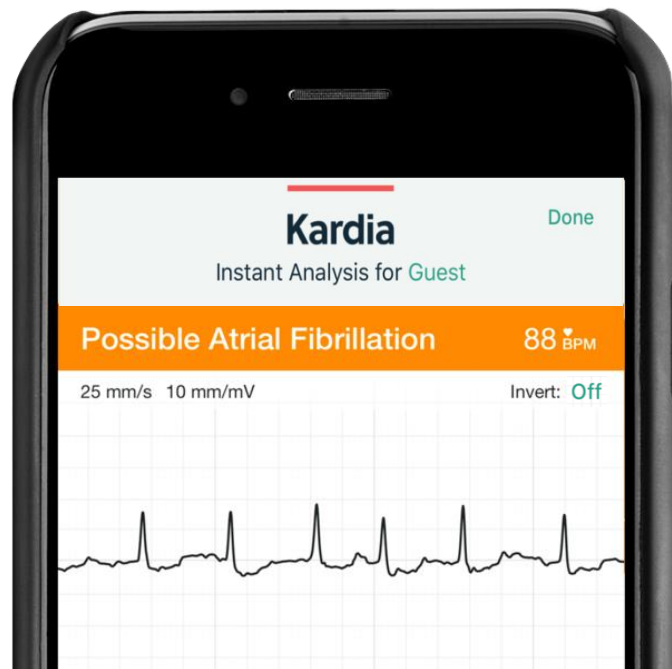
Carry a Kardia!

- Can be attached to the phone/tablet with the adhesive clip supplied
- Or use the optional Carry Pod to keep it separately and safely
- It can be used free standing on a flat surface near the phone/tablet



Kardia credentials

- CE marked, Class IIa medical device
- FDA cleared
- Accurately detects AF (98% accuracy rating)
- NICE Medtech innovation briefing [MIB35]
- NHS accelerator
 - part of the NHS product innovation accelerator programme 2017
 - currently supplied by all AHSN's and many NHS organisations
- Over 30 million ECG's taken worldwide



Screening

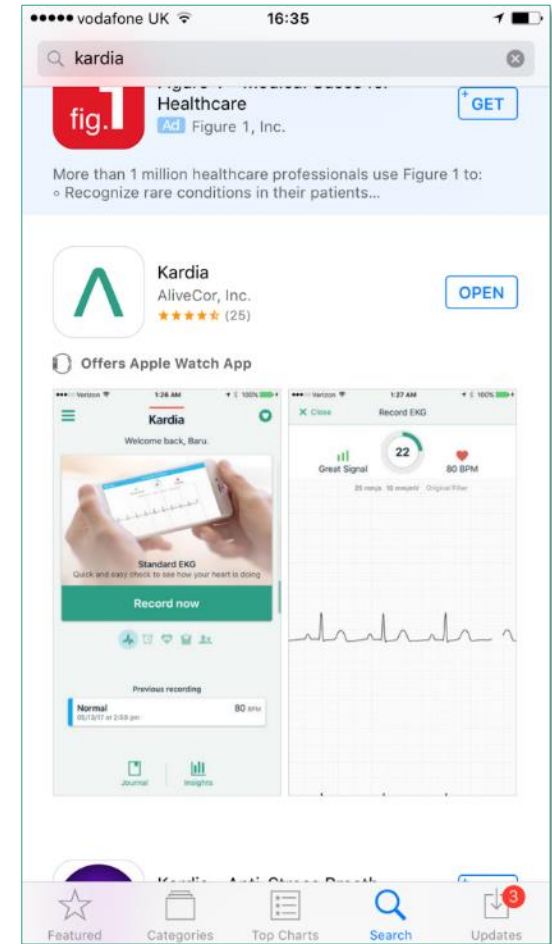
- Kardia is used in many ways to screen patients
 - Routine testing as part of health checks in general practice
 - Routine screening during flu vaccinations
 - Specific AF screening programmes by general practice
 - Screening in retail pharmacies
 - Screening in hospital pharmacies
- Improve results by loaning/giving to patients
- Policies and procedures on how to deal with the results will be provided by your local authority

How to set up and use Kardia Mobile

Download and set up the app

Set up the Kardia app

- First, download the app (it's free)
- Apple's App Store for iPhones (if using an iPad, make sure you search here)
- Google Play Store for Androids
- Search for 'Kardia'



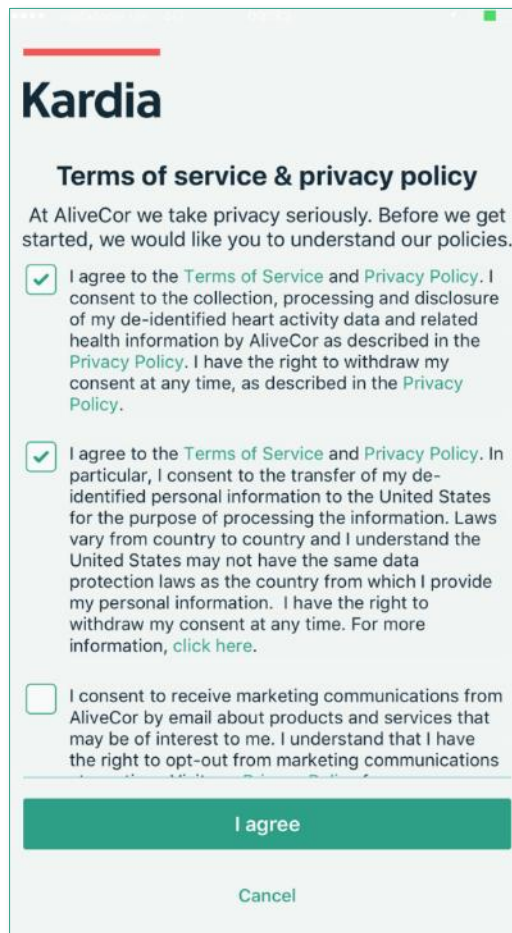
Set up the Kardia app

- Log in if you already have an account
- Select 'create account' if you don't



Creating an account

- Agree to the terms of service and privacy policies
- Decide if you would like to receive communications from AliveCor on new products and services
- Tap 'I agree' at the bottom of the page



Kardia

Terms of service & privacy policy

At AliveCor we take privacy seriously. Before we get started, we would like you to understand our policies.

☒ I agree to the [Terms of Service](#) and [Privacy Policy](#). I consent to the collection, processing and disclosure of my de-identified heart activity data and related health information by AliveCor as described in the [Privacy Policy](#). I have the right to withdraw my consent at any time, as described in the [Privacy Policy](#).

☒ I agree to the [Terms of Service](#) and [Privacy Policy](#). In particular, I consent to the transfer of my de-identified personal information to the United States for the purpose of processing the information. Laws vary from country to country and I understand the United States may not have the same data protection laws as the country from which I provide my personal information. I have the right to withdraw my consent at any time. For more information, [click here](#).

