



Arrhythmia Alliance

www.heartrhythmalliance.org

The Pulse

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Arrhythmia Alliance World Heart Rhythm Week 2018

In 2018, Arrhythmia Alliance World Heart Rhythm Week (WHRW) was even bigger and better than ever before, with a special focus on 'Take Fainting to Heart'.

One in two people will faint at some point in their life. Our message during WHRW 2018 was no faint is a simple faint, and should always be investigated, as it may be the only sign of a serious and life-threatening arrhythmia. The number one killer in the western world is sudden cardiac death, and often the only symptom is fainting.

The week consisted of hospitals, doctors' surgeries, support groups and patient groups around the world holding Know Your Pulse events in support of Arrhythmia Alliance WHRW, with the mission of raising awareness, treatment and diagnosis of arrhythmias. Tens of thousands of pulse checks were taken in countries all over the world, making millions of people pulse rhythm aware.

Wednesday 6th June 2018 was an extremely significant day for the staff at Arrhythmia Alliance, as this day marked the 25th Anniversary of our sister charity STARS (Syncope Trust And Reflex anoxic Seizures).

To celebrate, our Founder and Trustee Trudie Lobban MBE, held a very special event at the House of Commons, Westminster, to raise



awareness of arrhythmias and syncope. The day saw a gathering of medical professionals, trustees, staff, supporters of the charity, and patients from the past and present, to celebrate the wonderful work that STARS has done over the last 25 years!

Across the pond, our USA team held different Know Your Pulse events in different locations everyday of Arrhythmia Alliance WHRW (even including one at the beach!). As well as this, our team held CPR and AED awareness events and workshops, and spread our message 'Take Fainting to Heart' across America. Over 30 countries around the world joined in with WHRW to promote awareness of arrhythmias, holding events all around the globe.

A huge thank you to everybody who took part from all of us at Arrhythmia Alliance! To be involved in Arrhythmia Alliance World Heart Rhythm Week 2019, please visit our website page www.heartrhythmalliance.org/aa/uk/heart-rhythm-week

Alternatively, contact our UK team at info@heartrhythmalliance.org and our USA team at info-us@heartrhythmalliance.org

AF Association Global AF Aware Week



AF Association Global AF Aware Week 2018 (19-25 November 2018) was a huge success, with over 1000 Know Your Pulse events taking place globally. We held pulse check events all over the globe, attended a Pensioners' Fair hosted by Sajid Javid MP, Home Secretary, and finished our week hosting an AF awareness event at the Houses of Parliament.

In 2018, we focused on the message 'Know Your Pulse to Know Your Heart Rhythm', to raise awareness of the importance of understanding your pulse. We asked all of our supporters to help us spread our message and raise awareness of AF.

Atrial fibrillation (AF) is the most common arrhythmia (heart rhythm disorder), affecting over one million people in the UK alone.

Experts estimate that a third more remain undiagnosed, and with an ageing population, this figure is expected to double by 2050. Every 15 seconds someone suffers an AF-related stroke, costing the NHS over £2.2 billion each year, yet most can be prevented using appropriate anticoagulation therapy.

AF can be detected with a simple pulse check and raising awareness could save tens of thousands of lives.

AF Association Global AF Aware Week 2019 (18-24 November 2019) will be bigger and better than ever before, but we need your help!

There are many ways that you can get involved, and help us to spread the word! You can share information and resources with your local GP surgeries, hospitals, work place or community centre. You could hold an awareness event, fundraise, hold a bake sale, have a coffee morning or donate to enable us to continue to raise awareness and offer support!

Detect AF by a simple pulse check

Protect against AF related stroke using anticoagulant therapy (not aspirin)

Correct the irregular rhythm with access to appropriate treatment

Perfect the patient care pathway

If you would like any resources or information sent to you, or are interested in taking part in AF Association Global AF Aware Week 2019 in any way, please get in touch!

Contact the UK team at info@heartrhythmalliance.org and the USA team at info-us@heartrhythmalliance.org



Catch Up with the US Team

Arrhythmia Alliance US staff are diligently working to grow and expand throughout the United States. Our staff have conducted numerous community awareness and educational events, reaching thousands. Here is a rundown of 2018.

January, the staff gained two public health interns as well as attending the AF Symposium in Orlando, representing Arrhythmia Alliance (A-A) through networking with representatives in the state of Florida. February, the USA team hosted their first AF Patients Day, partnering with a leading independent living facility and connecting with well-known Cardiologists and EPs.

February was a busy month and A-A hosted another 'first'; All Hearts Matter 5k race with proceeds going towards the organization.

March saw the A-A staff collaborate with the University of South Carolina-Beaufort to host the 6th Annual Health and Wellness Fair, conducting over 60 pulse checks together with a local cardiologist hosting an Atrial Fibrillation seminar.

April, the staff focused on funding and participated in a grant contest; lucky us we won! On top of gaining funding in April, A-A appointed a Patient Services Coordinator, Sharonica Gavin. One of our public health interns graduated from her degree program and accepted a full-time position working for Arrhythmia Alliance.

May was Stroke Awareness month and staff focused on educating the public of the risk



of AF-related stroke, while assisting Trudie during her iRhythm Media Tour, reaching 10 million viewers nationwide!

The first week of June was Arrhythmia Alliance World Heart Rhythm Week and the USA staff hosted a total of seven events. The events took place throughout a broad audience, educating individuals from all ages. To top off WHRW, the USA team received a Proclamation from the city of Hardeeville, South Carolina. At this time all US staff are CPR-AED certified through the American Heart Association.

August saw another new staff member joining the team! Clare came on board as the program and events coordinator and is already making a huge impact.

This year began as a year of growth and expansion. Finally, our staff will strongly continue with a focus on education, patient advocacy, Know Your Pulse events and building our national campaigns. We will ensure arrhythmia becomes a household name. Watch this space!

New to the Team

Anna



Hello, I'm Anna and I am the Projects Manager at Arrhythmia Alliance. My job at the charity involves organising both of our annual awareness weeks – Arrhythmia Alliance World Heart Rhythm Week in June and AF Association Global AF Aware Week in November as well as our flagship event, Heart Rhythm Congress, and other events for clinicians.

Outside of work, I enjoy spending my spare time with my husband and two sons which generally involves listening to their bands or standing on the football touchline! I really enjoy working for the charity – we achieve some amazing things in our small but lovely team!

Clare



Hello! My name is Clare and I joined Arrhythmia Alliance in August 2018 as Program and Events coordinator. This is a new position for me but I am ready for the challenges and have already found it to be an interesting and incredibly enjoyable role! I love being a part of the amazing work that Arrhythmia Alliance does.

I am originally from Barnsley, South Yorkshire in England and I graduated in 2015 from Sheffield Hallam University with my Master's Degree in Graphic Design. I moved to the US just over two years ago to marry my husband, David. We met whilst working at Walt Disney World in Florida and did long distance for a year before he proposed. David is currently in Med-school with the air force which is what brought us to South Carolina, so far I have lived in Portland, Oregon – Mesa, Arizona and now Bluffton, South Carolina.

