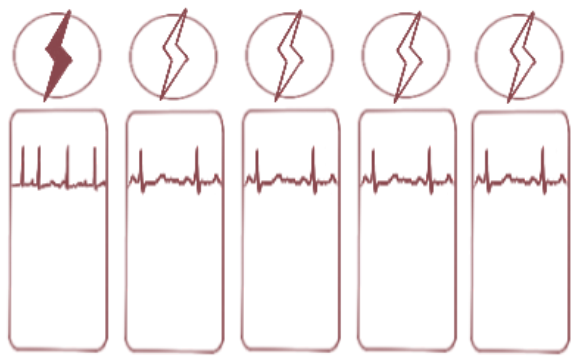


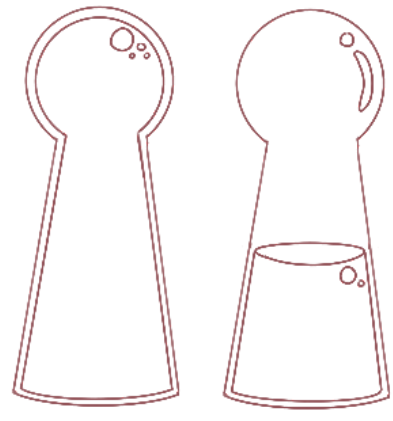
Know Your Pulse

What is Atrial Fibrillation (AFib)?

A heart condition that is the result of an irregular fast heart beat.



AFib affects 1.4 million patients in the UK alone



2.5% of the population in the UK are AFib patients



AFib reduces life expectancy by 2 years on average

Effects of AFib

Increased risks of strokes: AFib patients are 5 times more likely to have strokes due to blood clots forming in brain arteries.

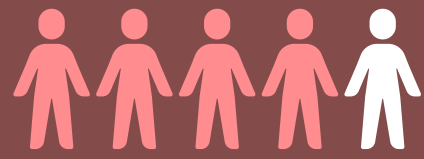
Increase risk of heart failure: AFib will cause a weakened heart if left undiagnosed, leading to heart failure.

1/5 strokes are caused by Afib

Newer Treatments

3D mapping can be used to map out the heart into 3D image. This will accurately identify areas of the heart that are beating irregularly, so that area can be destroyed.

80% of patients are AFib free after 1 procedure using 3D mapping technology.



Another newer and more effective treatment is keyhole ablation.

Current Treatments

Current treatments include:

- Medicine to control the heart rate
- Medicine to prevent clots
- Cardioversion (shocking the heart to restore the normal rhythm)
- Catheter ablation (guiding needles through a vein to destroy irregular tissue using high frequency radio waves)
- Pacemaker

However, these traditional treatments tend to fail and patients will need follow up treatments.

Symptoms

A few symptoms of AFib are:

- Heart palpitations
- Dizziness
- Fatigue
- Chest pains
- Breathlessness
- HR: <60 bpm or >100 bpm

Diagnosis

AFib is mainly diagnosed with electrocardiograms (EKGs), by measuring electrical activity in the heart with electrodes.

Further tests may be carried out if abnormal heart activity is detected, such as:

- Echocardiograms (ECGs) to check heart and valves structures;
- Chest X-Rays to check for diseases in lungs;
- Blood tests to check for diseases in the blood and/or kidney

Over 1 million people in the U.K. have AFib

1.3%

In 2020, AFib have cost around 1.3% of the NHS budget, around £2 billion

The mean cost per person is approximately £1500

Risk Factors

AFib is more common in older people and men. Risk factors include:

- Heart diseases / High BP
- Thyroid problems
- Sleep apnea
- Diabetes / Obesity
- Asthma
- Family history of AFib
- Stress
- Excessive intake of alcohol, caffeine and tobacco

Future Technology

Sensor technology in supermarket trolleys can have a huge potential to save lives by identifying undiagnosed AFib patients. Professional care can be provided at the earliest possible stage

Detection

Sensors installed on trolley handles detect participants' heart rates as they shop.

