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REPLACES: Version 1.1		HEAD OF DEPARTMENT: Miss Susan Drinkwater	
VALIDATED BY: Vascular Safety & Quality Group		DATE: 29 January 2021	
RATIFIED BY: Procedural Documents Ratification Group		DATE: 21 November 2021	
(NOTE: Review dates may alter if any significant changes are made).		REVIEW DATE: 30 November 2024	

AMENDMENT HISTORY				
Version No.	Date of Issue	Page/Selection Changed	Description of Change	Review Date
1.1	27/05/2022	Page 4- Admission Appendix 1	Clarify wording Pathway flowchart added	27/04/2022

Does this document meet the requirements of the Equality Act 2010 in relation to Race, Religion and Belief, Age, Disability, Gender, Sexual Orientation, Gender Identity, Pregnancy & Maternity, Marriage and Civil Partnership, Carers, Human Rights and Social Economic Deprivation discrimination? Yes

Document for Public Display: No

Evidence reviewed by Library Services 13/09/2021

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1. SUMMARY

Acute Aortic Syndrome refers to acute conditions of the thoracic aorta – including aortic dissection, ruptured thoracic aortic aneurysm, ulcerative plaque and intramural haematoma. It has historically been managed by cardiothoracic surgeons, and sometimes by cardiologists but with the advent of endovascular stenting, some cases are now being managed in vascular centres. This has led to some confusion about where to make a referral.

2. PURPOSE

To ensure a clear pathway for investigation, referral and management of patients presenting with Acute Aortic Syndrome (Acute Thoracic Aortic Pathology).

3. SCOPE

This pathway has been developed for the following Trusts:

- Lancashire Teaching Hospital NHS Foundation Trust (LTHTR).
- Wrightington, Wigan and Leigh NHS Foundation Trust (WWL).
- Blackpool Teaching Hospital NHS Foundation Trust (BVH).
- Royal Lancaster Infirmary (RLI).
- University Hospital of Morecombe Bay NHS Foundation Trust (UHMB).
- Westmorland General Hospital (WGH).

4. PATHWAY

Key Agreements

There has been increasing number of referrals to the vascular centre for patients with acute thoracic aortic pathology (Acute Aortic syndrome). These patients attend the local A&E/surgical department with different presentations. This document intends to provide a clear pathway for referral for these patients.

This pathway has been designed following detailed discussion of all involved parties regarding the best treatment of acute aortic syndrome.

The pathway is only to be followed for acute and emergency presentation and does not intend to cover the incidental findings (asymptomatic ascending or descending thoracic aortic aneurysm, dissection, penetrating ulcer, intramural thrombus). For asymptomatic incidental findings not requiring emergency referral in this pathway, refer to the local non-emergency cardiothoracic surgery service (provided by Manchester University Foundation Trust for WWL and by Blackpool for LTHTR, BVH, UHMB, RLI, WGH).

Definition:

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Acute aortic syndrome (AAS) describes a range of severe, painful, potentially life-threatening abnormalities of the thoracic aorta, which includes:

- Aortic dissection (Type A, Type B).
- Acute intra mural haematoma.
- Ruptured ascending or descending thoracic aortic aneurysm.
- Penetrating atherosclerotic thoracic aortic ulcer.
-

Presentation:

The patient's presentation could be different depending on the background pathophysiology and could be:

Severe chest and back pain, aortic insufficiency, collapse, pulse differential, myocardial ischemia, neurological signs, hypotension, hypertension mesenteric or lower limb acute ischemia

- Reviewed by middle grade/consultant (senior decision maker) in A&E or Ward
- History (co-morbidities, confirm diagnosis).
- Bloods (FBC, U/E, LFTs, amylase, CRP, clotting, cross-match, D-Dimer) and ECG.
- Good venous access (central venous line not always necessary), urinary catheter and arterial line.
- CT angiogram whole aorta.
- Diagnosis is confirmed.
- **Senior decision maker (middle grade or consultant) to contact the on call cardiothoracic team at Blackpool Victoria Hospital.**

Based on patient's presentation and possible treatments available, appropriate advice will be given by the cardiothoracic team regarding admission.

1. Admission

- Patients who are suitable for an open surgical intervention will be transferred to Blackpool Victoria Hospital cardiothoracic centre.
- Stable asymptomatic Type B dissection (most patients) with no mesenteric renal or acute lower limb ischemia should be admitted under the cardiology team at the referring hospital for blood pressure control and symptomatic management with a plan for repeat CT angiogram at Day 1, 3, 7 and 30 days post presentation. Clinical or scan changes should be discussed with on call cardiothoracic team at Blackpool Victoria Hospital.