No surprise, I LOVE all things Disney and loyal to my British roots I drink way too much tea. I am a firm believer that everything happens for a reason and that life should be lived one adventure at a time.

Steve



Hello! My name is Stephen and I joined the Arrhythmia Alliance Events Team towards the end of November 2017.

I have always enjoyed organising and running events and when the opportunity arose to develop my skills at this amazing charity I couldn't have applied any sooner. I love being able to put together events for Healthcare Professionals and Patients which help to save lives, this drives me to succeed every day!

I'm a football fanatic, a proud Chelsea FC supporter. I also love golf and squash and ticked the London Marathon off my bucket list this year with a time of 4 hours and 25 minutes.

Sharonica



Hello everyone, I'm Sharonica! My journey with the US team began in Jan 2018 as a senior intern, volunteering three days a week with the charity. At the completion of my internship I was offered a full-time position as the Patient Services Coordinator and due to the mission and values of this organization I could not turn down the offer.

I am a recent graduate with a degree in Public Health and a proud mother of a beautiful 8-year-old girl, Domonique. I'm a firm believer in Jesus Christ and trust that all things happen for a reason.

In my first few months I have had the ability to witness the benefits this organization provides and above all I enjoy my work as a caring face for the charity and providing support. Happy to be a part of this amazing team!

I am looking forward to my second international visit to the UK office in October this year when I am due to attend HRC 2019.

Patients Day 2018

Arrhythmia Alliance Patients Day 2018 was a huge success, thanks to all of the wonderful patients and medical experts who travelled across the world to be there! For the first year ever, Arrhythmia Alliance held two separate full day sessions, one dedicated to catecholaminergic polymorphic ventricular tachycardia (CPVT) and the other dedicated to supraventricular tachycardia (SVT) and arrhythmias.

Our USA team flew from South Carolina to the UK to join us at Patients Day. We had the pleasure of being joined by experts such as Dr Kim Rajappan, Dr P Boon Lim, Dr Matt Fay, Dr Adam Fitzpatrick, Dr Colin Cunnington, James Fouhy, Dr Jan Till, Dr Karen McLeod, Dr Belinda Gray, Dr Leonie Wong, Arrhythmia Nurse Stephanie Cruickshank and Clinical Psychologist Morwenna Opie-Moran.

All of these medical experts presented topics which were carefully chosen for the patients and took into consideration the feedback that we had received from patients last year.

The new structure of having individual, dedicated sessions, allowed for more topics to be covered, gave patients the time to have their questions answered, and allowed us to increase the number of patients attending. The change is something that has been well received and encouraged by medical professionals and patients alike.

Here is some feedback we have received from this year's Patients Day:

- 'The speakers all performed well and made their respective topics interesting'
- 'The whole day was incredibly useful'
- 'All topics were covered in a positive manner with no hint of doctor knows best!'
- 'I feel it has made a real difference to my life after attending, I hope to come back next year'

A HUGE thank you to all patients, speakers and medical experts who joined us at Arrhythmia Alliance Patients Day 2018! We look forward to seeing you all again at Patients Day 2019, on Sunday 6th October!



Arrhythmia Alliance Patients Day 2019

Registration Now Open!

**Sunday 6th October 2019,
Birmingham ICC**

Planning for Patients Day 2019
is already well under way!

To improve upon, and grow Patients Day
even further, we need YOU!

Please email us with your thoughts and
comments about Patients Day 2018,
what you liked and what you didn't.

If you did not attend but would
like to see something at this year's
meeting, please let us know!

This is YOUR event, tell us how
we can make it better for you!



Please complete our online evaluation at

<https://www.surveymonkey.co.uk/r/6LLWNM5>

or email at

c.payne@heartrhythmalliance.org

To book your place at Arrhythmia
Alliance Patients Day 2019, please call
01789 867501, or book online at
www.heartrhythmalliance.org/aa/uk/patients-day

Arrhythmia Alliance 2019 National Raffle!

For your chance to win one of our fantastic prizes, please fill in your details on the ticket stub and return to us by Friday 12th April. Prizes include Marks and Spencers vouchers, tickets to London attractions and many more wonderful surprises! Each ticket is only £1 and will help us to provide information and support to all those affected by arrhythmias. The raffle will be drawn on Thursday 18th April. To increase your chance of winning one of our fabulous prizes, you are welcome to order more tickets from us by emailing c.payne@heartrhythmalliance.org or calling 01789 867501.



Arrhythmia Alliance Awards at Heart Rhythm Congress 2018



Outstanding Individual who has contributed to Arrhythmia Services

was presented to Dr Andrew Mitchell and Dr Mark Anderson. Dr Mitchell single-handedly manages a complex and demanding cardiac service in Jersey, and over the last 10 years has transformed arrhythmia management on the island and has facilitated many services to be offered locally, preventing costly off-island referrals. Dr Anderson developed the EP service from scratch in Swansea.

Mark has developed the Arrhythmia service consistently and tirelessly over the last 20 years. This approach has been underpinned by a commitment to training and inclusivity of his medical colleagues and equity of access for

the services patients. (Image shows Dr Mitchell accepting his award).



Team of the Year Award was awarded to The Friarage Hospital, Northallerton Cardiac Rhythm Management Team Service.

The Friarage Hospital (FHN) is the smallest acute DGH in England providing health care for >120,000 people in rural North Yorkshire. The cardiology department is a fully integrated unit comprising cardiac investigation unit, outpatient and administration facilities.

The team has expanded to include 2 FHN based cardiologists, cardiac physiologists, specialist nurses (SpN), administrative staff and support workers providing a high-quality service, responsive to patients' needs, close to home. Since 2013, they have incrementally introduced key CRM service improvements in: Rapid Access Arrhythmia Service, Complex Device Patient Repatriation and Remote Patient Monitoring (RPM) Clinics and many more.

Volunteer of the Year Award was presented to Scottish member, Jane Bateson, in recognition of her outstanding fundraising success for STARS and her determination to raise awareness of the work we do.



After being diagnosed with PoTS herself, Jane has gone to great lengths to raise awareness of heart rhythm disorders. She spends all of her free time running a book swap at her local Co-op, and the money donated through this is donated regularly to STARS. So far, Jane has raised over £1000. Not only does she tirelessly fundraise for STARS, but she also works very hard to raise awareness through her local media and newspapers. Jane was responsible for her MP, Douglas Ross, attending the World Heart Rhythm Week event at parliament, and for being involved with STARS too. All of Jane's spare time is devoted to STARS, raising awareness and fundraising, and she deserves to win the award for volunteer of the year!

Lifetime Achievement Award was presented to Professor Robert Sheldon, cardiac arrhythmia specialist and Professor of Cardiac Sciences, Medicine and Medical Genetics at the University of Calgary, Canada and a Fellow of the Heart Rhythm Society. 2018 is STARS 25th Anniversary year and for most of those years STARS has been very privileged to benefit from Professor Sheldon's knowledge and appreciation of vasovagal syncope.