Test

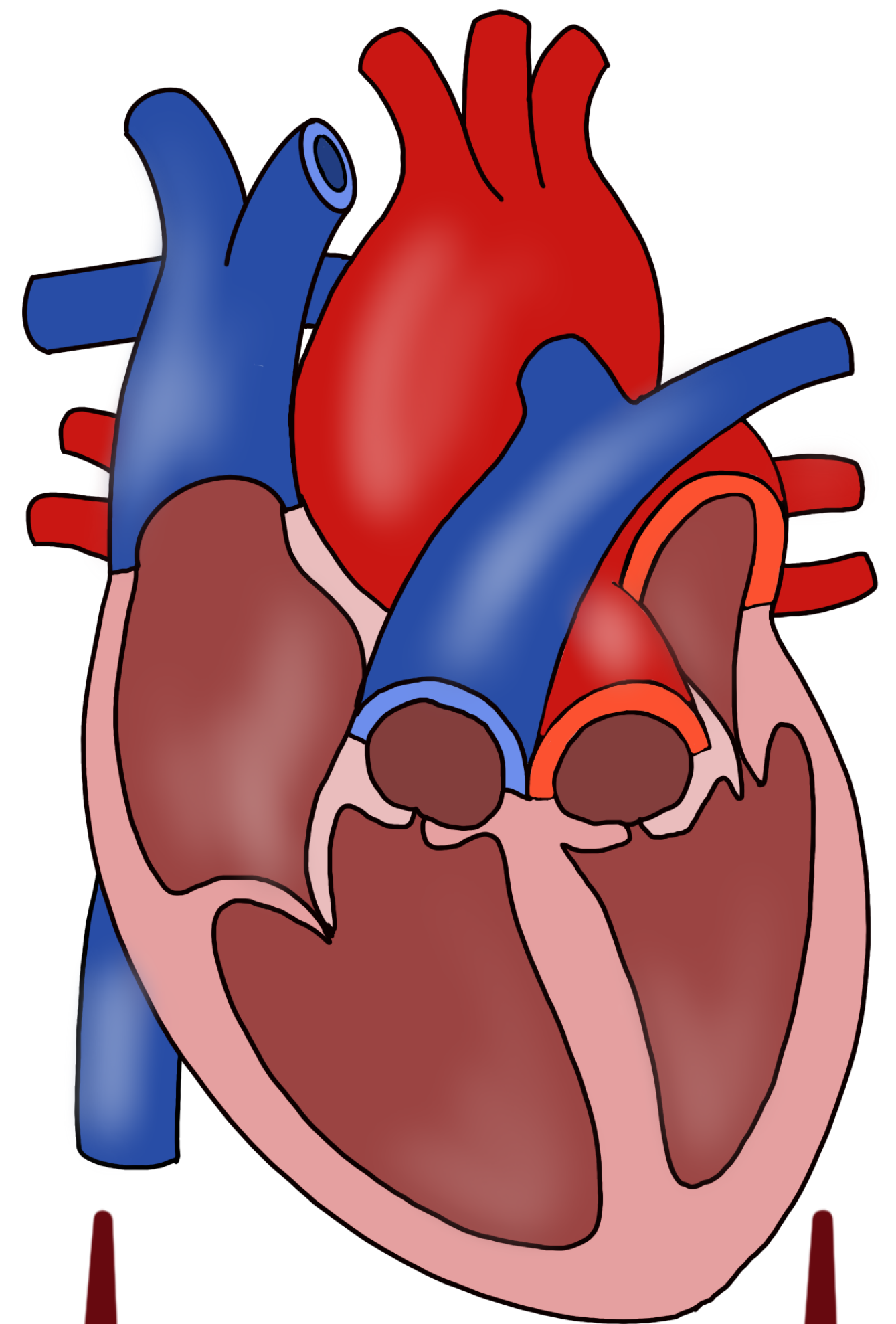
Anyone identified with an irregular heartbeat will undergo 3D electrical mapping

GP referral

Patients will then be referred to GPs and cardiologists for further treatment.

Medical advice

This will lead to conversations with medical professionals.



Prevention

Not all cases of AFib can be cured. Instead, it can be prevented by:

- Having a heart-healthy diet - reducing salt, trans fats, cholesterol and saturated fats.
- Exercising regularly
- Limiting caffeine and alcohol intake
- Avoiding smoke
- Maintaining a healthy weight (discuss this with your doctor).