



Impact report:

Raising awareness of aortic dissection



What is aortic dissection?

The aorta is the largest artery in the body and carries oxygen-rich blood from the heart to the rest of the body. Aortic dissection (AD) is a rare but life-threatening condition where there is a tear in the inner wall of the aorta.

As the tear extends, blood may flow between the layers of the wall of the aorta, forcing the layers apart and creating a false passage or lumen. This can lead to reduced blood flow to organs and limbs or to catastrophic rupture of the aorta.

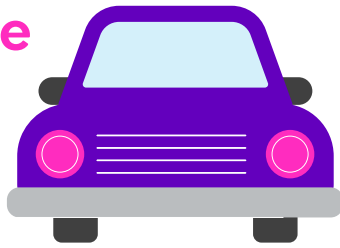
Facts about aortic dissection

 **3-5 cases per 100,000** every year in the UK



Around one third of cases of AD are misdiagnosed

AD kills more people in the UK each year than **road traffic accidents**



Around

20% – and – **50%**

of patients with acute AD die before reaching any hospital

die before reaching a specialist centre



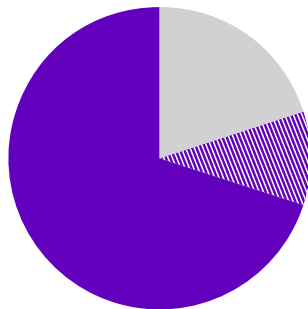
If untreated, the **mortality rate for acute type A AD is 1% every hour for the first 48 hours** – this means that **50% of patients will die within 48 hours if not operated on.**



2,500 cases every year in England

70-80%

long-term survival following surgery



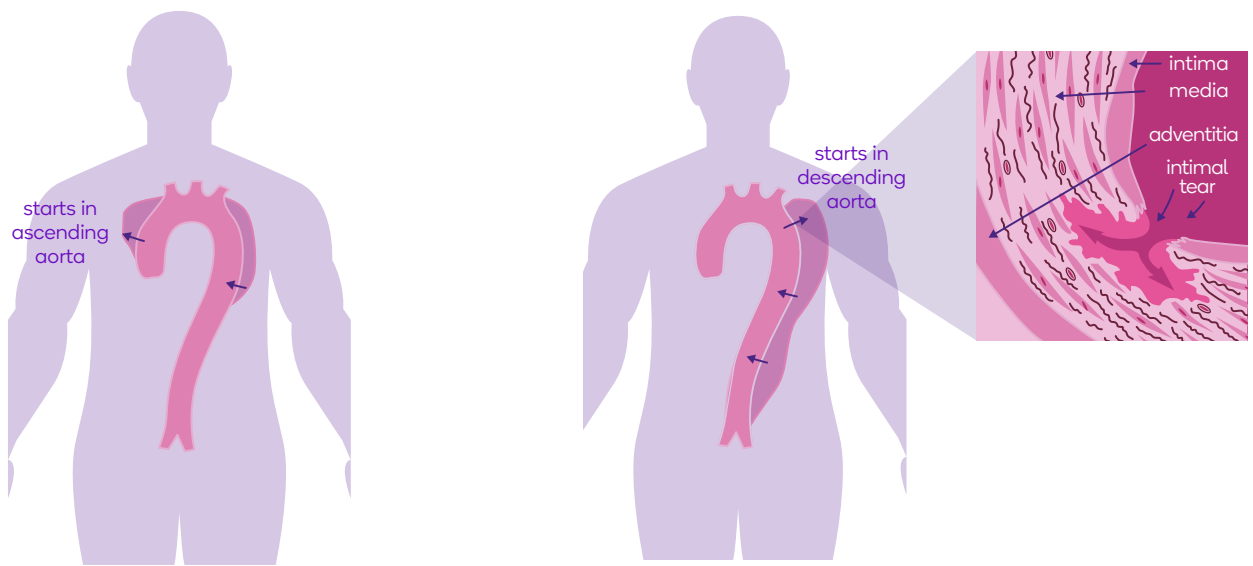
Diagnosis of aortic dissection

AD is an emergency that is often fatal when missed, so early diagnosis is vital for successful treatment and improving survival of patients. However, the signs and symptoms can be variable which can make diagnosis difficult. Typical symptoms include sudden, severe chest pain which can be mistaken for a heart attack. Staff in non-specialist hospitals are often unfamiliar with AD, which can delay diagnosis or lead to misdiagnosis.

There is evidence that a diagnosis of AD is considered in less than half of patients who present at hospital with AD and a third of patients with AD are misdiagnosed.

How is aortic dissection treated?

Treatment of AD depends on the part of the aorta affected.



Type A dissection is where the tear develops in the ascending aorta – the first part of the aorta as it leaves the heart. In these cases, the risk of rupture is high and surgery to repair the aorta is almost always needed. This typically involves open heart surgery to replace part of the aorta with a graft, although sometimes a less-invasive stenting procedure can be used. Left untreated, a type A dissection is almost always fatal.