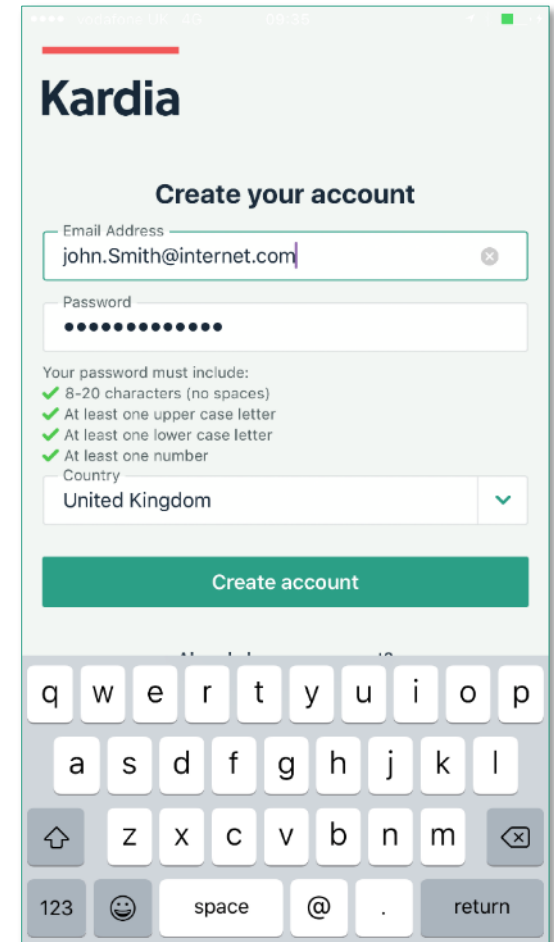
☐ I consent to receive marketing communications from AliveCor by email about products and services that may be of interest to me. I understand that I have the right to opt-out from marketing communications

[I agree](#)

[Cancel](#)

Creating an account

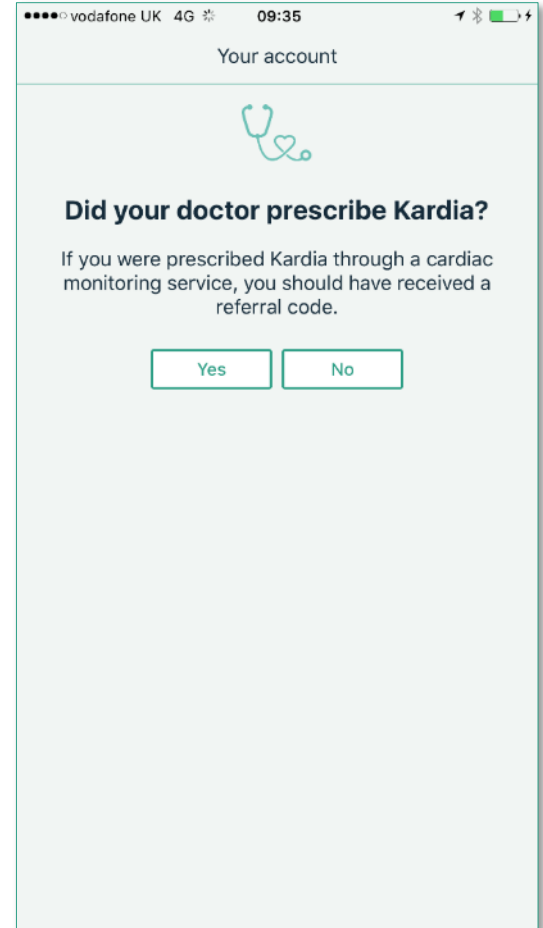
- The next page allows you to enter your email address and to create a password
- The software will advise on the security of your password
- NHS professionals should always use their nhs.net email for security



The screenshot shows a mobile app interface for 'Kardia'. At the top, the status bar shows 'Signal strength', 'Signal type', '09:35', and a battery icon. The app header displays 'Kardia' in a large, bold, black font. Below the header, the title 'Create your account' is centered. The form contains two input fields: 'Email Address' with the text 'john.smith@internet.com' and a clear button (X), and 'Password' with masked characters (dots). Below the password field, a list of requirements is shown with green checkmarks: '8-20 characters (no spaces)', 'At least one upper case letter', 'At least one lower case letter', and 'At least one number'. A 'Country' dropdown menu is set to 'United Kingdom' with a green checkmark. A large green button labeled 'Create account' is positioned below the form. At the bottom, a virtual keyboard is visible with keys for letters, numbers, space, and return.

Creating an account


- The following page asks if your doctor prescribed the use of Kardia
- This is in relation to referral codes used only in the USA, so please select 'No'



The screenshot shows a mobile app interface for creating an account. At the top, the status bar displays 'vodafone UK', '4G', and the time '09:35'. Below the status bar, the title 'Your account' is centered. A teal stethoscope icon is positioned above the main question. The question, 'Did your doctor prescribe Kardia?', is in bold. Below it, a paragraph explains that a referral code is required if prescribed through a cardiac monitoring service. At the bottom, there are two buttons: 'Yes' and 'No'.

vodafone UK 4G 09:35

Your account



Did your doctor prescribe Kardia?

If you were prescribed Kardia through a cardiac monitoring service, you should have received a referral code.

Yes No

Creating an account

- You are then asked to enter some basic details about yourself
- Then tap 'Complete account'

The screenshot shows a mobile app interface for creating an account. At the top, the status bar shows 'vodafone UK 4G', the time '09:36', and battery level. The app title 'Your account' is centered. Below it, the section 'Tell us about yourself' is displayed. A message states: 'This information will be stored with each EKG, making it easier for a doctor to identify and interpret your recordings, if needed.' The form contains four input fields: 'First Name' with the value 'John', 'Last Name' with the value 'Amith', 'Date of Birth' with a date picker set to '15/09/1977', and 'Height (cm)' with the value '180'. Below these fields, the 'Your sex' section has two buttons: 'Female' (selected) and 'Male'. At the bottom, a large green button labeled 'Complete account' is visible.

vodafone UK 4G 09:36

Your account

Tell us about yourself

This information will be stored with each EKG, making it easier for a doctor to identify and interpret your recordings, if needed.

First Name
John

Last Name
Amith

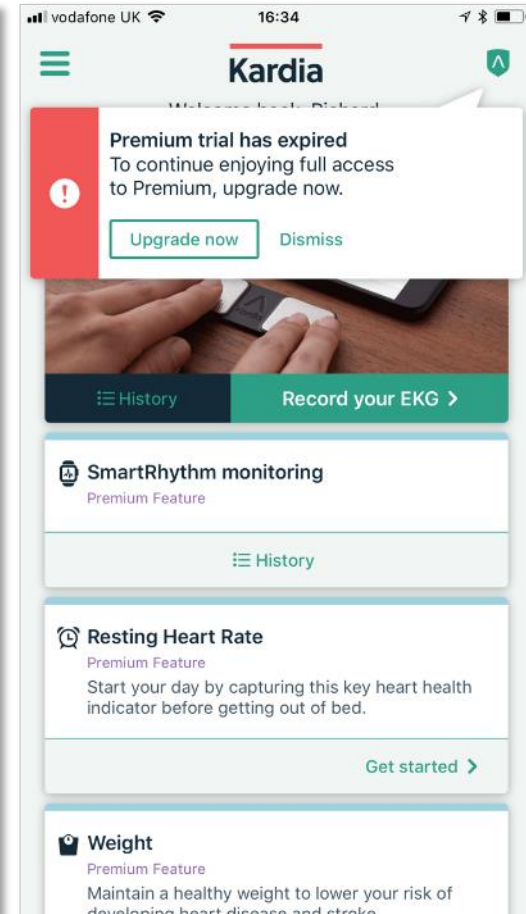
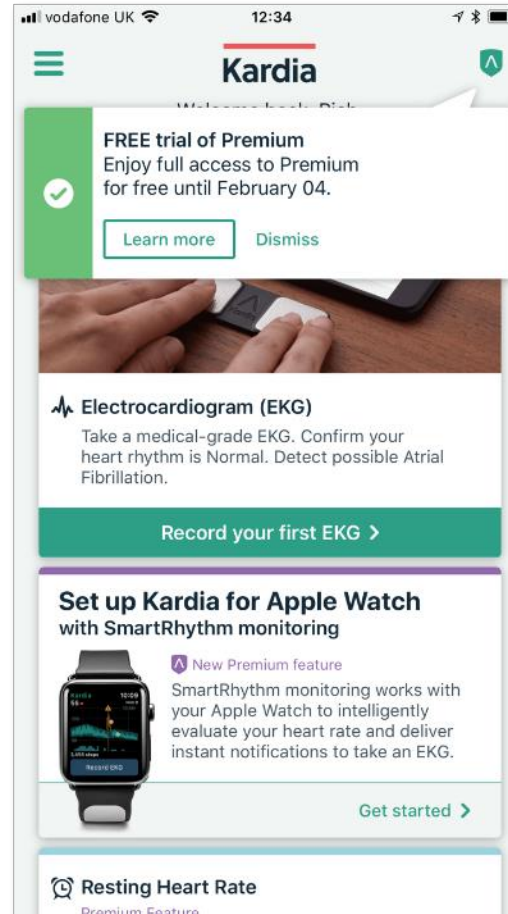
Date of Birth
15/09/1977