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- If the patient requires complex endovascular or hybrid intervention that cannot be offered between Preston and Blackpool, the cardiothoracic surgeon at Blackpool will discuss with the aortic team at Liverpool and arrange transfer if appropriate.
- In type B dissection where endovascular treatment is appropriate (following discussion between the cardiothoracic consultant and the on call interventional radiologist (IR) and with agreement of the vascular surgeon) the vascular surgeon will contact the referrer and if appropriate, the patient will be transferred to Royal Preston Hospital for an urgent IR procedure.
- If the patient requires palliative care – admit and refer to palliative care team at the referring hospital.

2. Surgery

If patient requires immediate surgery:

- Plan immediate surgery
- Theatre category 1 with vascular/cardiothoracic anaesthetist

3. Post-Operative

- Admit to critical care or ward as per patient's need.

4. Discharge

This cohort of patients is likely to have co-morbidities, medical complications and often social issues. The principle of daily review, prompt referral to other specialty teams as appropriate and repatriation to the local trust once the vascular condition has been resolved should be adhered to.

4. Surgical Follow Up

Post op surgical review 6 weeks following surgery at local trust. Patient then discharged from the service or referred to appropriate surveillance program.

5. AUDIT AND MONITORING

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	Monitoring method	Individual responsible for the monitoring	Frequency of the monitoring activity	Group / committee which will receive the findings / monitoring report and act on findings.	Group / committee / individual responsible for ensuring that the actions are completed
	Prospective audit of workload	Professor N Bittar	Yearly	Vascular CRG	Vascular CRG

6. TRAINING

TRAINING		
Is training required to be given due to the introduction of this policy? No		
Action by	Action required	Implementation Date

7. DOCUMENT INFORMATION

ATTACHMENTS	
Appendix Number	Title
Appendix 1	Equality, Diversity & Inclusion Impact Assessment Tool
Appendix 2	Flowchart of Acute Aortic Syndrome pathway

OTHER RELEVANT / ASSOCIATED DOCUMENTS	
Unique Identifier	Title and web links from the document library

SUPPORTING REFERENCES / EVIDENCE BASED DOCUMENTS	
References in full checked by library 13/09/2021 ZM	
Number	References
1	Corvera JS. Acute aortic syndrome. <i>Ann Cardiothorac Surg</i> . 2016 May;5(3):188-93.
2	Thomas T. Tsai, Christoph A. Nienaber, and Kim A. Eagle, Acute aortic syndromes. https://doi.org/10.1161/CIRCULATIONAHA.105.534198 <i>Circulation</i> . 2005;112: (24) 3802–3813
3	Eduardo Bossone, Troy M. LaBounty, Kim A. Eagle, Acute aortic syndromes: diagnosis and management, an update. <i>European Heart Journal</i> , Volume 39, Issue 9, 01 March 2018, Pages 739–749d,

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4	Murphy, Michael C et al. "Acute Aortic Syndromes: Diagnosis and Treatment." <i>Missouri medicine</i> vol. 114,6 (2017): 458-463.
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DEFINITIONS / GLOSSARY OF TERMS	
Abbreviation or Term	Definition
AAS	Acute Aortic Syndrome
CRP	C-Reactive Protein
CT	Computerised Tomography
CVP	Central Venous Pressure
ECG	Electrocardiogram
FBC	Full Blood Count
LFTs	Liver Function Test
U/E	Urea & Electrolytes

CONSULTATION WITH STAFF AND PATIENTS		
Enter the names and job titles of staff and stakeholders that have contributed to the document		
Name	Job Title	Date Consulted
Vascular Safety & Quality Group		29/01/2021
Vascular Clinical Reference Group		27/04/2022

DISTRIBUTION PLAN	
Dissemination lead:	Graham Riding
Previous document already being used?	Yes
If yes, in what format and where?	Departmental T: Drive Network : PatientPass referral system
Proposed action to retrieve out-of-date copies of the document:	Archive versions on the T: Drive. Knowledge and library to upload this version to Heritage. PatientPass version to be updated
To be disseminated to:	Trust Wide
Document Library	
Proposed actions to communicate the document contents to staff:	Include in the LTHTR weekly Procedural documents communication– New documents uploaded to the Document Library Add document to the Vascular webpage

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Appendix 1

Equality, Diversity & Inclusion Impact Assessment Form

Department/Function	Vascular		
Lead Assessor	Iraj Zeynali		
What is being assessed?	Acute Aortic Syndrome		
Date of assessment	April 2020		
What groups have you consulted with? Include details of involvement in the Equality Impact Assessment process.	Equality of Access to Health Group	<input type="checkbox"/>	Staff Side Colleagues <input checked="" type="checkbox"/>
	Service Users	<input type="checkbox"/>	Staff Inclusion Network/s <input type="checkbox"/>
	Personal Fair Diverse Champions	<input type="checkbox"/>	Other (Inc. external orgs) <input type="checkbox"/>
	Please give details:		