Every year, he flies over to attend Heart Rhythm Conference. He supports STARS Patients Days, contributing to the agenda, introducing new international speakers for us and presenting for STARS patients, who are always thirsty to hear about new research and his (on occasions!) controversial thoughts!



Celebrating 60 Years of the Implantable Permanent Pacemaker

Introduction

One of the great innovations in the past 60 years has been the permanent implantable pacemaker. A spectrum of cardiac devices has been developed from pacing technology. Pacemakers were the first, active, implantable device in the human body (Arzuaga 2014). The invention of the pacemaker has had a significant impact on quality and longevity of life. Pacing treats bradycardias that often present with loss of consciousness. The pacemaker sends an electrical impulse to the cardiac muscle to contract when the pacemaker senses a drop or slowing in the heart beat. This article will look at a brief history of cardiac pacing.

History of cardiac pacing

The history of pacing begins in the 1700's with the early work by scientist like Galvani who discovered electrical energy caused muscles to move, Volta who discovered metal conducted electricity, Faraday who pioneered electrochemistry and the electrode and Einthoven in the 1800's invented the prototype for taking modern ECG's (heart tracing).

By 1932 Hyman had built the first "artificial pacemaker". This used external electrodes and electricity to "resuscitate" the stopped heart. In the early 1950's, Zoll developed the first full, external pacing system. This could pace the heart on a regular basis. It was attached to the patient with external electrodes delivering uncomfortable electrical stimulus. A large, external box housed batteries and circuitry. The box needed to be plugged in to work and was cumbersome.

Parallel to developing the full, external pacing system, there was another advance which impacted on the urgent need to develop pacing. In the 1950's, there was an explosion in childrens heart surgery, which often resulted in the need for pacing. A solution was needed to the cumbersome, external pacing system. It was against this backdrop, Aarne Larsen became the first person to have an internal, permanent pacemaker implanted in 1958.



← Pacing Patient wheeling the original external pacemaker around the ward and a picture of a paediatric pacemaker patient with external pacing box. ↓



← Aarne Larsen with 1 of the first implantable pacemakers

Aarne Larsen's story is an amazing testimony to the history of pacing. Mr Larson was in his 30's, having, almost, daily black outs. His wife researched and heard about new developments in pacing. Mrs Larson begged Elmqvist, one of the leading scientists, to trial an implant of the first, permanent, pacing system in her husband. Mr Larson had the implant, having to go back for a second implant the next day. The battery

had only lasted 3 hours. With perseverance, and numerous implants over a life time, Arne Larsen became a voice for pacing. The internal, pacemaker implant meant he led a full, and normal life. Over Mr Larson's lifetime, he had 22 pacemakers, spanning, over the historic developments in batteries, leads and electrodes. He died at the age of 86 in 2001, having lived a full life. Pacing did not just keep a person alive but also improved quality of life.



↑Picture 3 pacemaker boxes since the 1950's (an external box on the left) to the ones implanted today (right)

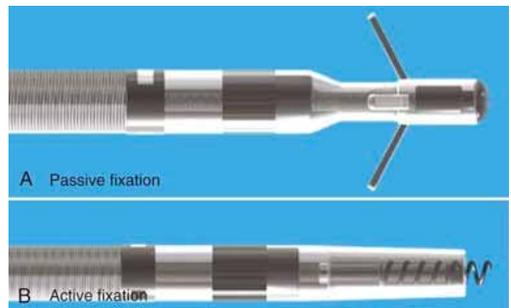
Since the original implant there have been advances in batteries, leads and programming improving the functioning and design of the pacemaker.

Batteries are crucial for a pacemaker to function. The pacemaker's power source needs to be stable, and not run down in 3 hours like Arne Larson's first pacemaker! The original pacemakers had nickel cadmium batteries, with a number of improvements over the decades (including experimenting with nuclear powered batteries (which were never commercialised). Today's pacemaker battery life, achieved with lithium, is at least 10 years. Lithium depletes predictably over a reliable time. There is ongoing research to further improve pacemakers' power source. One current concept is using piezoelectricity.

This is an electrical charge generated from motion. Piezoelectricity has the potential to produce energy from the heart's own beat to

power pacemakers. If developed, this would eliminate the need for a battery in the future. Pacemaker leads communicate between the heart muscle and a pacemaker box. These have been refined over the decades and leads today conduct well, have excellent insulation and are at minimal risk of fracturing. They have the integrity to sustain a lifetime of movement within the beating heart. Never the less, leads can move and, even with today's technologies, can break.

One challenge has been to develop leadless pacemakers. Two companies have trialled small implantable, leadless pacemakers. The first human implant was in 2013 (Arzuaga, P. 2014). The device is small, about 1/10th the size of the conventional pacemaker (see picture). The leadless pacemaker is implanted in the right lower chamber with a minimally, invasive procedure. In England, over the few years, the first leadless pacemaker implants have been successfully implanted. Leadless pacemakers are not suitable for every pacing patient. Leadless pacemakers are nonetheless an important and promising development in pacing.



↑Picture of passive & active fixation lead designs used in today's pacemakers



↑ Picture of leadless pacemaker

Programming

The original pacemakers had programming allowing the pacemaker to pace the heart at a heart rate of 60 beats per minute only. This did not allow for natural heart beat variation.

For example, at night the heart beat would normally lower whereas original pacing programme would keep the heart beat at 60 beats per minute. Modern programming now has a feature which reduces the heart rate at night so people with pacemakers can have a good night's sleep. Another modern pacemaker programming feature is detecting body motion and increase the heart beat to meet the body requirements. When we are active our heart rate naturally increases to meet the body's activity requirements. Old pacemaker programmed did not increase the heart beat to meet the demands of an active person with a pacemaker. Detecting body motion means active people with pacemakers lead a good quality of life.

The Medtronic Global Heroes webpage has many examples of active pacing patients (<http://www.medtronic.com/us-en/about/foundation/global-heroes/2016.html>). There is one wonderful story of Michael Shepherd, 51, whose pacemaker revolutionised his life. After having a pacemaker implant, he went on to complete his first extreme marathon in the North Pole last year!

Electro – Magnetic Interference

Electromagnetic interference, commonly abbreviated to EMI, occurs when an electromagnetic field generates sufficient energy to affect pacemakers. There are electromagnetic fields everywhere with field strengths varying enormously. Magnetic resonance imaging (MRI) has revolutionised imaging of the human body. Most of us will need an MRI at some point in our lifetime.

Unfortunately, pacemaker patients are at high risk of electromagnetic interference with an MRI scan. Until recently this has meant people with pacemakers could not have an MRI. There are now MRI safe pacemakers, increasing being implanted, meaning people can safely have MRI scans.

Home Monitoring

Developments in wi-fi have not just improved programming of devices. Monitoring of devices can now be done remotely from patients' homes (Beck et al 2008). Home, or remote, monitoring, downloads information from a small box in a patient's home to a secure server. This is then reviewed by a hospital cardiac physiologist, who can bring the patient in, if needed.