Height (cm)
180

Your sex
Female Male

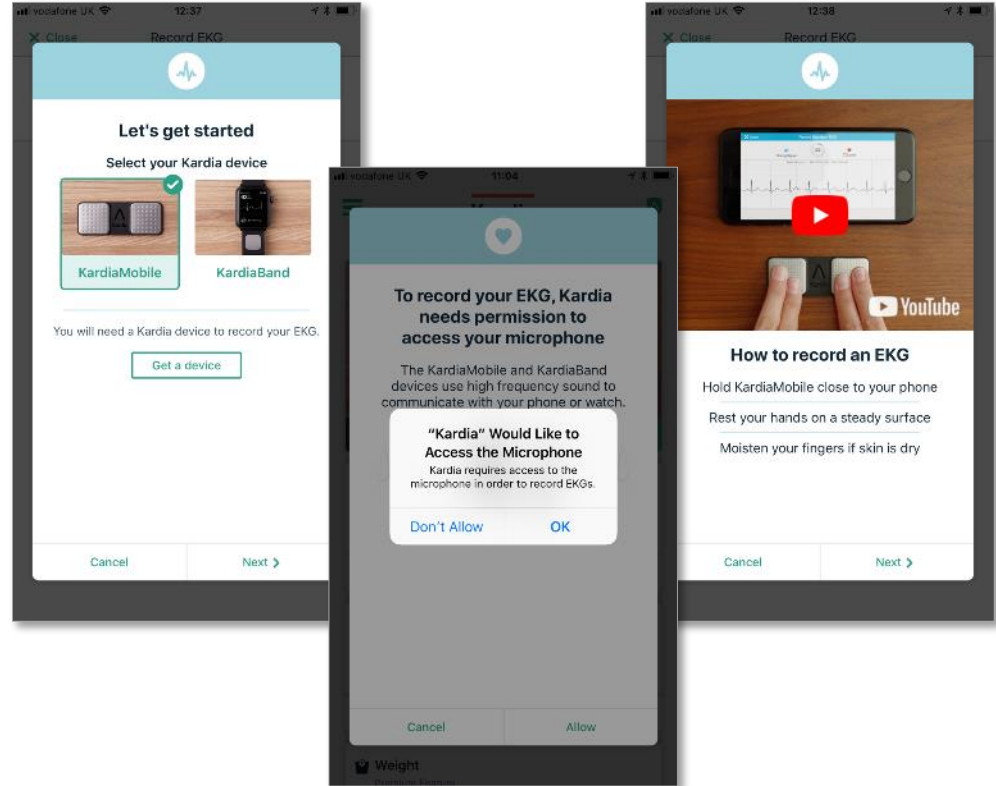
Complete account

- You will then be taken to the home page where you can begin recording
- A 'pop-up' information box will appear saying that you receive one month's free Premium subscription service (this is not optional)
- Click 'Dismiss' for the info box to disappear, or 'Learn more' to find out about Premium features
- When your trial ends, another box will appear giving you the option to upgrade



‘Getting started’ help pages

- ‘Let’s get started’
 - Once you have set up the app, a series of help pages will appear to guide you through some key aspects
 - It’s important you ‘OK’ the access to your devices’ microphone as this is how Kardia transmits the data to the phone or tablet



Software options

Basic or Premium?

Software options

- Premium features require a monthly subscription of £9.99
- All Premium features are highlighted in purple in the app
- A free one month trial begins as soon as you set up an account
- After that time, if you choose not to subscribe, the app changes to Basic level and no new recordings will be added to 'History'
- NHS users will use Basic only

| | Basic | Premium |
|--|-------|---------|
| Take recordings anytime, anywhere | ✓ | ✓ |
| Instant EKG analysis | ✓ | ✓ |
| Detect normal heart rhythm or AFib | ✓ | ✓ |
| Email and print unlimited EKG recordings | ✓ | ✓ |
| Unlimited cloud storage and history | | ✓ |
| <u>Customized monthly reports</u> mailed to your home to share with your doctor ³ | | ✓ |
| Blood pressure tracking ⁴ | | ✓ |
| Tracking weight and medication | | ✓ |
| <u>SmartRhythm</u> monitoring and notifications for Apple Watch | | ✓ |

³ USA only

⁴ Manual entry Android only outside the USA

Recording your first ECG

Ready to use

- When the app is selected, the home page appears
- The first time you open this, 'Record your first EKG' will appear (fig 1)
- Once completed, this changes to 'Record your EKG' (fig 2) and a 'History' appears
- Tap the green 'Record' button to begin

