Document Title:	**Policy for Arrhythmia Nurse led Elective Direct Current Cardioversion (DCCV) with conscious sedation in Adults at the Essex Cardiothoracic Centre (CTC)**		
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Contributes to HSC Act 2008 (Regulated Activities) Regulations 2014(Part 3); and CQC Regulations 2009 (Part 4) **CQC Fundamental Standards of Quality and Safety:**			(Insert no. of Standard)
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Consulted With:	**Post/ Approval Committee/ Group:**	**Date:**
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Related Trust Policies (to be read in conjunction with) **Basildon & Thurrock University NHS Hospitals Foundation Trust (BTUH)**	(Refer to the main body of the text) **1.** Guidelines for Administering Moderate Sedation in Adults **2.** Safe sedation practice for healthcare procedures – AMRC **3.** Consent to examination or treatment Policy **4.** Guideline for management of medicines pre and post electrophysiology (EP) procedures

Document Review History:			
Version No:	**Authored/Reviewer:**	**Summary of amendments:**	**Issue Date:**

Contents

1 Introduction

This policy sets out the clinical and operational principles of a Nurse led elective direct current (DC) cardioversion service with conscious sedation on Thames ward, CTC for patients with atrial arrhythmias.

There are historical precedents of other health care professionals other than doctors being trained to safely use defibrillators and deliver this type of treatment. Moreover, there are centres where nurse led cardioversion is practised safely.

Presently, an adhoc elective cardioversion is provided at the CTC in Thames ward Day Unit for Arrhythmia tertiary patients, already under the care of the Electrophysiology (EP) team.

The rationale behind the development of allowing an experienced Arrhythmia Nurse Specialist to consent and perform DC cardioversion under conscious sedation at the CTC, is to provide continuity of care for the patients who see the Arrhythmia nurses in pre-assessment, to relieve time pressures on Doctors who currently provide the service and to facilitate prompt treatment and discharge of patients avoiding unnecessary delays

2 Scope

The purpose of this document is to:

- Purpose 1 – Ensure cardioversion and conscious sedation is delivered in a safe environment
- Purpose 2 - Practice is in keeping with legal, professional requirements and Trust policy.
- Purpose 3 - Ensure staff are aware of training and competency needs of undertaking this procedure.
- Purpose 4 - Ensure education and safe practices are ongoing and monitored

3 Definitions

TERM	DEFINITION
Electrical cardioversion	Electrical cardioversion is the application of energy via the defibrillator which starts off a process by which the heart muscle is shocked in order to revert it from an irregular rhythm back to a normal sinus rhythm.
DOAC	Direct oral anticoagulant refers to a group of anticoagulant medications.
Synchronised	A method of synchronising the delivery of electrical energy simultaneously to patient's rhythm which is essential in patients with a cardiac output requiring cardioversion. Once the Sync button is activated, the defibrillator machine will track the patients "R" wave and ensure the delivery of energy is at a specific point to avoid causing or inducing ventricular fibrillation

4 Roles and Responsibilities

Chief Executive

As the Trust Accountable Officer has overall responsibility for ensuring the MSB group of hospitals has robust, complete and up to date procedures in place to govern and guide activities so that legal and national requirements are met.

Lead Electrophysiology Consultant will take overall medical responsibility for the nurse led DC cardioversion service, providing that it conforms to all of the instructions and arrangements laid out within this operational policy.

Head of Nursing

Responsible for ensuring the policy is disseminated throughout the Division and that the required monitoring and audit are undertaken, with the resources provided to support this.

CTC Matron

Lead Nurses are responsible for ensuring that all nursing staff within the Clinical Service Unit complies with the contents of this document and for taking action when this is not the case. They will make sure that all necessary training is provided.

