Worcestershire Acute Hospitals NHS Trust

GUIDELINE FOR THE MANAGEMENT OF PATIENTS WITH REGULAR BROAD-COMPLEX TACHYARRHYTHMIA

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and/or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Lead Clinician

Dr W Foster — Consultant Cardiologist

Approved by Cardiology Directorate Committee on: 9th October 2024

Review Date: 9th October 2027

This is the most current document and is to be used until a revised version is available

THIS DOCUMENT MUST NOT BE PHOTOCOPIED

PLEASE NOTE THAT ALL CLINICAL GUIDELINES / PROTOCOLS / POLICIES ARE ALSO AVAILABLE ON THE TRUST INTRANET

Key amendments to this guideline

Date	Amendment	By:
5th August 2015	Document extended for 12 months as per TMC paper approved on 22nd July 2015	TMC
July 2016	Document extended for 12 months as per TMC paper approved on 22nd July 2015	TMC
August 2017	Further extension for 12 months as per TMC paper approved on 22nd July 2015	TMC
December 2017	Sentence added in at the request of the Coroner	
June 2018	Document extended for 3 months as per TLG recommendation	TLG
October 2018	Document reviewed with no changes	Dr Aldhoon
5th Jan 2021	Document extended by 12 months in line with amendment to Key Documents Policy	Dr W Foster
26th August 2021	Document reviewed with no changes and extended by 12 months in line with amendment to Key Documents Policy	Dr Ammar

4th October 2021	Document approved for 3 years	Cardiology Directorate Meeting
9th October 2024	Document approved with no clinical changes	Dr Ammar

GUIDELINE FOR THE MANAGEMENT OF PATIENTS WITH REGULAR BROAD-COMPLEX TACHYARRHYTHMIA

INTRODUCTION

Regular broad-complex tachyarrhythmia (BCT) may be due to:

- Ventricular tachycardia (VT)
- Regular supraventricular tachycardia (SVT) such as atrial flutter or AV nodal re-entrant tachycardia (AVNRT) / atrioventricular re-entrant tachycardia (AVRT) with aberrant conduction (i.e. bundle branch block)

VT is usually but not always associated with structural heart disease or coronary heart disease.

BCT should be regarded and treated as VT unless strong evidence to the contrary exists (For example: response to adenosine or previous identical arrhythmia proven to be SVT with aberrant conduction)

PATIENTS COVERED

All patients with regular broad-complex tachyarrhythmia.

GUIDELINE

1. Assess the patient.

2. If the patient is pulseless (i.e. in cardiac arrest) perform **immediate** defibrillation or if a defibrillator is not immediately available start immediate CPR and call for the cardiac arrest team. (Follow guidelines for cardiac arrest)

3. Otherwise, record appropriate history.
   Clinical examination: record heart rate, BP, signs of heart failure? signs of lung disease? Unless the patient is severely compromised, record a good quality 12 lead ECG and label with the patient's identity, date and time.

4. The choice of immediate treatment is determined by the clinical state of the patient. In the presence of **adverse features** (e.g. systolic BP <90, persistent chest pain, acute heart failure) seek expert help with a view to **immediate synchronised cardioversion**. This will require conscious sedation or general anaesthesia: check when the patient last ate or drank and keep nil by mouth; call for anaesthetics support if required.

If arrhythmia persists or recurs after attempted cardioversion (maximum 3 shocks) start intravenous amiodarone 300 mg over 20-60 minutes, followed by 900 mg over 24 hours. Amiodarone should be given by central venous cannula (alternatives include long lines or drum catheters); in emergency situations it is acceptable to give the loading (20-60 minute) dose peripherally via a large bore cannula. Obtain urgent in-patient cardiology assessment.

5. If the arrhythmia is well tolerated, consider vagal manoeuvers (For example: carotid sinus massage, CSM) / intravenous adenosine to unmask an SVT with aberrant conduction. CSM or adenosine should be carried out with continuous ECG monitoring to document the response. CSM is contra-indicated in the presence of a carotid bruit or documented carotid artery disease. Adenosine should be given as a 6mg rapid IV bolus, increased to 12mg if 6mg is ineffective. If the arrhythmia has been shown **definitely** to be SVT with aberrant conduction (For example: by termination with CSM / adenosine, or if flutter waves are revealed), treat as for narrow-complex regular tachycardia or atrial flutter as appropriate. Note that asthma / COPD is a contra-indication to adenosine use.