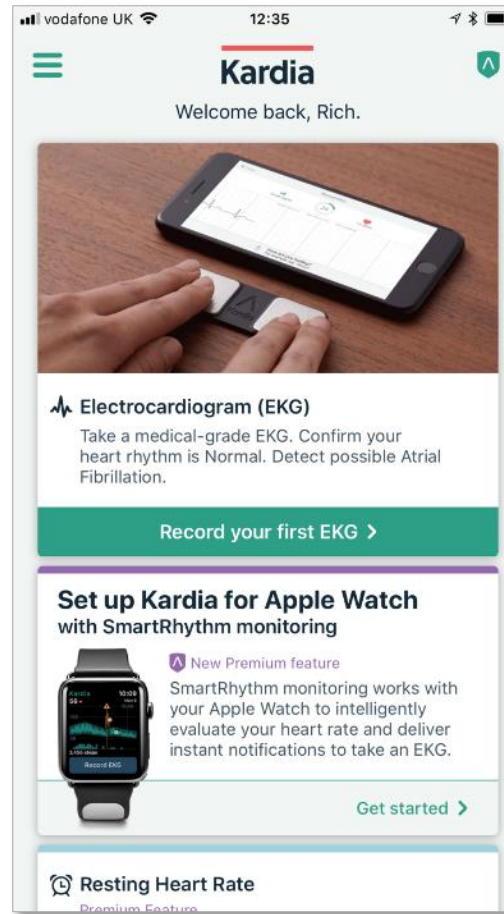


fig 1

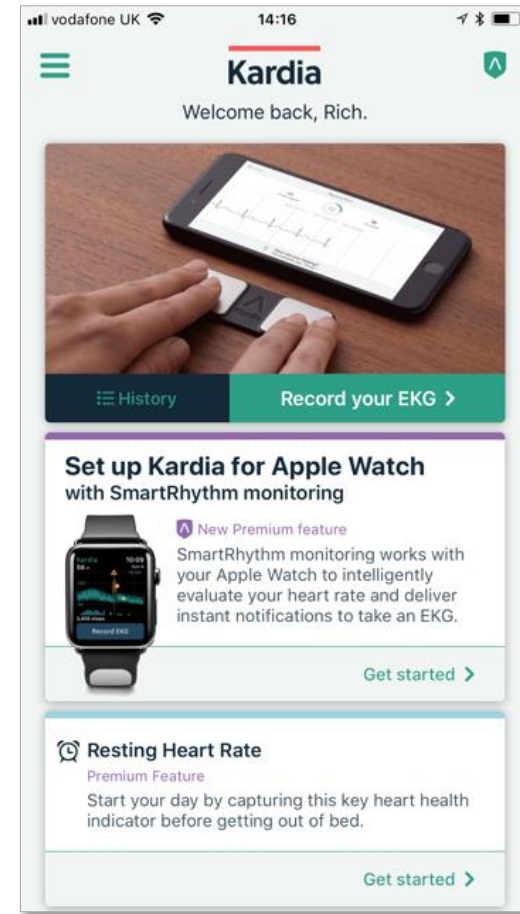
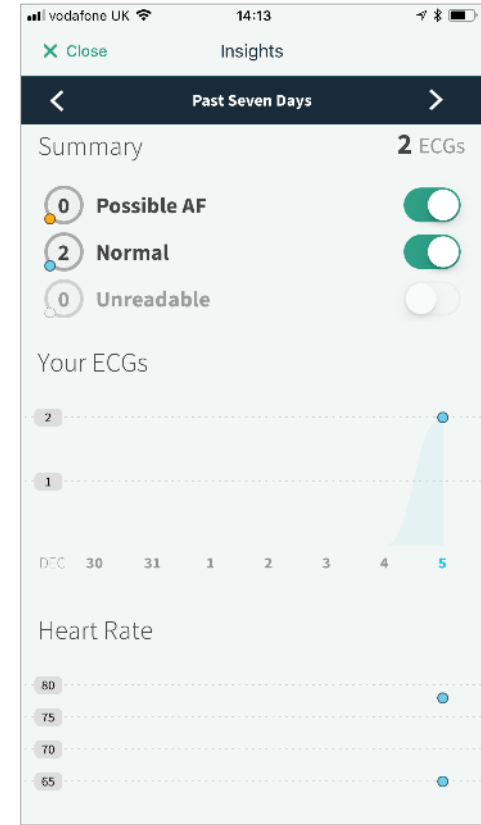
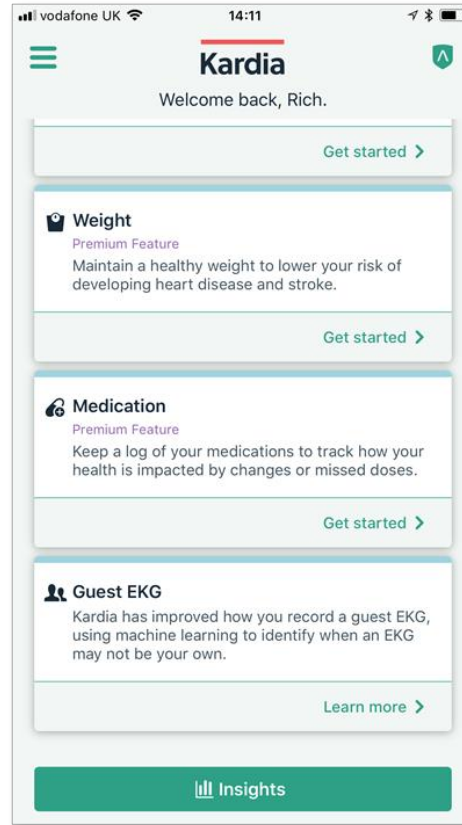


fig 2

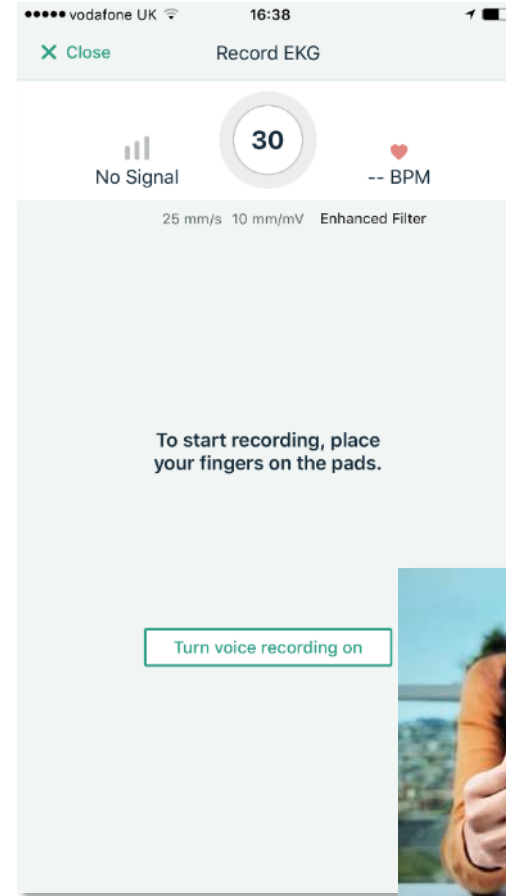
Ready to use

- Scrolling down the home page shows some of the Premium features available
- 'Guest EKG' gives advice on using your device to record other people's ECG's
- The insights button (also a Premium feature) takes you to a summary of your data



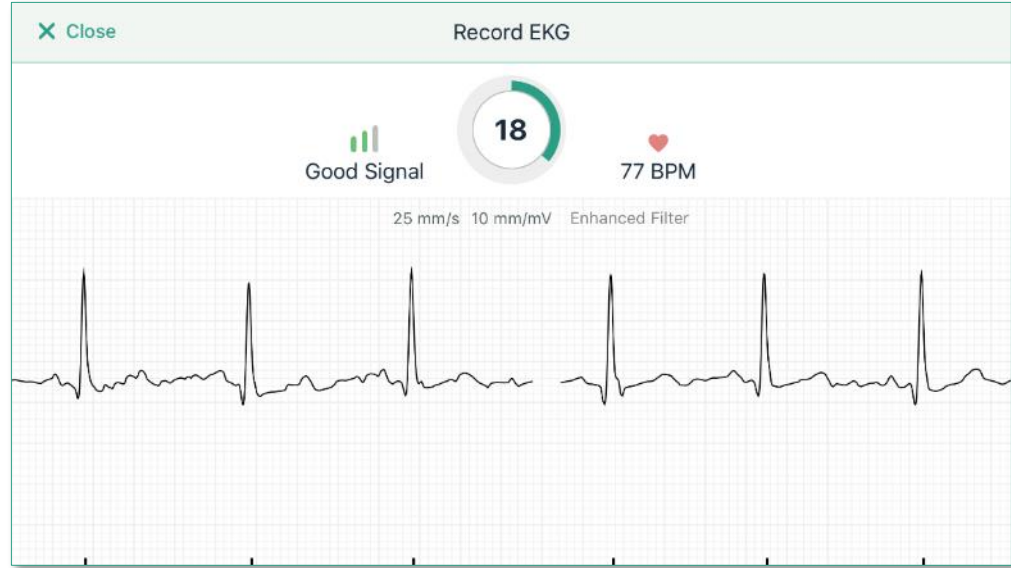
Making a recording

- Once you have tapped 'Record your EKG', this page appears and the app is ready to start
- Recording begins automatically once fingers from each hand are placed on the appropriate electrode pads like so...
- Take care not to obstruct the microphone on the device



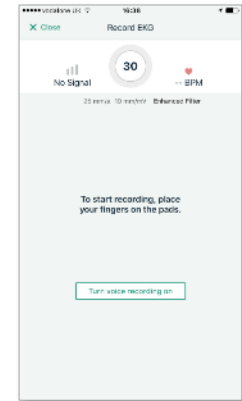
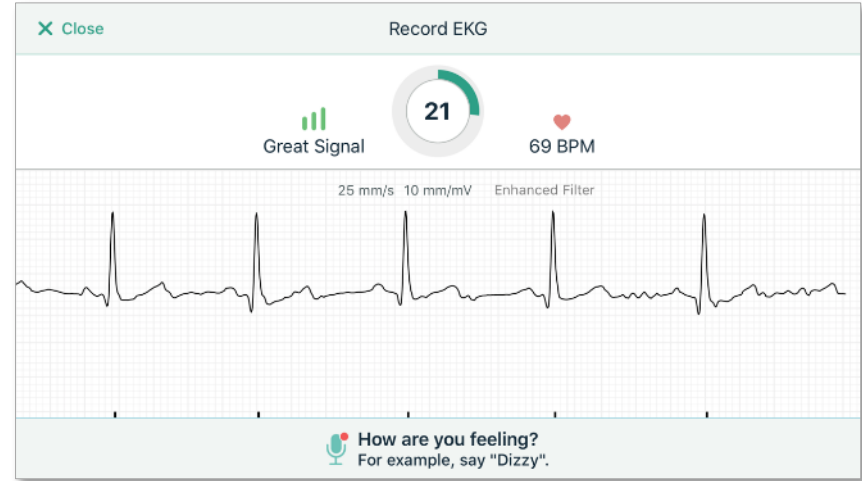
Making a recording

- The timer counts down 30 seconds (minimum)
- The live trace will be seen moving across the screen
- It stops automatically at the end of that time and makes its analysis