Nursing Staff

Nursing staff have the responsibility to ensure patients receive evidence based care at a high standard. The nursing staff should also, therefore adhere to, implement and assist in the delivery of this guideline and the associated clinical procedures. They must identify any restrictions/risks in implementing the guideline or its associated procedure and identify personal limitations. They are also responsible for addressing educational needs to ensure optimal therapy is delivered to maximise patient's comfort

5 Policy

This Policy covers the use of intravenous Fentanyl and Midazolam as the choice of sedation drugs administered for Nurse led DC cardioversion. To refer to Guidelines for administering Moderate Sedation in Adults for this combination (Appendix 1).

Inclusion Criteria

Patients referred into this service have either suffered atrial arrhythmia recurrences following catheter ablation or are for symptom assessment once sinus rhythm is maintained, to establish whether they are suitable candidates for long term rhythm treatment with catheter ablation. These are **elective patients only** already under the care of the EP team.

Exclusion Criteria

This policy **does not** cover the following:

- Inpatients (Non elective patients)
- Urgent unplanned cardioversions

In addition, the following patients **should not be referred** for nurse led cardioversion under sedation:

- GCS <15
- BMI >40
- History of chronic heart failure EF <30% (NYHA IV)
- Abnormal liver function tests

- History of large hiatus hernia (diagnosed on Endoscopy)
- Acute renal failure
- History of obstructive sleep apnoea
- Any condition requiring home oxygen therapy
- History of myasthenia gravis or any neuromuscular disorders
- Craniofacial deformity
- Cervical spine deformity

Airway Assessment

An airway assessment will be undertaken in pre assessment clinic to accurately assess whether patients are suitable to receive intravenous moderate sedation. Patients **will not be appropriate for nurse led cardioversion with moderate sedation should they trigger any of the following** during the airway assessment:

- Saturations <95 % on room air
- Previous difficult airway or airway alert form
- Restricted range of head and neck motion
- Mallampati IV
- Mouth opening < 3cm distance between incisors
- Thyromental distance < 6cm
- Respiratory rate at rest > 25 breaths per min
- Any other clinical concerns, for example other airway compromising conditions following airway assessment (Appendix 2), history of excessive alcohol/ drug abuse, or unable to lay flat.

Should any of the above triggers be identified, the Consultant Anaesthetic team will be notified by the Patient Activity Team (PAT) to review medical notes with the exclusion trigger made clear for consideration of potential anaesthetic support (requirement for general anaesthetic or not) for these individuals. Regardless, **these patients will undergo Doctor led cardioversion** to be booked in a cardiac laboratory setting.

6 Room equipment requirements

- Side room on Thames ward Day unit

- Biphasic defibrillator (maximum energy 360J) with facility for external pacing (via pacing pads)
- Full arrest trolley and suction equipment (to be checked on the procedure day) and airways readily available
- Tiltable examination couch/bed/trolley
- Oxygen and mask
- ECG monitor and electrodes
- Blood pressure monitor
- Oximeter
- Clipper for removal of chest hair before positioning of defibrillator pads
- Drugs as per Guidelines for Administering Moderate Sedation in Adults

7 Staffing Requirements

It is mandatory to have 2 members of staff (Arrhythmia Nurses) in the room. One person should be ALS trained and the other at a minimum ILS trained. For this reason it is essential that all staff present are clear on role definitions:

One Arrhythmia nurse will be responsible for sedation administration, including effects, side effects and airway management.

The second Arrhythmia nurse will be responsible for monitoring, undertaking the cardioversion and procedure documentation.

8 Pre assessment management

All elective patients will attend a nurse led pre assessment clinic prior to cardioversion. A patient information Trust booklet on cardioversion will be sent to the patient with admission details prior to pre-assessment. Documentation of the clinic appointment will be recorded using the elective Dc cardioversion integrated care pathway (ICP) and consist of the following:

- ECG documentation of arrhythmia
- Bloods taken for baseline U&Es (specifically K, TFTs, LFTs, INR).
- History of arrhythmia, symptoms, other medical history and list of medications.