6. If the arrhythmia is tolerated well (no adverse features as in 4) consider drug therapy first. Use amiodarone 300mg intravenously over 20-60 minutes, if necessary followed by infusion of 900 mg over 24 hours. Continue to monitor vital signs and record 12-lead ECGs at intervals during treatment. Arrange cardioversion if adverse features develop. Amiodarone should be given by central venous cannula (alternatives include long lines or drum catheters); in emergency situations it is acceptable to give the loading (20-60 minute) dose peripherally via a large bore cannula.

7. If treatment restores sinus rhythm record a 12-lead ECG and continue to monitor vital signs and cardiac rhythm. Consider and investigate the possible cause of BCT. Correct electrolyte imbalances, especially K and Mg.

8. Patients admitted with BCT should be seen by a cardiologist as early as is practicable during their admission. Many of these patients will require consideration of implantable cardioverter-defibrillator therapy before discharge from hospital.

9. When a patient presents with a self-terminating regular BCT that has been documented in the community or in the ambulance, assess the patient. Refer to the cardiology service for advice on further investigation and treatment.

Worcestershire Acute Hospitals NHS Trust

CONTRIBUTION LIST

Key individuals involved in developing the document

Name	Designation
Will Foster	Consultant Cardiologist

Circulated to the following individuals for comments

Name	Designation
Tony Scriven	Consultant Cardiologist
Dzifa Abban	Consultant Cardiologist
Jasper Trevelyan	Consultant Cardiologist
Helen Routledge	Consultant Cardiologist
Imran Ahmad	Consultant Cardiologist
Dave Smith	Consultant Cardiologist
Mike Zairis	Consultant Cardiologist
Rose Johnson	Consultant, Emergency Department, WRH
James France	Consultant, Emergency Department, WRH
David Jenkins	Acute Physician
Miguel Marimon	Acute Physician
Jane Savage	CCU sister
Clare Alexander	CCU sister

MONITORING TOOL

STANDARDS:

Item	%	Exceptions
12-lead ECG recorded during arrhythmia	100%	Collapsed patient
Cardioversion for high-risk features	100%	Expert advice against
Early in-patient cardiology assessment	100%	None
Copy ECGs given to patient where appropriate	100%	None
Copy ECGs sent to GP	100%	None
Patient information leaflet given	100%	None

It is the responsibility of every individual to ensure this is the latest version of the document