There have been developments from the history of pacing which have supported people with heart failure (biventricular pacing), protected people from sudden cardiac death (implantable cardioverter defibrillators) and help clinicians detect heart rhythm disturbances (implantable loop recorders). Pacing has an amazing history, having changed many people's lives.

Junctional Ectopic Tachycardia

Junctional Ectopic Tachycardia (JET) is a rare heart rhythm abnormality which occurs more in childhood than adult life. The most frequent time that it happens is immediately after surgery for congenital heart disease. However, it can occur as an isolated congenital phenomenon or after ablation for atrioventricular nodal re-entry tachycardia.

What is JET?

JET is characterised by a very fast heart rate (tachycardia) that originates within or very close to the atrioventricular (AV) node. The AV node is part of the heart's conduction system that usually slows down the naturally faster atrial (top chamber) rate as the impulse travels down to the ventricles. The result is the ventricles contracting at a much higher rate than normal.

JET usually starts in the few hours after surgery as a child warms up after returning from theatre. It is more likely after surgery near to the septal structures of the heart and is well recognised following ventricular septal defect (VSD), tetralogy of Fallot, truncus arteriosus or atrioventricular septal defect surgery. It is diagnosed by an electrocardiogram (ECG) – junctional tachycardia, rate 160-300, and atrioventricular (AV) dissociation. The rhythm arises from the "junction" or His bundle (it is sometimes called His bundle tachycardia) and probably occurs because this area has been irritated or bruised during surgery. The tissue starts to automatically fire off a fast-electrical impulse. This results in a tachycardia of the ventricles which may be dissociated from the electrical slower rhythm of the top chambers (atria). Sometimes both chambers are fast.



This abnormality of rhythm can significantly reduce cardiac output and make a child seriously unwell.

The rate of this rhythm is temperature sensitive and will slow down with cooling and speed up if a child is hot. Therefore, one option is to use cooling blankets to prevent fever. A target body temperature of 35 degrees Celsius is often helpful. It is also important to maximise pain relief and sedation keeping the child as calm and comfortable as possible.

The rhythm can be resistant to medicines, but intravenous amiodarone is often used to slow the heart rate.

For more information about Junctional Ectopic Tachycardia, please contact our patient services team to request our new JET factsheet on (0)1789 867 501, or email us on info@heartrhythmalliance.org

Left Cardiac Sympathetic Denervation (LCSD)

Left Cardiac Sympathetic Denervation (LCSD) is a type of treatment that may be offered to certain people by their cardiologist.

Typically, this procedure is discussed with you if you have Long QT syndrome (LQT), Catecholaminergic Polymorphic Ventricular tachycardia (CPVT), adrenergically triggered arrhythmia or if you are in or have survived a ventricular tachycardia storm.

It is usually not the first treatment suggested and reserved for patients who are intolerant of the first line medicines given or for patients who are not responding to treatment.

The treatment may also be considered for other conditions where there are unresponsive heart rhythm problems. The treatment can be offered to children or adults.

Patients offered LCSD are often on, or have tried, beta-blocking medicines to prevent the body's own adrenaline stimulating their heart and causing life-threatening heart rhythm changes.

During the procedure the nerves supplying adrenergic (adrenaline) stimulation to your heart are severed. This leads to a permanent disruption of the adrenaline supply to your heart and so this treatment will continue having an effect even when you forget to take your medicine.



We believe it may be very effective as an adjunct to medicine taken, so increase the degree of protection you receive.

The usual first step is to perform this on the left side as these nerves are more active in the body's response to fear or excitement. The right sided nerves remain fully working.

You will still be able to increase your heart rate as necessary to allow you to exert yourself and run etc. It aims to reduce or completely stop life-threatening heart rhythm problems.

The procedure is carried out by a surgeon in an operating theatre. The procedure will require a general anaesthetic and you will be asleep. There are different ways of performing a LCSD and your surgeon and cardiologist should discuss with you the exact method they intend to use.

For more information about left cardiac sympathetic denervation, please contact the patient services team to request our new factsheet by calling (0)1789 867 501, or email info@hearhythmalliance.org

My Roller-coaster Journey with SVT

My name is Sophie. I have been on a roller-coaster of a journey since I was 16. At the time, I suffered from depression and anxiety due to many reasons in my life just like thousands of other people out there.



One night I remember I started to feel something I had never felt before. What was this? It felt like someone was pushing all their body weight on my chest. My chest started to tighten, breathing seemed impossible and I had no idea what was wrong.

My dad took me straight to A&E who took these symptoms seriously and pretty much saw me straight away, they ran numerous blood tests and ECGs, however they found no sign of any abnormalities and dismissed it as a symptom of my anxiety. Four years passed by with the same symptoms, the same hospital trips, trips to the doctor's, and numerous amounts of Gaviscon as they also thought it was just heartburn.

At the age of 20 and after a referral to the cardiologist, I was fitted with a reveal device. The device looked like a little USB stick and sat in the pocket of tissue just under my skin above my heart and was used to record all my episodes of palpitations.

“My dad took me straight to A&E who took these symptoms seriously and pretty much saw me straight away.”

Eventually after all the readings the reveal device had captured, I was told I had SVT (Supraventricular tachycardia), although it's not life threatening it is not an experience you would want to go through. It varies for each individual but the only way for me to describe it is it's like your heart is trying to break through your rib cage and you can feel all of your energy being sucked out of you. Having an episode will make me sleep for the rest of the day as I feel completely lifeless.

After episodes of blacking out with the SVT I eventually went under the knife for an ablation. For the first time ever I saw my heart rate at 60bpm instead of the crazy 160-210bpm. Months passed and I felt so good, no symptoms just the odd flutter here and there where my heart was adjusting to the scar tissue inside. I went back to work, feeling like I could take on the world!

However that was not the end. Unfortunately this amazing feeling started to disappear after about six or seven months. I slowly began to feel the chest pains and palpitations come creeping back.

We were back to square one again.

In 2014, after nearly two years of more numerous tests and tablets, I was back at the Royal Brompton having a second ablation. After that, everything was fine until I was sat at work in the beginning of November 2015.

Just plodding along minding my own business when the chest pain came - first cramping in my left arm pit, then numbness creeping in

from my arm all the way to my fingertips and a strong pain in my jaw. I became clammy, colourless and dizzy, with of course a big helping of palpitations. I tried to remain calm in hopes it would pass- but it didn't.

I have now been put back on a stronger dose of Ivabradine and referred to Southampton where I've had a tilt test and another heart monitor. I am now still awaiting the results from these and await another meeting with my new cardiologist. At the age of 24 I still feel I am living the life of someone much older than I.

Sophie
Hampshire



Without Your Stories, We Have No Voice

We would like to thank everyone who has already been willing to share their stories with Arrhythmia Alliance. Reading about someone who has been through the same diagnosis, treatment and concerns can provide great reassurance, support and advice for others who are going through the same condition.