Type B dissection is where the tear involves only the descending aorta - the part that runs down through the chest and abdomen. It may be treated with medicines initially, to lower blood pressure and reduce stress on the aorta, but some type B dissection patients will require surgery. Long-term, medically managed patients need regular check-ups, including CT or MRI scans, to monitor the aorta. If the dissection gets worse or there are any complications, then surgery is required. Although not as immediately life-threatening as type A, mortality for type B dissection is 25% after 3 years.

Facebook Aortic Dissection Support Group

For several years, Heart Research UK has worked with people affected by AD and their families and in 2017, set up the Facebook Aortic Dissection Support Group. The group now has 477 members and helps them to access information, share stories and support one another.

Partnership with Aortic Dissection Awareness UK & Ireland

Aortic Dissection Awareness UK & Ireland is the patient association for patients, relatives, and carers who have been affected by AD. Heart Research UK has a long-term partnership with the association, initially working together to establish the Aortic Dissection Awareness Day UK at the Royal Brompton Hospital in 2016, which is now a successful annual event. More recently, AD Awareness UK & Ireland and Heart Research UK joined forces for the 'THINK AORTA' campaign.

THINK AORTA Campaign

THINK AORTA was launched as an education and awareness campaign and is a unique collaboration between Aortic Dissection Awareness UK & Ireland, the Society for Cardiothoracic Surgery (SCTS), the Royal College of Emergency Medicine (RCEM) and Heart Research UK.

The patient-led campaign aims to improve patient outcomes and save lives by raising awareness of AD, focusing on the importance of early diagnosis within emergency medicine. It also highlights the need to routinely perform an urgent CT scan for a definitive diagnosis, if AD is suspected.

Misdiagnosis of AD is a global problem. Following its success in the UK & Ireland, the THINK AORTA campaign has now gone global, with the establishment of the THINK AORTA US non-profit organisation and teams actively working on THINK AORTA campaigns in Spain and Brazil.

THINK AORTA posters in A&E departments

A key part of the campaign involved the design, printing and distribution of a THINK AORTA poster for all 229 A&E departments in the UK and Ireland, to help educate professionals who see AD patients in the emergency setting. The posters remind them to consider the possibility of AD at an early stage and provide information on signs, symptoms and risk factors, to facilitate accurate and rapid diagnosis of AD.

With support from the Society for Thoracic Surgery, the American Association for Thoracic Surgery and the American College of Emergency Physicians, the THINK AORTA US team adapted the poster for the US healthcare system and distributed it to all 6,300 emergency departments in the USA.



Educating medical professionals

THINK AORTA also provides free, accredited learning resources for emergency medicine and radiology teams, paramedics and first responders, giving them the knowledge and skills to detect a time-critical, life-threatening AD and take appropriate action.

A podcast and an educational film were produced for the RCEM online learning platform. In the podcast, patients and health professionals share their experiences of AD. It rapidly became the most-downloaded podcast ever from the RCEM online learning platform. The educational film follows the optimum pathway of a patient suffering from an acute AD – from the 999 call, to paramedics, to emergency department triage, to differential diagnosis, to radiology CT scanning, to confirmed diagnosis, to transfer for surgery. The film showcases best practice, shares patient stories and is intended for use in induction programmes and training days.

A paramedic education module was developed and has been used to train over 500 paramedics and paramedic educators to date. The module has been accredited as part of several university degree courses and is being offered to all UK universities ahead of the requirement for all paramedics to have a degree being introduced on 1st September 2021.

The target audience for THINK AORTA educational resources includes paramedics, A&E staff, radiologists and surgeons who deal with AD patients in an emergency.

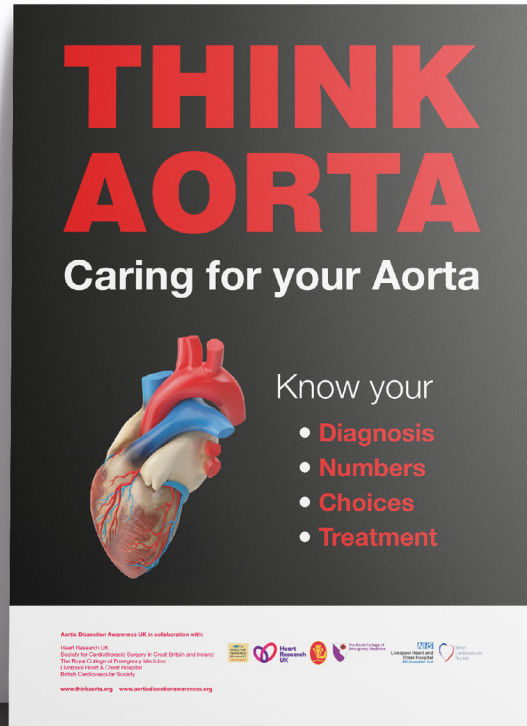


A&E staff THINK AORTA at University Hospital Wishaw

‘Caring For Your Aorta’ patient leaflet

Heart Research UK also supported and funded the production and distribution of an educational leaflet to help patients care for their own aortic health. This was created in collaboration with and approved by Liverpool Heart and Chest Hospital, the Society for Cardiothoracic Surgery, the British Cardiovascular Society and the Royal College of Emergency Medicine.