- Reinforce fasting and pre procedure medication instructions in accordance to guidelines
- Airway assessment guiding (Appendix 2) suitability for conscious sedation
- Explanation of procedure, counselling and discussion on benefits and procedural complication risks

For patients unable to attend a pre assessment appointment, a telephone pre assessment may be considered. This will only be applicable to patients who have had a previous recent cardioversion and where airway status for conscious sedation has already been established. Recent blood results must be available or provided through local GP.

Anticoagulation instructions

Warfarin - patients are advised to undertake weekly INR monitoring. Three consecutive weeks of therapeutic INRs ≥ 2.0 are required.

DOACs - strict compliance confirmed. Must be a minimum of 3 weeks **uninterrupted** treatment before cardioversion.

Should sub therapeutic INRs or any dose omissions to DOAC be identified in clinic, the procedure will be cancelled. Patients will be relisted once therapeutic anticoagulation without any dose omissions (minimum 3 weeks) has been achieved.

U&Es

If the potassium level is outside normal range (3.5 – 5.3 mmol/L) to review medications and discuss with Consultant regarding management with aim to correct. It will be necessary for repeat blood tests on day of admission if plan is to proceed. If bloods are still not in the target range the procedure will be cancelled.

Patients with existing cardiac implantable electrical devices (CIED)

Cardioversion of patients with implantable defibrillators and pacemaker devices is safe when appropriate precautions are taken. A pre cardioversion device check will be undertaken for patients who have not had a device check within the last 6 months. This will booked in advance by the PAT administrators on notification from the Arrhythmia Nurses.

According to recent research, a very low risk of shock related complications has been demonstrated in patients with CIED's undergoing elective cardioversion. Therefore, a post device check will only be required if the need for reprogramming has been identified or if there is suspicion of device malfunction post cardioversion. In the event either occurs, the post device check can be performed by the device bleep holder.

9 Admission to Day Unit

All patients will attend Thames ward and assigned to a side room. The following will be undertaken by the Thames ward nursing staff in preparation for procedure:

- ECG on arrival confirming arrhythmia
- Baseline observations- BP, heart rate, O2 saturations and respiratory rate.
- Place patient in hospital gown
- Chest hair clipped if necessary (antero- posterior pad position)
- IV cannula inserted (placed on opposite side to BP cuff)
- Complete and sign pre procedure checklist on DC cardioversion ICP
- Check INR if on Warfarin

Obtaining Consent

The standard BTUH Consent Form 1 for Adults will be used to document written consent. This will be obtained by the Arrhythmia Nurses as they have the required specialist knowledge, experience and will be undertaking the cardioversion. To undertake consent, compliance with Trust requirements as covered in the Consent to examination or treatment Policy must be adhered.

Patients will be invited to sign the form before treatment, preferably on the day of procedure or at pre admission clinic. If a form is signed in pre admission clinic, before the patient has arrived for treatment, the Arrhythmia nurse **must** check with the patient if they have any further concerns on admission. This is particularly important if there has been a significant lapse of time between the consent being signed in pre admission clinic and the day of cardioversion. When checking consent at this stage, the individual carrying out the cardioversion should review and confirm the patient fully understands the procedure and

countersign the form. A copy of the decision making consent page must be given to patient. Consent Form 1 to be documented by Arrhythmia Nurse as follows:

The intended benefits: To restore an irregular rhythm to a regular rhythm.
Potential complication risks (local statistics):

- Skin irritation or burns 1- 2%
- Thromboembolism- Stroke 1%
- Unsuccessful
- Abnormal fast or slow heart rhythm 1- 2%
- Relapse to irregular rhythm 50%

Further information that should be conveyed to patients at consent should include that with cardioversion under moderate sedation, a state of altered consciousness occurs where they may experience some elation, euphoria and amnesia. Although, they may be sleepy and calm, there may be some pain and that they might remember the procedure.

10 The DC Cardioversion procedure under sedation

Two Arrhythmia nurses will be involved with the procedure (one responsible for managing airway/ IV moderate sedation administration and one responsible for undertaking the cardioversion). DC cardioversion will take place in Thames ward side room. The following will be undertaken:

- BP Cuff (placed opposite to arm with cannula) and O2 saturations monitoring will be attached to the patient. Baseline observations to be recorded prior to commencement of the cardioversion.
- Anticoagulation status confirmed and compliance to DOAC therapy documented through a 'Patient Declaration of Compliance to Therapy' form (Appendix 2).