Would you be happy to share your story, and help others by doing so?

If you would like to share your story, or need any help at all, please email info@heartrhythmalliance.org or call 01789 867501

Thank you!

The Long and Winding Road - Afib and e-bikes



For a moment, as I near the crest of another hill on my bicycle, I reflect on the last few years. A period when I sometimes thought that I'd never really get back on my feet, let alone return to two wheels. Why?

Countless cardioversions and six surgical ablations, with the fifth in December 2016 going badly wrong.

So what's enabled me to get back in the saddle? Two things: one an electric bike, more of which in a moment; the second shifting from permanent to paroxysmal Afib following my sixth op at a new hospital in May 2018.

Prior to this, op five nicked the femoral artery at the top of my right leg/groin – a potentially fatal complication which unfortunately wasn't picked up until two weeks after leaving hospital. By then the internal bleeding was

so bad that, ironically, my naked lower trunk look like I was wearing black cycle shorts – even if cycling was far from my mind at that point!

“If you have concerns post-op, don't hesitate to follow up!”

“You didn't drive here, did you?”, the doctor asked when I returned to the hospital – the pressure on the car brake or accelerator pedal alone sufficient, apparently, to have popped the ballooning artery in my leg, killing me instantly. Blimey!

I was prepared for surgery a humdrum discussion about the possibility of losing my leg (“or worse”), followed by the groin surgery itself to mend the tear. A week in hospital, then a slow and sometimes painful recuperation at home.

“Afib- as many have written on the AFA website- can be a long and winding road”

Walking remained a huge challenge for the first six months. Even now, full recovery is still not quite there 18 months on, though I can walk normally now, and cycling helps, too. The moral of the story? If you have concerns post-op, don't hesitate to follow up!

Yet, now, as I push down on my pedals (and add a cheeky hit of the power 'boost' button) I can reach 13-14mph on the flat – and no hill has yet defeated me. I cannot describe my enjoyment when sporting but old shorts and top I encounter a group of MAMILs (Middle Aged Men in Lycra) going up a hill and I can effortlessly sweep majestically pass them to their evident surprise and confusion.

Seriously, though, Afib – as many have written on the AFA website – can be a long and winding road. For every friend who 'helpfully' tells you of someone they know whose 'had Afib and whose ablation allowed them 'back to the office/running marathons etc the next day', there are plenty for whom it feels like a potentially limiting and transforming, experience. No two days are the same.

None of my first five ablations lasted more than three months, before I returned to permanent tachycardia. The shortest lasted a rather insulting 12 hours. And what felt like dozens of cardioversions on top seemed like pointless diversions. Work, income, and mood all affected, too.

Rhythm control meds for me, for example, have caused severe tiredness and – I'm pretty sure – increases in Bisoprolol dosage have precipitated the onset of one period of depression, too.

So, as an occasional cyclist in the past, when I spotted the Cytronex e-bike 'kit' I thought I'd give it a go as an occasional alternative to walking. Even if you sweat on a bike, that's somehow more acceptable, I told myself.

The e-bike system – a tiny almost invisible and silent motor on the front wheel hub, and a battery looking like a water bottle, adds only 3.6Kg of weight and provides a discreet power boost beyond anything I could have imagined. And as a bonus, (as others have said in the AFA's Living with AF stories), I've discovered that exercise also seems to help end episodes of Afib, too.

“It's great fun and has put a smile back on my face”

I'm not yet at the end of my journey (a review of my sixth operation, having changed hospitals after op number five) is due in August 2018. Yet, wherever you are on your Afib travels – or even travails – why not give an e-bike a try? Obviously, check with your GP before any new physical activity as every Afib is different – but an e-bike could just be a bit of fun and even help you get back on the path of your choice. It's great fun and has put a smile back on my face.

Nick
Hampshire

Meditation, Mindfulness and Arrhythmia

Being diagnosed with an arrhythmia can not only have a huge physical impact on your life and body, but can also cause havoc in your mind. Common reactions include worry, fear, anxiety, depression, sadness, and even anger.

The diagnosis of an arrhythmia can come as a shock, especially if you have been conscious of your diet and tried to be fit, healthy and active in your life. It is important to know that these are common and very normal reactions.

However, a lot of people do not realise that emotional stress and anxiety play a huge role in what is happening in our bodies. Stress and anxiety can cause an increased release of stress hormones into our bloodstream and this interferes with normal heart rhythm and pumping strength.

“the best thing to do is to take control of your life”

For people with an arrhythmia, anxiety surrounding their condition can almost become part of the condition itself. The experience of having an ‘episode’ can lead to anxiety about having another episode, where and when it might be, how it might feel, or how they will control it. This creates more anxiety, which can have a negative impact on your condition, raising your heart rate, creating stress and sometimes is the cause of an episode.

Although it is far easier said than done, the best thing to do is to take control of your life, and try to manage any anxiety, stress, fear or anger you might be feeling. Meditation has many benefits, one of which, is reducing anxiety and stress. Meditation is an age-old practice in which you relax the body and calm the mind. During meditation, the body systems will slow down, the heart rate will slow and our breathing slows as our body relaxes and our mind lets go of stress.

“a lot of people do not realise that emotional stress and anxiety play a huge role in what is happening in our bodies”

Studies have found that gentle forms of yoga and exercises can help patients with an arrhythmia. Practising yoga can lead to a slight drop in systolic and diastolic blood pressure and can have beneficial effect on heart rate. Yoga is easy to learn, and can be practised while sitting in a chair. There are many different types of yoga, but all focus on three main practices: breathing, postures and meditation. It is widely accepted that yoga can dramatically reduce anxiety and stress, and in turn can help with your arrhythmia.

Yoga can help provide a powerful connection between the mind and the body, which can be very helpful for those with an arrhythmia.

Studies have shown that practising yoga for twice a week for 60 minutes at a time can help to lessen the frequency of episodes, as well as reduce blood pressure and heart rate.

It is recommended for beginners to start out by practising yoga for 15 minutes once a week, building up to as much as 90 minutes per day. It is important to check with your doctor before making any changes to your routine.

If yoga or meditation do not suit you, try using some simple relaxation techniques to help clear your mind and lower your heart rate and breathing. Relaxation can help to combat stress, anxiety and worrying, by releasing physical and mental tension. It is also very beneficial to your mental health and well-being, and helps you sleep better and improve your mood.

“studies have found that gentle forms of yoga and exercises can help patients with an arrhythmia”

Some relaxation tips include listening to some music, lighting a candle or some incense, having a massage, deep breathing, going for a walk, reading a book or simply talking to a friend or settling down to watch a film.

For many people, talking therapies such as CBT (Cognitive Behavioural Therapy) can be very useful ways to accept and adjust as well as possible to living with a condition. CBT can help if your mood has become low, and can help you to cope with some of the frightening symptoms of an arrhythmia. If this is the route you decide to take, your GP should be able to advise you how to access a suitable NHS therapist in your area.