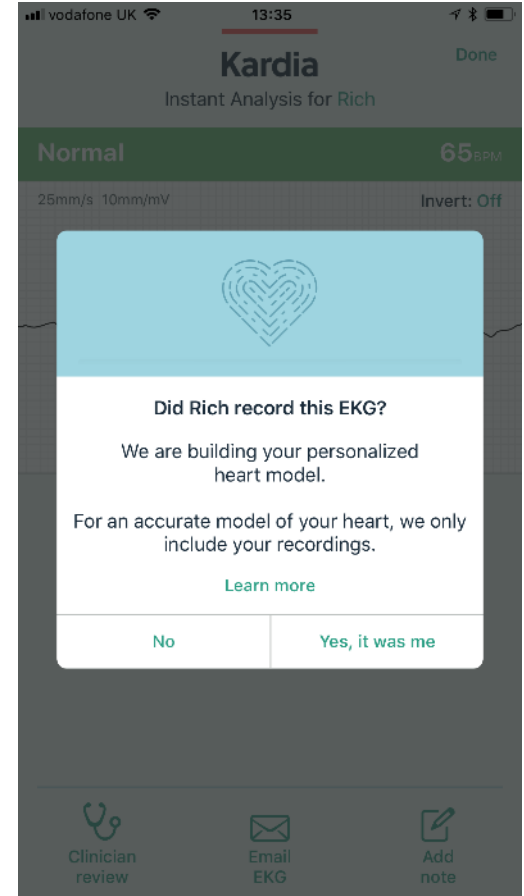
Voice recording

- A patient can verbally describe symptoms whilst recording e.g. dizzy spells, fast heart rate, palpitations
- Once the recording is complete, these symptoms are automatically converted to text and entered into the record
- This feature can be turned off if not required



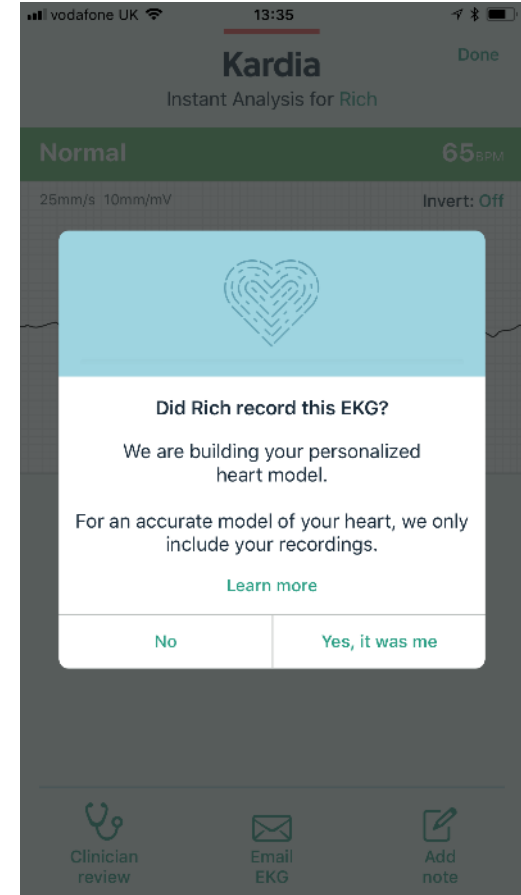
Making a recording

- At the end of a recording , a question box will appear asking if this recording is your own ECG (the account holder)
- If it is not, press 'No'
- Press 'Yes' if you are taking your own recording



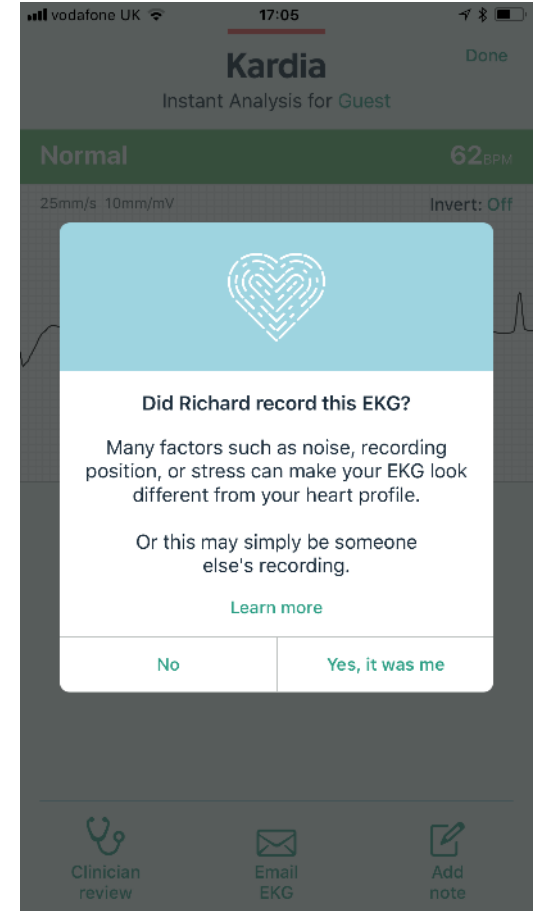
Your personalised heart model

- If you use Kardia to record your own ECG's, it will remember each one and build a 'fingerprint' of your own ECG morphology
- This can take several weeks until you have enough recordings
- During that period, you will be asked each time to confirm that the recording belongs to you



Your personalised heart model

- After that time, you will no longer be asked the question – Kardia will recognise you!
- However, if you are recording a patient's or friend's ECG, the question will pop up again as it recognises that the ECG is different to yours
- Simply tap 'No' and you can analyse that person as a 'guest'



Taking another person's ECG

- Tap 'Record your EKG' on the home page
- The 'Record EKG' page will appear (fig 1)
- Hand the device to the patient and advise on placing fingers on the electrodes
- The recording begins automatically and stops after 30 seconds when analysis is performed
- It's important for the patient to keep still during the recording
 - excessive muscle activity in the arms and hands will affect the quality of the recording

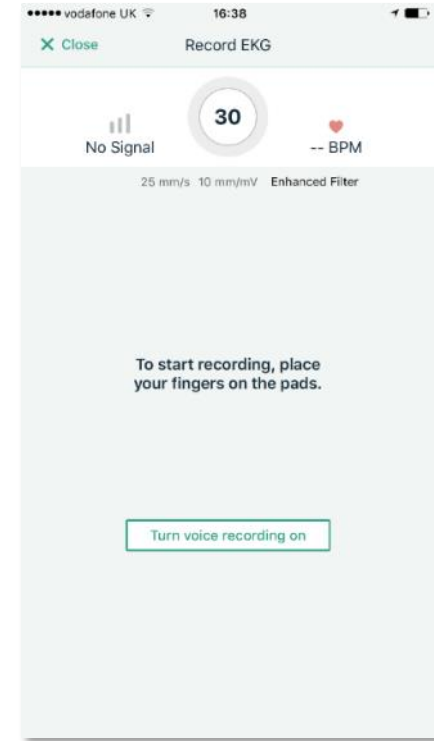
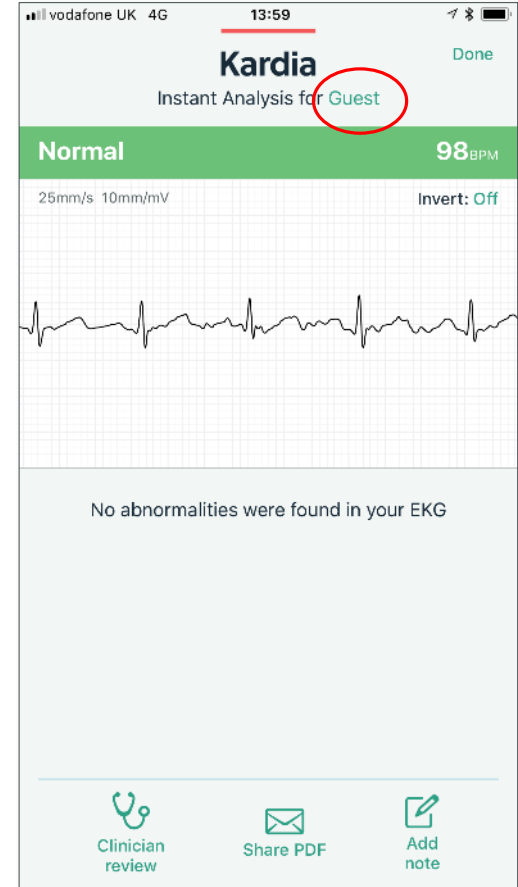