Leaflets have been distributed to 36 cardiac centres across the UK and Ireland to be given to patients, and there are plans to distribute leaflets to vascular centres throughout the country.



“THINK AORTA is a real lifesaver. We are so grateful to our partners at Heart Research UK for backing this patient-led campaign from the outset. For a relatively small investment, the campaign has already achieved far more than we could have imagined. With the momentum and support that THINK AORTA now has, I truly believe that we will make a global difference to this disease.”

Gareth Owens, Chair, AD Awareness UK & Ireland & Global THINK AORTA Campaign Lead

What has THINK AORTA achieved?

- 3,000 THINK AORTA posters sent to A&E departments in UK and Ireland.
- 7,000 downloads of RCEM learning podcast.
- 3,600 'Caring for Your Aorta' patient leaflets sent to cardiac centres in UK and Ireland.
- 500+ paramedics trained to THINK AORTA.
- THINK AORTA presented at national and international medical conferences (RCEM, FASSGEM, IAEM, EUSEM, STS, AATS, ECTSS).
- THINK AORTA education sessions conducted at UK hospitals and many A&Es prompted to create and embed their own learning programmes using THINK AORTA resources.
- THINK AORTA featured in a national investigation and report by the Government's Healthcare Safety Investigation Branch into delayed recognition of AD.
- HM Coroners reference THINK AORTA at inquests into the deaths of people from AD and cite THINK AORTA education as a requirement in 'Prevention of Future Deaths' reports.
- THINK AORTA team met with the former Secretary of State for Health and Social Care and gained his personal support for the campaign.
- THINK AORTA posters have appeared on TV in the BBC 'Junior Doctors' and Channel 5 'Casualty 24/7' programmes.
- THINK AORTA National Paramedic Lead was part of the team that produced the updated official Joint Royal Colleges Ambulance Liaison Committee (JRCALC) clinical guidance for vascular emergencies.
- As a direct result of THINK AORTA's influence, acute AD has been upgraded from an IFT3 to an IFT2 category call in the new NHS England Framework for Inter-Facility Transfers (IFTs). Patients with a time-critical AD will get quicker transfers for surgery as a result.

Summary

Every year in the UK, AD is responsible for over 2,000 deaths, which is more than the number of people killed in road traffic accidents. Many of these people are dying unnecessarily due to delayed diagnosis and misdiagnosis of AD. Through a unique collaboration between AD Awareness UK & Ireland, the SCTS, RCEM and Heart Research UK, the THINK AORTA campaign is saving lives by raising awareness of AD and the importance of rapid diagnosis in the emergency setting.



“Aortic Dissection kills more people in the UK each year than road traffic accidents and frankly, I don't think that awareness is high enough right now.”

Former Secretary of State for Health and Social Care

Further information

You can read more about the THINK AORTA campaign, listen to the podcast, watch the film and download the poster and patient leaflet by visiting www.thinkaorta.net

The RCEM educational programme can be viewed by clicking on this link

www.rcemlearning.co.uk/foamed/aortic-dissection-2/#1558359418241-74c17c2e-6191

Aortic Dissection Awareness UK & Ireland

www.aorticdissectionawareness.org/

For further information and references see Healthcare Safety Investigation Branch:

Investigation into delayed recognition of acute aortic dissection January 2020

www.hsib.org.uk/investigations-cases/delayed-recognition-acute-aortic-dissection/final-report

References

1. Thrumurthy SG, Karthikesalingam A, Patterson BO, et al; The diagnosis and management of aortic dissection. *BMJ*. 2012 Jan 11;344:
2. Howard DPJ, Banerjee A, Fairhead JF et al. Population-Based Study of Incidence and Outcome of Acute Aortic Dissection and Premorbid Risk Factor Control. 10-Year Results From the Oxford Vascular Study. *Circulation*. 2013;127:2031-2037
3. Sullivan PR, Wolfson AB, Leckey RD, Burke JL. Diagnosis of acute thoracic aortic dissection in the emergency department. *The American Journal of Emergency Medicine* 2000;18:46-50.
4. Zhan S, Hong S, Shan-shan L. Misdiagnosis of Aortic Dissection: Experience of 361 Patients. *The Journal of Clinical Hypertension* 2012;14:256-260
5. Bottle A, Mariscalco G, Shaw MA et al. Unwarranted Variation in the Quality of Care for Patients with Diseases of the Thoracic Aorta. *J Am Heart Assoc*. 2017;6:e004913
6. Howard DP, Sideso E, Handa A, Rothwell PM. Incidence, risk factors, outcome and projected future burden of acute aortic dissection. *Ann Cardiothorac Surg* 2014;3:278-284

Photos in this document are used with the permission of Aortic Dissection UK & Ireland and THINK AORTA.

Registered Charity No. 1044821. Registered Office: Suite 12D, Joseph's Well, Leeds, LS3 1AB.
Company limited by guarantee No. 3026813. Registered in England and Wales.