What is the Effect of Iron Deficiency on the Heart?

We've all heard of iron deficiency, and most of us think of it as something that is not serious. However, could iron deficiency be causing your palpitations or a rapid heart rate?

Iron is a mineral that plays an important role in carrying oxygen and helps regulate cell growth. It is an important component of haemoglobin, the substance in red blood cells that carries oxygen from your lungs throughout your body.

Approximately two-thirds of the iron in the body is found in red blood cells. Iron deficiency occurs when the body does not contain enough iron to properly carry out proper body functions, and means that the red blood cells in your body cannot carry enough healthy oxygen.

When our bodies are lacking in iron, red blood cells cannot carry oxygen adequately, and the tissues and cells can become starved of oxygen.

As a result, the heart begins to pump harder to send out more red blood cells in an effort to make up for the missing oxygen in the tissues. This excess pressure and stress on the heart can result in abnormal heartbeats and heart palpitations.

Iron deficiency can be due to a diet lacking in certain vitamins, chronic conditions, menstruation, pregnancy, intestinal disorders such as Crohn's disease, and many other factors.

Iron deficiency can cause a variety of symptoms, such as fatigue, shortness of breath, dizziness, chest pain, coldness in the hands and feet, paleness in the nail beds, gums and skin, pale or yellowish skin, brittle fingernails, swelling of the tongue and increased frequency of infections.

However, iron deficiency can also lead to an irregular heart rhythm or rapid heartbeat, as your heart has to pump more blood to compensate for the lack of oxygen.

Treatment for iron deficiency focuses on correcting the iron deficit and restoring iron levels in the body. Mild iron deficiency can be successfully treated with the use of oral iron supplements or multivitamins as well as increased intake of iron in the diet. Foods rich in iron include beans, lentils, dark leafy vegetables, meat, dried fruit, nuts and seeds, brown rice and fortified breakfast cereals.



For severe cases of iron deficiency or deficiency caused by blood loss, blood transfusions may be needed.

Certain foods rich in iron and supplements may affect certain medications such as Warfarin, and certain medical conditions. If you are concerned that you may be iron deficient, please ask your consultant or doctor before making any changes.

If you develop signs and symptoms that point towards iron deficiency, please make sure to see your doctor. See your doctor for a diagnosis before taking iron supplements on your own, as overloading the body with iron can be dangerous too, and can cause damage to your liver.



Please consult your doctor if you are taking any other medications before increasing your iron intake.




**Atrial fibrillation
and you**





Providing information, support and access to established, new or innovative treatments for atrial fibrillation

www.afa.org.uk
Registered charity No. 1120462

AF Association's
AF & You booklet
won a prestigious award
with
British Medical Association

email: r.harris@heartrhythmalliance.org
for a copy.



Medical book awards
Commended

Fundraising Champions

Many thanks to our wonderful fundraising champions for supporting and raising money for Arrhythmia Alliance! We are so grateful to all of those who have donated their time and money, thank you! Thank you to all that have donated to Arrhythmia Alliance this year, no matter how large or small, it makes a huge difference!



Lucy ran the Great Manchester 10k marathon on the 20th May last year, raising an incredible £690! Lucy felt that she wanted to do something to raise awareness of arrhythmias and other heart conditions, as her father was diagnosed with idiopathic cardiomyopathy, and then sadly had a cardiac arrest in 2016. Lucy said that she decided to run for us, as we are a charity very close to her heart. A huge thank you to Lucy for running for Arrhythmia Alliance!



Amanda ran the Milton Keynes Marathon the 6th May last year, which was her first ever marathon. Amanda decided to get fit after turning 40, and made a decision to become more active and healthy. Amanda's close friend Helen had previously been diagnosed with AVRC, a rare heart condition meaning that she could no longer do intensive exercise, despite being a young, fit and healthy PE teacher. Amanda's father who has a heart condition and arrhythmia, along with Helen, had inspired her so much, that she felt compelled to challenge herself to run a marathon. Amanda did a fantastic job, raising a fantastic £1800!

Abbey organised her netball team's charity 'Love Ball' in February last year, and decided very kindly to donate all proceeds of the ball to Arrhythmia Alliance. In 2017, Abbey was diagnosed with Wolff Parkinson White syndrome, and came to Arrhythmia Alliance for information and support. Since then, Abbey has had ablations on both sides of her heart, and is doing very well. Abbey used the opportunity of the Love Ball not only to raise money, but to share resources, booklets and information, as well as raising awareness of both arrhythmias and the importance of knowing your pulse. Abbey and the team raised a brilliant £430!





Chris from Cheltenham raised an amazing £2750 by holding a fundraising dinner for funds towards placing a defib in his community, which is a cause extremely close to his heart. In 2017, Chris had suffered a sudden cardiac arrest while he was sleeping. His wife Sue and members of the emergency services had tried to resuscitate him for nearly an hour, when his heart started beating again. Mr Hickey was taken to hospital and placed in an induced coma, and when he was brought round was virtually unscathed! Congratulations for placing a defib in your community Chris, and thank you for raising awareness too!



Emma abseiled down the Spinnaker Tower in June, raising an incredible £1500 so far! After noticing that there was no AED within easy access in her local area, Emma decided to take matters into her own hands, and raise funds to buy this vital bit of life saving equipment. Emma was braver than we would be and did it all for an amazing cause! Emma is also planning a family golf day and a charity gig to raise money for Arrhythmia Alliance, and we wish you the best of luck! Well done Emma, congratulations!

FUNDRAISING PACK



There are numerous ways to fundraise for Arrhythmia Alliance! Marathons, bake sales, sky dives, readathons, clothes swaps, bike rides, quiz nights and giving up something you love are just a few of the things you can do. If you would like a fundraising pack, or to talk to someone about your fundraising ideas, send you request to info@heartrhythmalliance.org or call us on 01789 867 501

London Marathon 2018 Race Report



It was the hottest ever London Marathon, and the heat took its toll on thousands of runners - including me.

It was brutal, draining – and amazing. The sights and sounds along the way covered all extremes. The crowds, lining almost the whole 26 miles of the course, were inspirational. The noise was deafening at times. At the other extreme, the alarming sight of people sitting in the gutter, faces ashen, with their heads in their hands. Others lying semi-conscious, being attended to by the ever vigilant St John's Ambulance and race marshals (a shout out to them - great job in difficult circumstances).

The heat got to me fairly early, I assume it was dehydration. First 15 kms I kept to my planned pace, I felt ok. But then I rapidly lost energy, and there was nothing I could do about it. Very frustrating - my training and preparation had gone well and I was still running sensibly (I thought), slower than my long training runs. Obviously not slow enough! Just before the halfway mark I was feeling even worse, and a little light-headed. I thought I'd better play it safe - make sure I get to the finish, forget any target time. Good call as it turned out. I slowed down, and drank at least two bottles of water at every drinks station (which felt involuntary - the body took over and sucked it up). That brought the temperature and heart rate down, and allowed me to get round the rest of the course in one piece. Again, the crowds were amazing, the support was incredible and a big reason to keep going.