fig 1

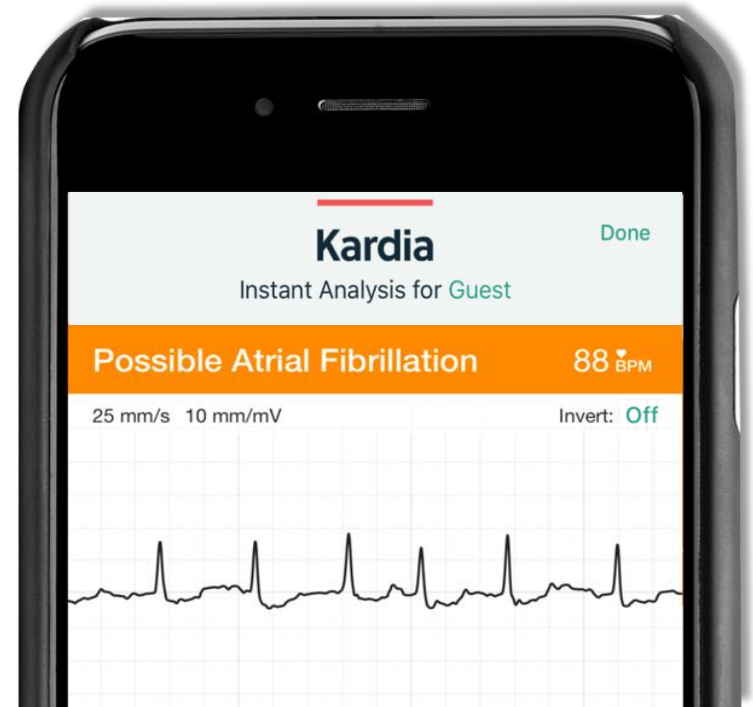
Making a recording

- Confirm that it was not your own recording
- The completed and analysed 'Guest' recording will then appear
- You can scroll through this with your finger and enlarge it on Android devices by swiping apart your fingers on the screen
- If analysed as 'Normal', the term will appear on a green bar at the top of the page with the heart rate



Making a recording

- Should AF be present, the screen will look like this
- If 'Unclassified' appears (also on orange) it could indicate another abnormality or that the patient's heart rate falls outside the validated range (50 – 100 bpm). It does not indicate AF
- Further investigation is advised for 'Unclassified' recordings



Saving and emailing a recording

Saving a recording

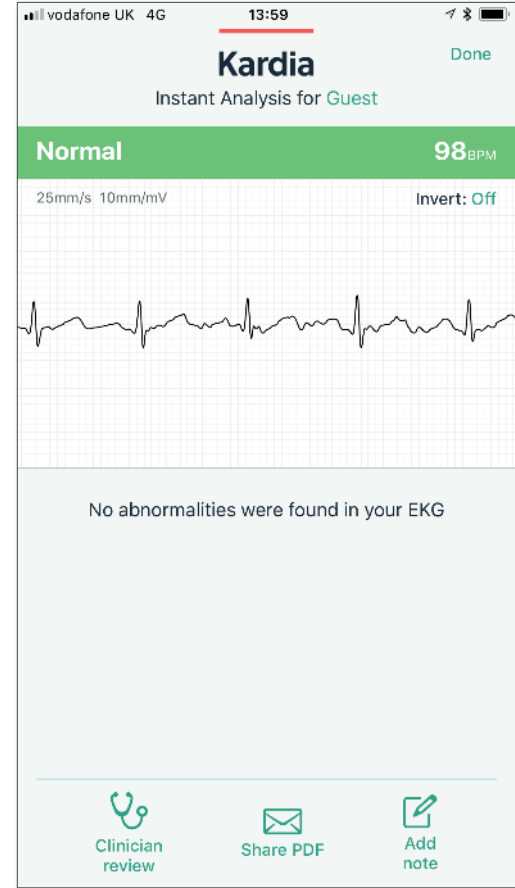
Premium Level

- If you have a Premium level subscription, all your recordings, both for you and 'Guests' will be stored in 'History'
- These can then be reviewed at any time and saved as a pdf or emailed if required

Saving a recording

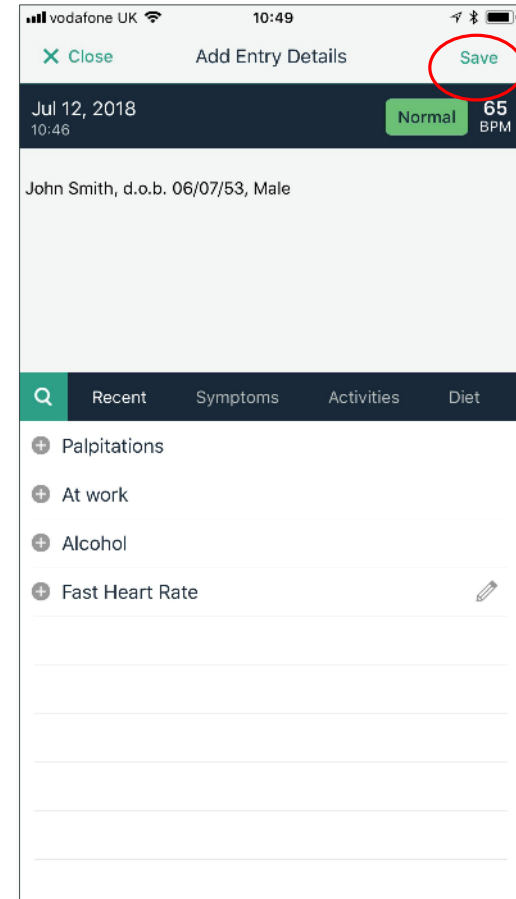
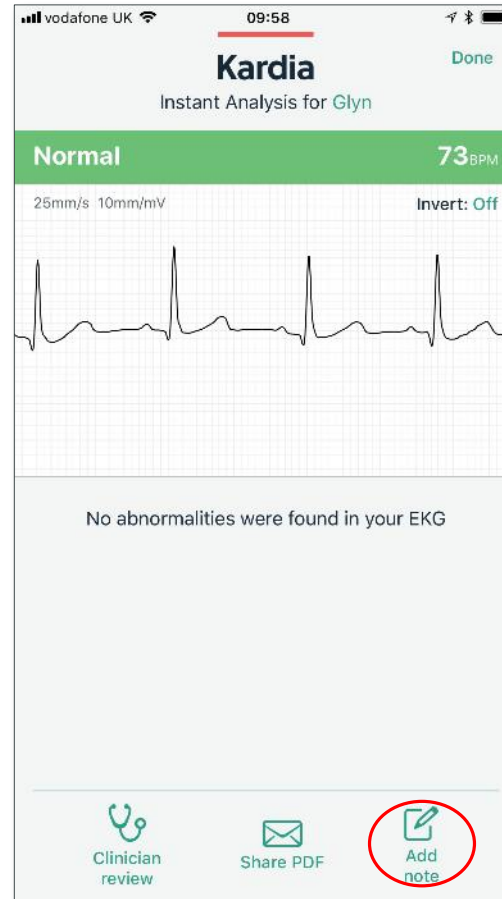
Basic Level

- **Important:** For healthcare professionals recording a patient or for patients using 'Basic' mode themselves, you must save the recording immediately it's completed or it will be lost
 - This complies with data security regulations and safeguards against patient ECG's being stored on clinicians' phones or tablets