Pad position/ monitoring leads
Anteroposterior (AP) pad position is the preferred placement. The AP position: a single pad placed to the right of the sternum and the other pad placed between the tip of the left scapula and the spine. This generates a stronger shock field in the left atrium rather than anterolaterally positioned electrodes and restores sinus rhythm effectively.

In patients with implanted cardiac devices, to protect devices and lead systems against current shunt during shock application, a strict anterior-posterior pad position will be adopted. Current recommendations advise positioning the external defibrillator pad at least 10 cm away from the device. The device will only need a post check if any suspicion of device malfunction or need for reprogramming identified.

- Patient will be attached to the cardiac defibrillator via 3 leads for monitoring rhythm also.
- The defibrillator will be set to synchronised mode.
- A rhythm strip documenting arrhythmia will be obtained.
- Prior to IV sedation administration a WHO Surgical safety checklist will be completed as illustrated in Appendix 3.
- Cannula will be flushed with 0.9% Sodium chloride and moderate sedation will be administered by the nurse responsible for airway management in accordance to Sedation Guidelines**.**
- Following administration of IV Moderate sedation recording of vital signs to occur within 2 minutes then at least every 10 minutes in accordance to sedation guidelines.
- Once patient is adequately sedated resulting in a depressed level of consciousness but where they can be easily rousable on verbal command, the appropriate energy will be selected and delivered by the nurse responsible for cardioversion (Figure 1. Overview of procedure).

Selecting appropriate energy

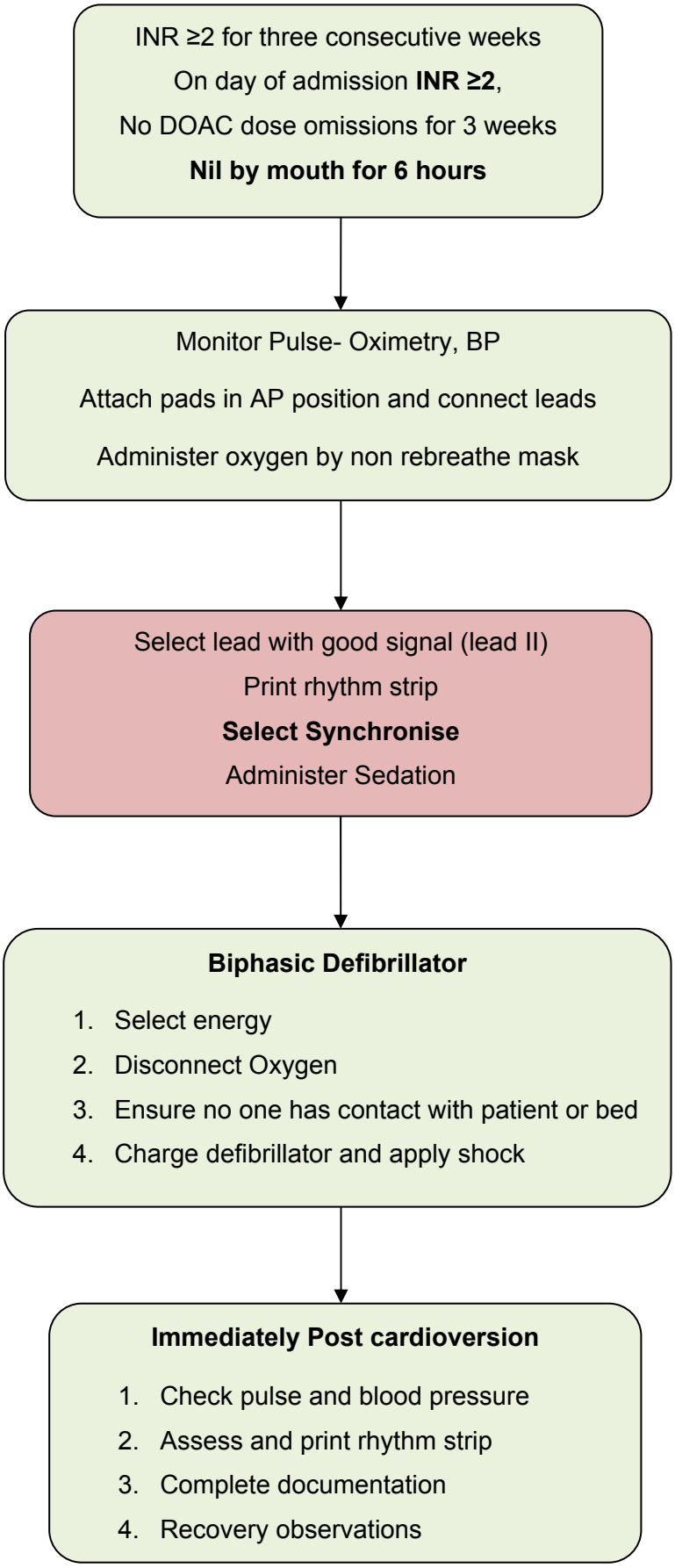
Atrial flutter – initial 150J, second 150J shock, if unsuccessful increase to 200J shock for third attempt.