The other thing keeping me focused on finishing was running for a good cause. Why was I doing

this in the first place? I wanted to show everyone that you can run a marathon with AF. So I was determined not to prove myself wrong!

The knowledge of all the donations I'd received from people supporting the Arrhythmia Alliance kept me going too. At time of writing, the total's at £5,313. I'm overwhelmed by the generosity. A huge thank you to everyone who's contributed.

After the race, I met Rachel, from the Patient Services team at Arrhythmia Alliance and her daughter Meg. Rachel gave me the opportunity to run. I found out that the marathon is one of the main sources of funding for the Alliance, and I owe her a big thanks for making me part of the team. Some of the "big" charities have literally hundreds of runners. Arrhythmia Alliance and its sister charities, STARS and AF Association had just three – one for each. So it was important to make that really count.

Looking back now, what a great thing to be part of. In the 16 weeks from the start of this year till the marathon, I ran over 500 miles. I had all sorts of niggles, pains and discomfort. My family had to fit around my three hour training runs. I ran in rain, fog and snow, in temperatures ranging from 8 below up to a humid 26. It may not sound particularly appealing, but I thoroughly enjoyed it. And then the marathon itself, for all the reasons described above and a few more besides, was such a memorable experience. I finished in 4hrs 56mins. A little disappointing. I'd targeted under 4 hours and had the training to back that up, but it was not to be on the day. I'm not quite sure what went wrong in the race itself - the heat, too ambitious, not enough fluids or just bad luck. But whatever, it was a great feeling to cross the finish line. And I can genuinely say I don't think AF was a factor.

It certainly shouldn't stop you from engaging in serious exercise. I'm the fittest I've been for 20 years. Number one objective achieved.

Just one nagging doubt - I think I have to do another one...

Simon
London

Ways to Donate

Arrhythmia Alliance relies on donations to enable us to maintain our helpline, resources and support services to patients and carers.

- £5** will help to inform a family about a new diagnosis
- £10** will help provide personalised support via our helpline
- £25** will enable us to continue to develop our library of resources

Post: You can send a cheque payable to Arrhythmia Alliance to Unit 6B Essex House, Cromwell Business Park, Chipping Norton, OX7 5SR

Phone: To make a one-off donation over the phone, please call us on **01789 867501**

Payroll: Give as you earn, tax-free, straight from your Payroll. Email to find out more c.payne@heartrhythmalliance.org

Online: To donate online, please visit our JustGiving page: <https://www.justgiving.com/arrhythmia>



giftaid it

The Importance of Gift Aid Declaring Gift Aid increases your donations by 25% because the charity can reclaim the basic rate of tax on your gift. It will not cost you any extra. We can claim Gift Aid on most donations, but sadly we cannot claim Gift Aid on your annual or monthly "Friend of Arrhythmia Alliance" subscription, or on any purchases you make through us.

GIFT AID FORM

What can I do? You need to make a Gift Aid declaration for us to claim. You can do this by completing the form below. You can include all donations from the last four years as long as you were a tax payer. Visit <https://www.gov.uk/donating-to-charity/gift-aid> for more information.

Name:.....

Address:.....

..... Postcode:.....

*I want to Gift Aid my donation of £_____ and any donation I make in future or have made in the past 4 years to Arrhythmia Alliance

* I am a UK taxpayer and understand that if I pay less Income Tax and/or Capital Gains Tax than the amount of Gift Aid claimed on all my donations in that tax year it is my responsibility to pay any difference. Please notify us if you want to cancel this declaration, change your name or home address or no longer pay sufficient tax on your income and/or capital gains. Your address is needed to identify you as a current taxpayer.

Anyone Who Has a Heart



Cilla Black famously sung of the impact of the heart on our connections to others and our heart is one of the most written about, talked about, sung about organs in our body.

In everyday life we make constant reference to the heart when talking about important matters; it's the heart of the matter, we're in good heart, or when downhearted we lose heart. We tackle life wholeheartedly or if discouraged or de-motivated, half-heartedly. We put our heart into things or don't have the heart to do it. (That's' enough, Ed.)

Despite all of the above, the heart is simply a muscle whose job is to pump the blood round our system and it just carries on doing its job

until it stops. The problem for most of us is that we get little or no warning and when it does stop, particularly in the case of an out of hospital cardiac arrest (OHCA) it often has disastrous consequences.

I want to tell you the story of two people; one you may have heard or read about and the other you almost certainly won't. The first is Davide Astori, a gifted and popular footballer in Italy. He was the club captain of Fiorentina and had played 14 times for the national team.

On 6th March 2018 he went to bed alone in his hotel room before the game the following day against Udinese. When he didn't come down for breakfast with the rest of the team a colleague went to his room and discovered that he'd passed away during the night.

The first thoughts of the club and team was foul play as they were baffled by how a fit and healthy 31 year old could die without any apparent cause. However, the autopsy disclosed that he'd died from a cardiac arrest.

“by the time she arrived upstairs my heart had stopped as had my breathing”

The second person I want to tell you about is me. On the night of 15th June 2017, I went to bed with the happy thought of our summer holiday in Spain that was starting the next day. At 7:00am the next morning, I was asleep whilst my wife was downstairs making a cup of tea. She heard me struggling for breath and by the time she arrived upstairs my heart had stopped as had my breathing.

She immediately dialled 999 and was told to start CPR. She'd never done any First Aid courses and didn't know what this was. The call handler talked her through the procedure and she dragged me on to the floor and with the phone on speaker followed the instructions.

“I was airlifted to Bristol Heart Institute where I made a full recovery”

It is fortunate that we live very near a fire station, and they arrived on scene within 5 minutes and took over, continued the CPR and applied the first shock from the defibrillator they carry with them. Shortly

after the Paramedics arrived as well as the air ambulance and I was airlifted to Bristol Heart Institute where I made a full recovery.

It's quite hard to read the statistics for OCHA. **Last year 30,000 people experienced a cardiac arrest and only 2,400 survived.**

I've spent a lot of time asking relevant professionals what were the factors that help me survive? Their answer was pretty clear that the two key elements in the long chain of my survival were 1) my wife started CPR almost immediately and 2) the first shock with a defibrillator was within six minutes. Speaking to Dr Ed Valentine from the Gloucestershire and Wiltshire Air Ambulance who got my heart started, he was very clear that these were the first questions the air ambulance dispatcher asked before sending the helicopter. They won't go to an emergency OHCA without these two pre-conditions.

Since my experience I've come to appreciate the importance of having sufficient people trained in CPR with easy access to a defibrillator. In April last year, the daughter of a good friend organised a fundraising dinner to raise money to put a defibrillator in our local park. The response from family and friends was magnificent and we've managed to raise almost £4,000 and have just ordered our defibrillator from the Arrhythmia Alliance.

We're awaiting delivery any day now and will shortly be arranging for it to be attached to the pavilion in the park.