1) What is the impact on the following equality groups?		
Positive:	Negative:	Neutral:
<ul style="list-style-type: none"> ➤ Advance Equality of opportunity ➤ Foster good relations between different groups ➤ Address explicit needs of Equality target groups 	<ul style="list-style-type: none"> ➤ Unlawful discrimination, harassment and victimisation ➤ Failure to address explicit needs of Equality target groups 	<ul style="list-style-type: none"> ➤ It is quite acceptable for the assessment to come out as Neutral Impact. ➤ Be sure you can justify this decision with clear reasons and evidence if you are challenged
Equality Groups	Impact (Positive / Negative / Neutral)	Comments:
		<ul style="list-style-type: none"> ➤ Provide brief description of the positive / negative impact identified benefits to the equality group. ➤ Is any impact identified intended or legal?
Race (All ethnic groups)	Neutral	
Disability (Including physical and mental impairments)	Neutral	
Sex	Neutral	
Gender reassignment	Neutral	
Religion or Belief (includes non-belief)	Neutral	
Sexual orientation	Neutral	
Age	Neutral	

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Marriage and Civil Partnership	Neutral	
Pregnancy and maternity	Neutral	
Other (e.g. caring, human rights, social)	Neutral	

2) In what ways does any impact identified contribute to or hinder promoting equality and diversity across the organisation?	
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3) If your assessment identifies a negative impact on Equality Groups you must develop an action plan to avoid discrimination and ensure opportunities for promoting equality diversity and inclusion are maximised.	
➤ This should include where it has been identified that further work will be undertaken to further explore the impact on equality groups	
➤ This should be reviewed annually.	

ACTION PLAN SUMMARY		
Action	Lead	Timescale

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HOW THE NHS CONSTITUTION APPLIES TO THIS DOCUMENT

WHICH PRINCIPLES OF THE NHS CONSTITUTION APPLY? Click here for guidance on Principles	Tick those which apply	WHICH STAFF PLEDGES OF THE NHS CONSTITUTION APPLY? Click here for guidance on Pledges	Tick those which apply
<ol style="list-style-type: none"> 1. The NHS provides a comprehensive service, available to all. 2. Access to NHS services is based on clinical need, not an individual's ability to pay. 3. The NHS aspires to the highest standards of excellence and professionalism. 4. The patient will be at the heart of everything the NHS does. 5. The NHS works across organisational boundaries. 6. The NHS is committed to providing best value for taxpayers' money. 7. The NHS is accountable to the public, communities and patients that it serves. 	<ol style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ ✓ ✓ 	<ol style="list-style-type: none"> 1. Provide a positive working environment for staff and to promote supportive, open cultures that help staff do their job to the best of their ability. 2. Provide all staff with clear roles and responsibilities and rewarding jobs for teams and individuals that make a difference to patients, their families and carers and communities. 3. Provide all staff with personal development, access to appropriate education and training for their jobs, and line management support to enable them to fulfil their potential. 4. Provide support and opportunities for staff to maintain their health, wellbeing and safety. 5. Engage staff in decisions that affect them and the services they provide, individually, through representative organisations and through local partnership working arrangements. All staff will be empowered to put forward ways to deliver better and safer services for patients and their families. 6. To have a process for staff to raise an internal grievance. 7. Encourage and support all staff in raising concerns at the earliest reasonable opportunity about safety, malpractice or wrongdoing at work, responding to and, where necessary, investigating the concerns raised and acting consistently with the Employment Rights Act 1996. 	<ol style="list-style-type: none"> ✓ ✓ ✓ ✓ ✓ ✓ ✓
WHICH AIMS OF THE TRUST APPLY? Click here for Aims	Tick those which apply	WHICH AMBITIONS OF THE TRUST APPLY? Click here for Ambitions	Tick those which apply
<ol style="list-style-type: none"> 1. To offer excellent health care and treatment to our local communities. 2. To provide a range of the highest standard of specialised services to patients in Lancashire and South Cumbria. 3. To drive innovation through world-class education, teaching and research. 	<ol style="list-style-type: none"> ✓ ✓ ✓ 	<ol style="list-style-type: none"> 1. Consistently deliver excellent care. 2. Great place to work. 3. Deliver value for money. 4. Fit for the future. 	<ol style="list-style-type: none"> ✓ ✓ ✓ ✓

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EMERGENCY ACUTE (THORACIC) AORTIC SYNDROME (AAS)

FLOWCHART of REFERRAL PATHWAY LANCASHIRE AND SOUTH CUMBRIA NETWORK (INCLUDING WIGAN)

version 2