Atrial fibrillation – 200J with all three attempts

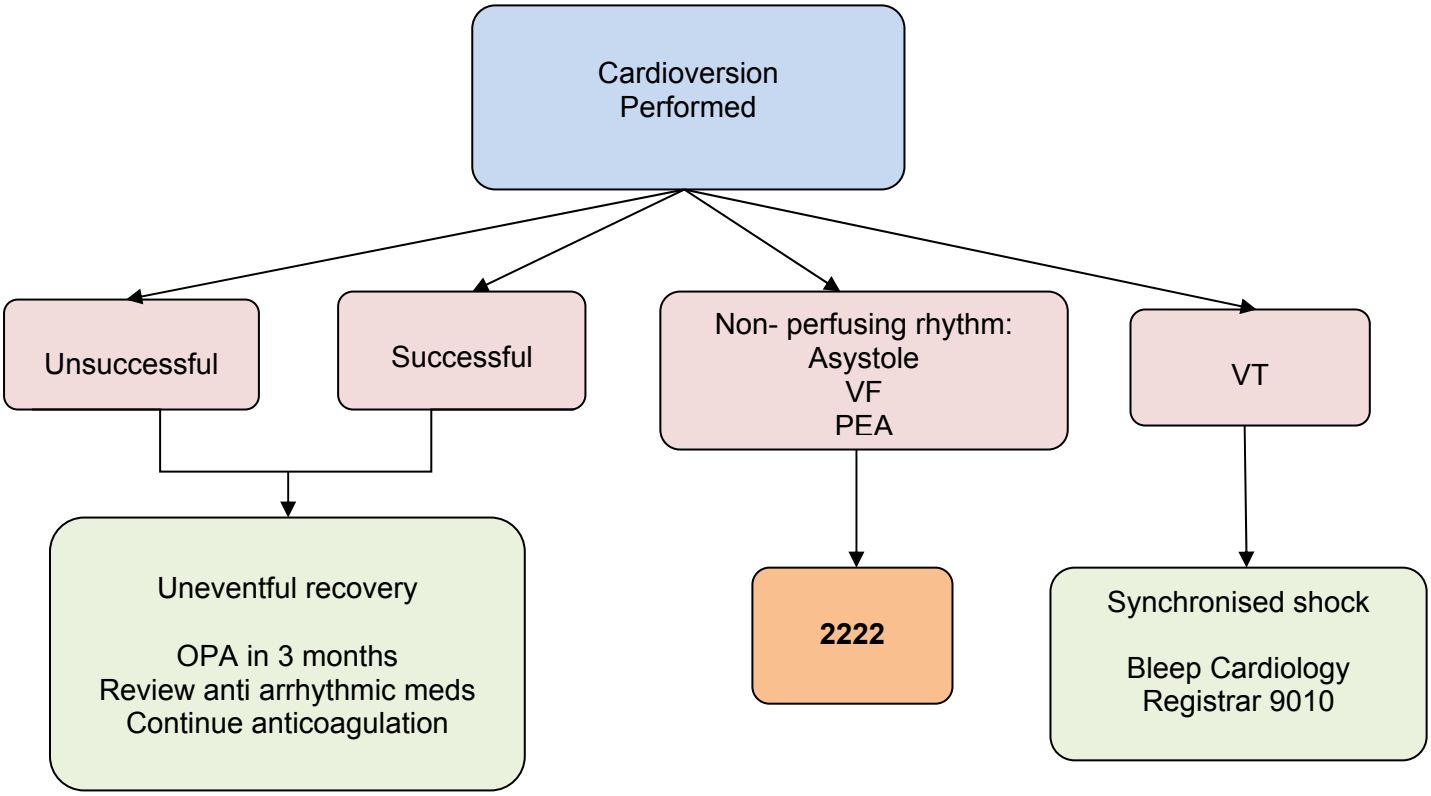
If first shock is unsuccessful, further shocks may be delivered and if necessary further sedation (as in sedation policy). In the event that the second shock is unsuccessful and no sinus beats are seen immediately following charge delivery, changing position of pads to alternate combinations vectors can be considered.