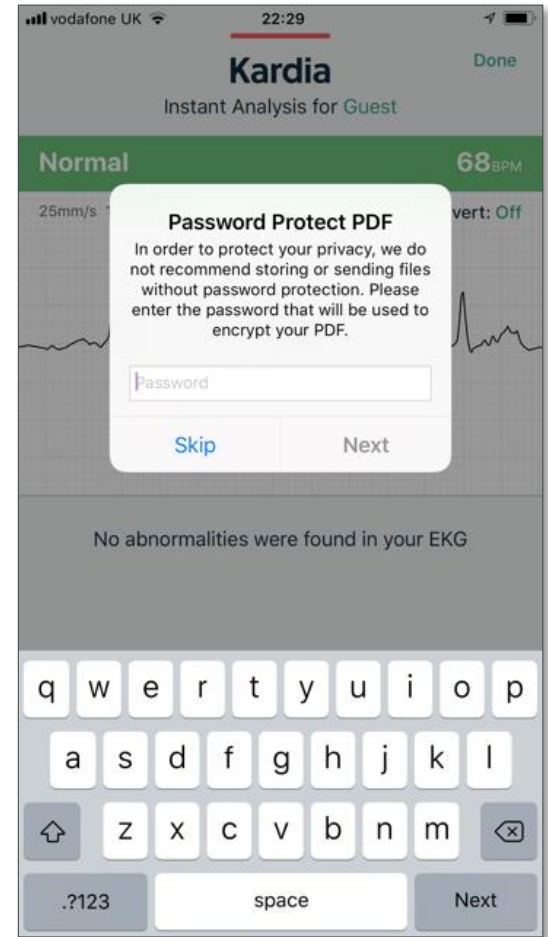
Add patient ID

- If the recording is from a patient or another person other than yourself, add the patient ID
 - Tap the 'Add note' button
 - Enter the ID all on one line, add other details if required, then tap 'Save' in the top right corner
- To then save the recording, tap the 'Share PDF' button



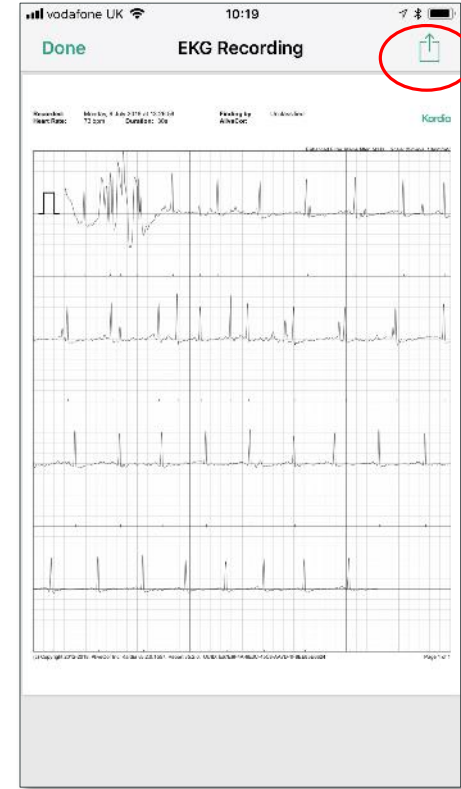
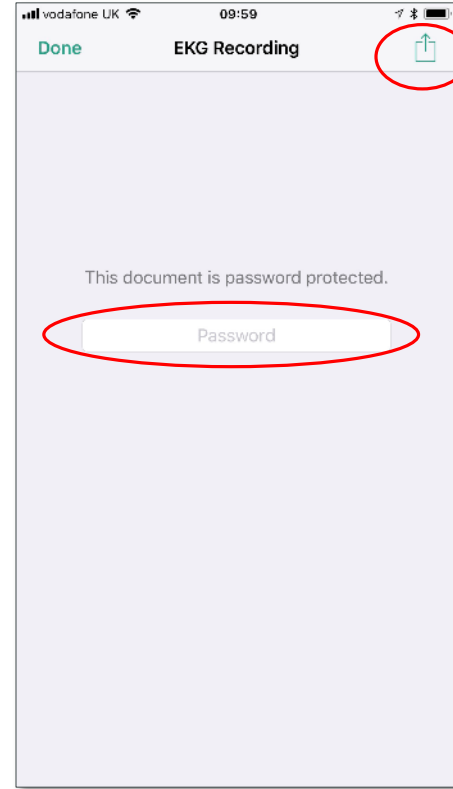
Saving a recording

- The 'Password Protect PDF' box then appears
- If you wish to use a password, enter a simple and universal one here
- Otherwise, tap 'Skip'
- Members of the public can create their own password, but they must forward this to their doctor/nurse so they can open the file on receipt
- Then tap 'Next'



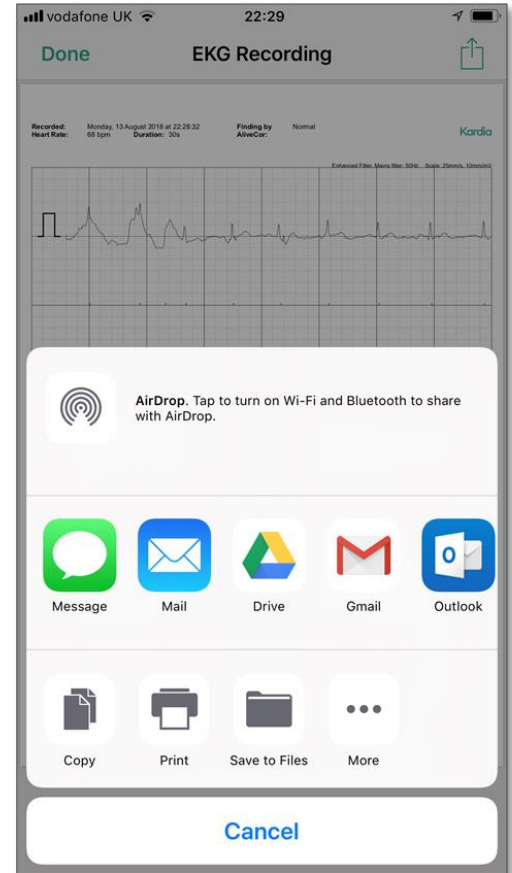
Saving a recording

- If a password is applied, the encryption confirmation page then appears
- You can then send the document immediately by tapping the top right send button from there
- Or, enter the password again to review the ECG on the screen. You can also send from here



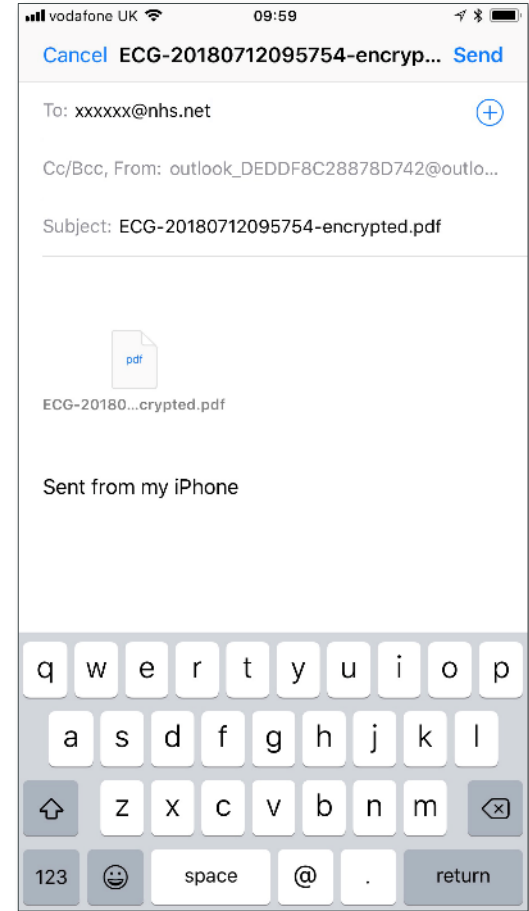
Saving a recording

- Either way, tap the send button and the options will appear and they will depend on your device
- You can text, mail, save or print if you have a suitable wireless printer