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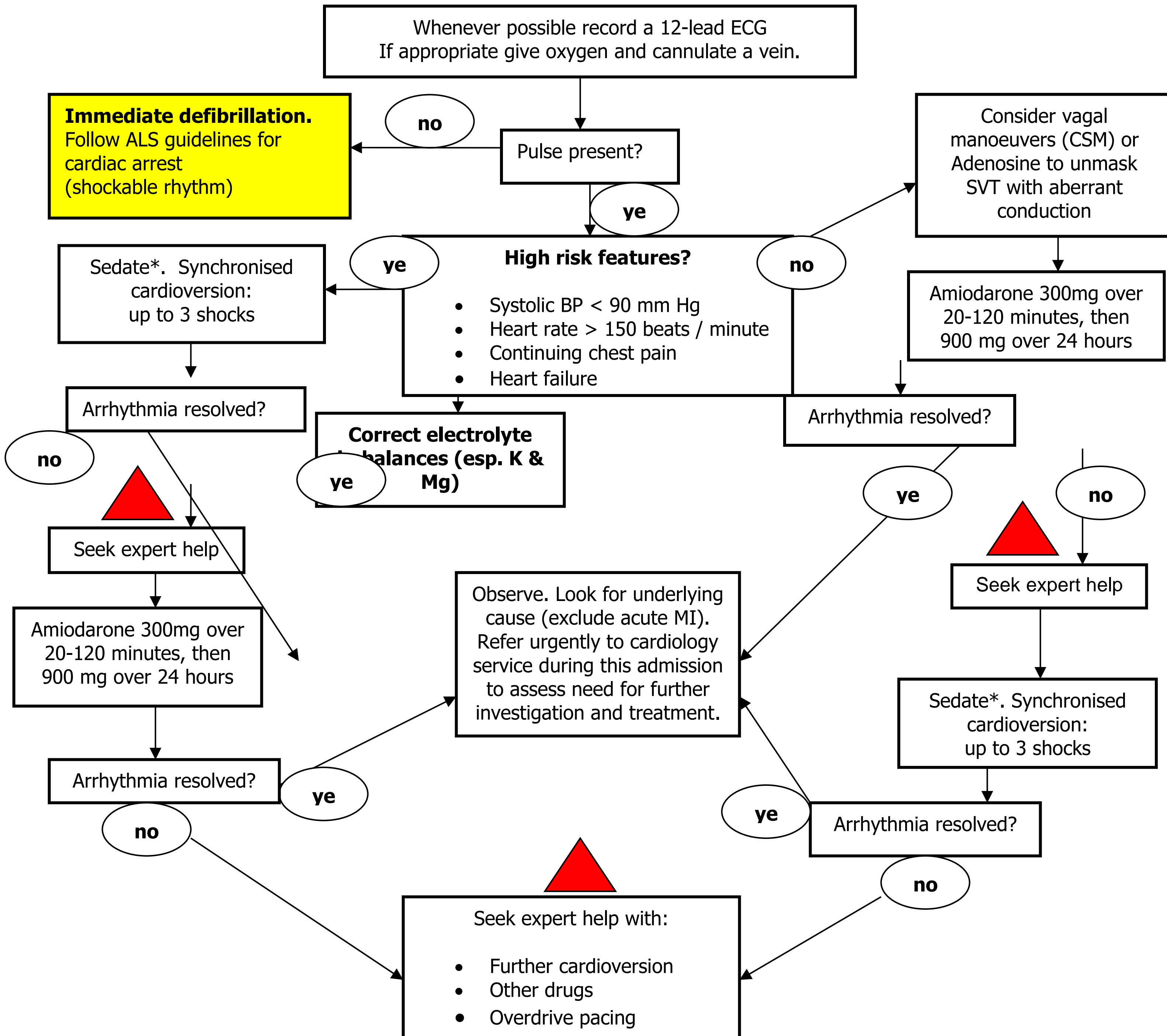
Regular broad complex tachycardia



*** NB Unless patient is unconscious, cardioversion should always be performed under sedation or general anaesthesia. Call an anaesthetist if appropriate.**

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Dr Ammar/ Dr Will Foster**

Details of individuals completing this assessment	
	Name | **Job title** | **e-mail contact**
Date assessment completed	**05/11/2021**

Name	Job title	e-mail contact

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** GUIDELINE FOR THE MANAGEMENT OF PATIENTS WITH REGULAR BROAD-COMPLEX TACHYARRHYTHMIA
What is the aim, purpose and/or intended outcomes of this Activity?	See body of document

Who will be affected by the development & implementation of this activity?	❑ x ❑ ❑	Service User Patient Carers Visitors	❑ ❑ ❑ ❑	Staff Communities Other ______________________
Is this:	x Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?			
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	See body of document			
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	See body of document			
Summary of relevant findings	See body of document			

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age				No impact
Disability				No impact
Gender Reassignment				No impact
Marriage & Civil Partnerships				No impact
Pregnancy & Maternity				No impact

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Race including Traveling Communities				No impact
Religion & Belief				No impact
Sex				No impact
Sexual Orientation				No impact
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic deprivation, travelling communities etc.)				No impact
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)				No impact

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
		.		
How will you monitor these actions?	**N/A**			
When will you review this EIA? (e.g in a service redesign, this				

EIA should be revisited regularly throughout the design & implementation)	

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation
1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.
1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	
Date signed	05/11/2021
Comments:	Completed on behalf of document owners
Signature of person the Leader Person for this activity	
Date signed	
Comments:	

Supporting Document 2 - Financial Risk Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of Document:	**Yes / No**
1.	Does the implementation of this document require any additional Capital resources	No
2.	Does the implementation of this document require additional revenue	No
3.	Does the implementation of this document require additional manpower	No
4.	Does the implementation of this document release any manpower costs through a change in practice	No
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	No
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration before progressing to the relevant committee for approval