- Stop shocking once heart rhythm converts back to sinus rhythm or after a maximum of three shocks
- A further rhythm strip will be obtained.

Figure 1. Overview of DC cardioversion procedure



The possible clinical outcome, and need for medical intervention are outlined below:



11 Post procedure Recovery

Once the cardioversion procedure is completed, the basic day unit protocol for recovery post sedation will be immediately followed. The patient remains on Thames ward for observation and the Arrhythmia nurses remain with the patient until:

- The Arrhythmia Nurse gives handover to Thames ward nurse with details of observations, rhythm status and drugs given.
- Ensure documentation of cardioversion and sedation drugs in ICP is accurate
- Satisfied with patient conscious response and clinical observations
- Organise post cardioversion device check for patients with an implantable cardiac device **only** if need identified (suspected malfunction or reprogramming requirement).

Thames ward staff are responsible for:

- Continued observations and cardiac monitoring in accordance to the post sedation recovery protocol (monitored for the first hour with 15 minutely observations).
- Undertaking a repeat 12 lead ECG (plus a copy for patient)
- Assess when patient is alert to safely eat and drink
- Ensure patient is safe to mobilise prior to discharge
- Completing discharge checklist

12 Assessment and management for Discharge

The patient is deemed fit for discharge when they have satisfied the agreed post sedation criteria including the following:

- 12 lead ECG prior to discharge
- A final review by the Arrhythmia nurse to clinically assess patient, review medications and heart rhythm.
- All patient should remain on anticoagulation (warfarin or DOAC) until reviewed in an outpatient clinic appointment.
- An outpatient appointment in the respective Consultant-Arrhythmia Nurse follow up clinic (SJHAR, DJFAR, and SCTAR) will be arranged for three months' time.
- Post cardioversion advice is reiterated by the Arrhythmia nurse.
- All patients should be advised not to drive, operate heavy machinery, drink alcohol or make important decisions for 24 hours post sedation and be accompanied home by relative or carer.
- All procedural treatments and aftercare should be recorded in the ICP and medical documentation.
- Discharge summary completed by the Arrhythmia Nurse and given to patient with a formal letter dictated and sent to GP.
- Patients can be discharged when fit approximately 2 hours post procedure.
- Electronic Audit will be completed for data collection.