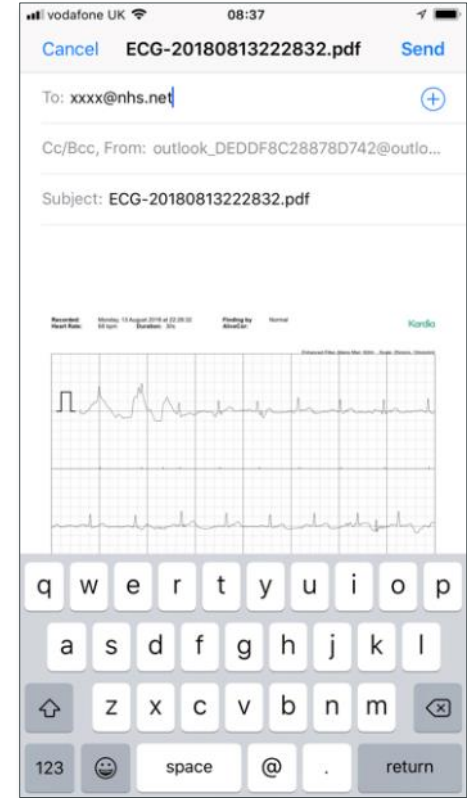
Emailing a recording

- If you select email, a 'ready-made' email will appear with the recording encrypted as a pdf
- If you are a HCP, enter an agreed NHS email address in the 'To:' section
- Press 'Send'



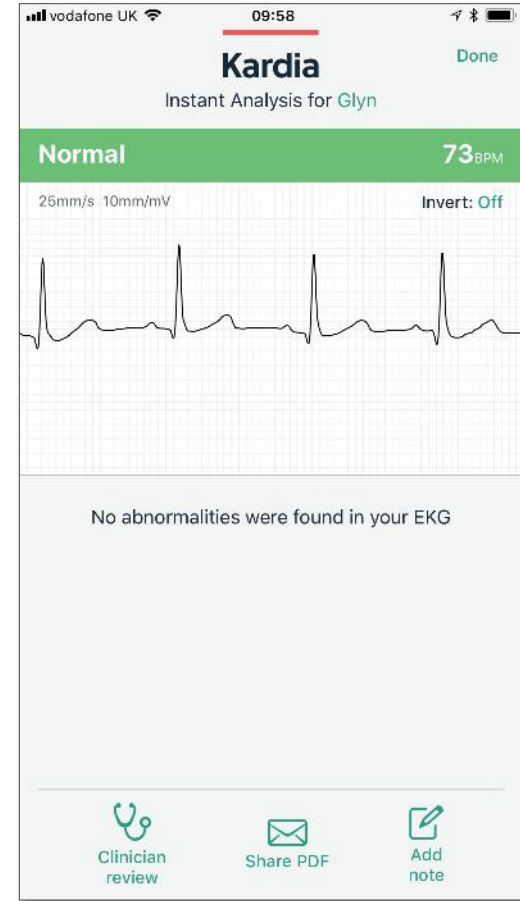
Saving a recording

- If a password is not used, skip the encryption page
- The recording then appears
- Tap the send button and select 'Mail'
- A ready-made email appears with the recording attached as a PDF
- Enter the patient ID in the body of the email



Clinical review feature

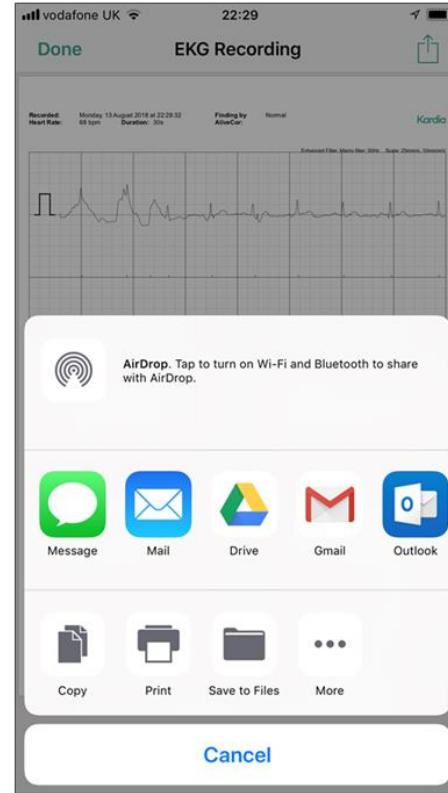
- In both Premium and Basic levels, patients and clinicians can send a recording to be professionally analysed
- Select 'Clinician Review' for a full clinical analysis by a UK based cardiac physiologist
- This can be purchased on line for £5 and is returned by email within 24 hours



Printing a recording

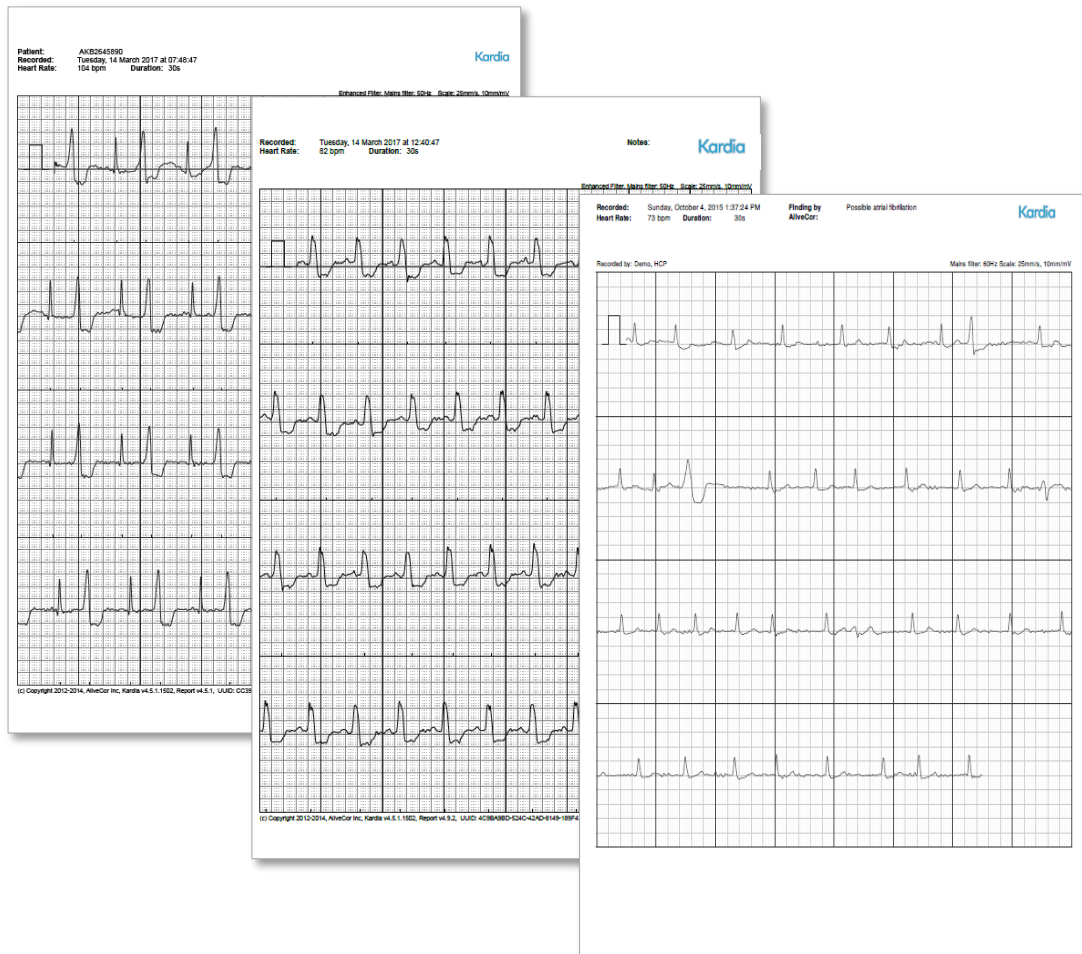
Printing

- Printing directly from the app is possible with a suitable wireless printer
- Tap 'Share PDF' from the result page
- 'Skip' encryption
- Tap the 'Save' icon in the top right corner
- Select 'Print', then chose your printer once your device has found it on the network



Printing

- If you are not printing directly from the app, you must first email or save the recording as a PDF
- Once saved as a PDF, it can be printed from a PC as with any other document
- Printouts are A4 on graph paper background with standard ECG scaling



Questions?
Customer support centre
Tel: 03333 010433