Chris
Gloucestershire

Arrhythmia Alliance Defibs Save Lives campaign aims to ensure that AEDs are in all public places so that life-saving equipment is available to everyone, whatever the time of day. Arrhythmia Alliance provides fundraising support in addition to information, advice and guidance to help make communities across the UK safer in the event of a sudden cardiac arrest. For more information about placing an AED in your community, please visit defibssavelives.org, or contact the UK team at info@heartrhythmalliance.org and the USA team at info-us@heartrhythmalliance.org

New Information Released November 2018

White Paper

A new White Paper on atrial fibrillation (AF)-related stroke, developed by a group of experts is now available. With at least one in five people aged over 40 expected to develop AF in their lifetime, this isn't an issue we can afford to ignore.

In 2013, stroke was responsible for 9% of all deaths in Europe. AF is associated with at least one in five strokes, and AF-related strokes tend to be more severe than other types of stroke.

The tools needed to detect AF exist, and there are effective therapies available to reduce the risk of AF-related stroke. However, inequalities still exist when it comes to detection and treatment. Much more needs to be done to ensure everyone with AF has access to the care they need. The White Paper calls on governments across Europe to express a formal strategy or position on AF-related stroke and address this significant challenge to the future sustainability of our healthcare systems. Find out more: <http://bit.ly/AFstrokeWP>



Healthcare Pioneers Report 2019

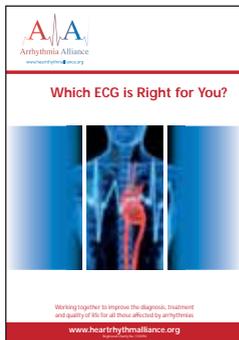
On Wednesday 21 November 2018, Trudie Lobban MBE, AF Association Founder and CEO, announced the winners of the "AF Association Healthcare Pioneers Report 2019 – Showcasing Best Practice in AF" at the All Party Parliamentary Group on Atrial Fibrillation meeting held in the Palace of Westminster, London.

Winners included programmes on the implementation of a secondary care service for screening, optimisation and support for prevention of AF-related stroke and the introduction and evaluation of a pharmacist-led anticoagulation initiation service in primary care.

To read the Healthcare Pioneers 2019 report and view the list of winners visit <http://www.hearhythmalliance.org/afa/uk/healthcare-pioneers-2019>

Healthcare professionals involved in the identification, diagnosis, management, treatment and care of patients with atrial fibrillation (AF) are invited to submit case studies for the AF Association Healthcare Pioneers Report 2020. This annual report demonstrates best innovative practice in all aspects of the field of atrial fibrillation and supports our objectives to "Detect, Protect, Correct, Perfect" and identify the unmet needs of people with AF.

Encourage your consultant or physician to submit a case study at <http://www.hearhythmalliance.org/afa/uk/healthcare-pioneers-2020>



New Publications

We have recently published several new resources, which are all available to download on the Arrhythmia Alliance website www.hearhythmalliance.org.

Our new factsheets include Junctional Ectopic Tachycardia (JET), Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT), and Left Cardiac Sympathetic Denervation (LCSD).

Our brand new combined booklets bring you all the information you need, now in one place! New booklets include Diagnosing Arrhythmias, Treatment Options for Arrhythmias, Arrhythmias: Understanding your Condition, and Devices for an Arrhythmia.

If you would like to order a copy of any resource, please let us know by calling us on 01789 867 501 or emailing info@hearhythmalliance.org



Social Media

You can also connect with us and other patients through various forms of social media. For instant updates and extra information, follow us on Facebook at facebook.com/ArrhythmiaAlliance, Health Unlocked at healthunlocked.com/hearhythmcharity and Twitter [@KnowYourPulse](https://twitter.com/KnowYourPulse)



Support Groups

For more information about arrhythmia support groups in your local area, please look on our website <http://www.hearhythmalliance.org/aa/uk> or call us on 01789 867501

Do You Have All Of Our Up To Date Resources?

Overleaf you will see a list of all our publications. If you find that you are missing any, or would like to ensure that you have the most up to date copies, please either complete the form below, call us on 01789 867501 or email c.payne@heartrhythmalliance.org



Resource order form

Name:.....

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..... Postcode:.....

Resources I would like:.....

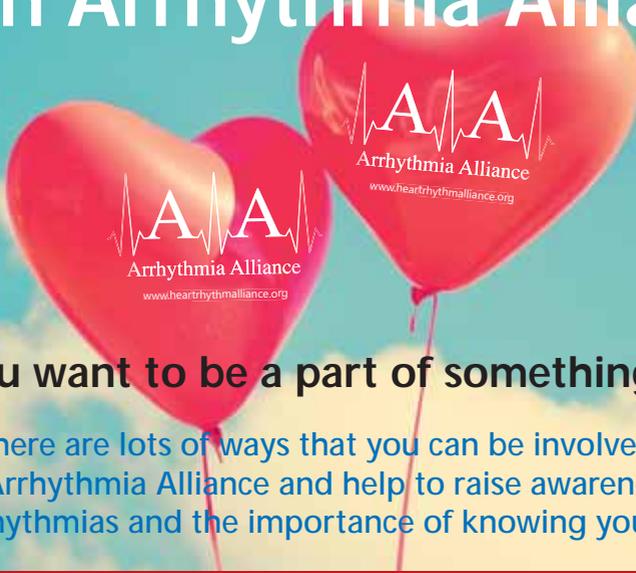
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How You can be involved with Arrhythmia Alliance!



Do you want to be a part of something special?

There are lots of ways that you can be involved with Arrhythmia Alliance and help to raise awareness of arrhythmias and the importance of knowing your pulse.

Here are some ideas of ways you can be a part of Arrhythmia Alliance:

- ♥ **Hold a Know Your Pulse event!** One of our most important campaigns is Know Your Pulse. The easiest way to detect an arrhythmia is to feel the pulse to feel your heart rhythm, is it uneven, too fast or too slow? More than three million Britons are affected by an arrhythmia, and many are unaware of their condition. By holding a simple Know Your Pulse event for Arrhythmia Alliance, you can help to identify the undiagnosed person, and potentially save a life! To arrange a Know Your Pulse event, email info@hearhythmalliance.org or call 01789 867501. See more information at www.knowyourpulse.org
- ♥ **Help to raise awareness!** Just by ordering a free patient resource pack from us and distributing it in your local area, you will be helping us to raise awareness of arrhythmias. You can hand out resources in your local hospitals, doctors' surgeries, community centres and sports clubs. To order your FREE patient resource pack, email info@hearhythmalliance.org or call 01789 867501.
- ♥ **Become a volunteer!** We are always on the look out for volunteers to help with many aspects of running our charity, whatever your capabilities are. Would you like to proof read new resources and newsletters for us? Are you willing to help out with events? Do you feel as if you can help us in raising awareness of arrhythmias? If you have any ideas or time, please get in touch by emailing us at info@hearhythmalliance.org or calling 01789 867501.