13 Training Requirements

Essential:

- One person must be Advanced Life Support (ALS) trained and currently certified
- One person must be Immediate Life Support (ILS) Certified
- One person must be a Non-Medical prescriber
- Moderate sedation qualification/training
- Specialist Cardiac skills,- Advanced ECG and rhythm recognition
- Completed Airway assessment competencies in management of patients undergoing sedation and IV moderate sedation administration competencies
- Completed competencies for DC cardioversion

Cardioversion competencies will be assessed by individuals performing 5 DC cardioversions each. Assessment will be undertaken by Electrophysiology Consultants or Registrars (Appendix 4). Moderate sedation administration competencies are assessed by completing 3 supervised IV administrations for the Midazolam and Fentanyl drug combination. Assessment will be undertaken by the Consultant Anaesthetists (as stated in Sedation guidelines). Airway assessment skills will be assessed by Anaesthetists and having completed 3 supervised advanced airway assessments.

14 Monitoring and Audit

Compliance to the policy will be monitored on a continuous basis by the Arrhythmia Nurses and outcomes documented via electronic record. Clinical incidents that should be reported and investigated should include: use of flumazenil to reverse sedation, as a surrogate marker of midazolam over sedation; sustained drop in oxygen saturation <90%; unplanned instrumentation of the airway or intervention of an anaesthetist or other airway expert; unplanned admission to hospital following a procedure under sedation. The number of cases performed, the rate of complications of this sedation, including the incidents referred to above will be monitored. Auditable outcomes include:

- number of procedures performed by each operator
- use of flumazenil
- use of naloxone
- need for mechanical ventilation

From a cardioversion perspective, the following data will be included:

- Cardioversion activity- number of procedures performed
- Cardioversion outcome (successful/unsuccessful)
- Complications
- Number of CIED reprogramming or malfunction post cardioversion
- Analysis of medical intervention required

15 Approval and Implementation

Approval of this document will be through the CTC Clinical Governance group.

This document will be available electronically on the Trust intranet and staff will be informed of any updates.

16 References

AHA/ACC/HRS (2014) Guidelines for the management of patients with atrial fibrillation. Circulation. Available at https://www.ahajournals.org/doi/full/10.1161/CIR.0000000000000041 Accessed online 25/03/2019

BHRS (2016) Safe Sedation in Modern Cardiological Practice - Focus on Arrhythmia Care Procedures. Available at http://www.bhrs.com/files/files/Guidelines/Cardiology%20Sedation%20-%20May%202015.pdf Accessed online 25/03/2019

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Luker J, Sultan A, Plenge T, Van den Bruck, Heeger C, Meyer S, Mischke K , Tilz R, Nolker G, Schaffer B, Willems S, Steven D (2018) Electrical cardioversion of patients with implanted pacemaker or cardioverter-defibrillator: results of a survey german centres and systematic review of the literature. *Clinical Research in Cardiology*, 107:249 Available at https://link.springer.com/article/10.1007/s00392-017-1178-y Accessed online 25/04/2019

NICE Guidance (2014) Atrial fibrillation: management. Available at https://www.nice.org.uk/guidance/cg180/chapter/1-recommendations#rate-and-rhythm-control-2 Accessed online 25/03/2019

Appendix 1

Fentanyl and Midazolam Administration

Drug	Dosage		Reconstitution and Administration
	Adults	Elderly or debilitated	
Fentanyl **100mcg/2ml**	Initial 25-50mcg Supplemental 50mcg. Up to a maximum of 200mcg	The initial dose should be reduced. The effect of the initial dose should be taken into account in determining supplemental doses	**Reconstitution** May be diluted with sodium chloride 0.9% or glucose 5% **Rate** Slow Intravenous injection over 3-5 minutes.
Midazolam **5mg/5ml**	**<60 years**	**≥60 years, debilitated or chronically ill**	**Reconstitution** Ready diluted
	Initial dose: 2 – 2.5 mg Titration doses: 1 mg Total dose: 3.5–7.5 mg	Initial dose: 0.5–1 mg Titration doses: 0.5–1 mg Total dose: <3.5 mg	**Rate** Slow intravenous injection at 1mg in 30 seconds.

Refer to online Medusa injectable Medicines Guide for further information on administration.

It should be noted that this protocol does not allow the dosage range to exceed:

200 micrograms of Fentanyl and 7.5 mg Midazolam.

If additional sedation is required over the recommended dosage in this protocol the Clinician should use their judgement to decide whether the case should continue, if there is a requirement for an Anaesthetist to be contacted for assistance, or if the procedure should be abandoned.

It must also be noted that:

- Midazolam cannot be administered until at least 2 (two) minutes post Fentanyl administration (to assess respiratory depression effect)

Taken from BTUH Guidelines for Administering Moderate Sedation in Adults.

Appendix 2 Airway Assessment

PACEP AIRWAY ASSESSMENT				
	Yes	**No**	**N/A**	**Comments**
Oxygen saturations >95% on room air				
Uncomplicated previous intubation or sedation with no documented difficulties/alerts				
Unrestricted range of head/neck motion				
Mallampati <IV				
Mouth opening >3cm (distance between incisors)				
Thyromental distance >6cm				
Respiratory rate <25/min at rest				
Any other concerns				
If answered No to any of the above, patient is NOT suitable for nurse-led cardioversion and should be referred to Anaesthetic team for review				
Completed By: **Name:** **Signature:** **Job Title:**				

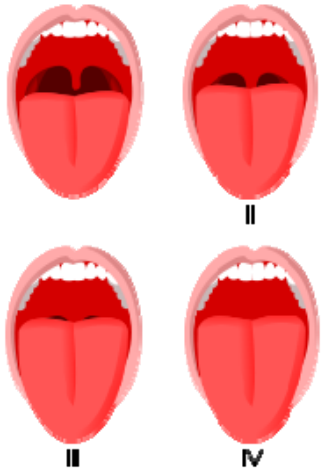
SPECIAL CONSIDERATIONS				
	Yes	**No**	**N/A**	**Comments**
Bearded				
Elderly/frail				
Snorer				
Dentures				
Mental Health issues				
Learning disabilities?				
ASA (Only ASA I, II & III can be sedated by non-anaesthetists)				Score .....
Any other concerns				
Completed By: **Name:** **Signature:** **Job Title:**				

Taken from Pre-assessment / Pre- Procedure Integrated Care Pathway (ICP) for Patient's undergoing Elective DC Cardioversion V1 p8

Affix patient label here or complete patient details
Surname:
First Name:
Date of Birth: / /

BTUH No: NHS No:
Ward: Consultants initials:

Class I: Soft palate, uvula, fauces, pillars visible.
Class II: Soft palate, uvula, fauces visible
Class III: Soft palate, base of uvula visible.
Class IV: Only hard palate visible



ASA Classification		Examples:
ASA I	A normal healthy patient	Healthy; no smoking, no or very minimal drinking.
ASA II	A patient with mild systemic disease	Smoker; more than minimal drinking; pregnancy; obesity; well controlled diabetes, well controlled hypertension; mild lung disease.
ASA III	A patient with severe systemic disease, not incapacitating	Diabetes, poorly controlled hypertension; distant history of MI, CVA, TIA, cardiac stent; COPD, ESRD; dialysis; active hepatitis; implanted pacemaker; ejection fraction below 40%; congenital metabolic abnormalities.
ASA IV	A patient with severe systemic disease that is a constant threat to life	Recent history of MI, CVA, TIA, cardiac stent; Ongoing cardiac ischemia or severe valve dysfunction; implanted ICD; ejection fraction below 25%.
ASA V	A moribund patient who is not expected to survive without the operation	Ruptured abdominal or thoracic aneurism; intracranial bleed with mass effect; ischemic bowel in the face of significant cardiac pathology..
ASA VI	A patient who has already been declared brain-dead and whose organs are being removed for transplant.	
The addition of an 'E' indicates emergency surgery.		

Table - 1 : Airway-compromising conditions

Congenital :	
Pierre-Robin syndrome	Micrognathia, macroglossia, cleft soft palate
Treacher-Collins syndrome	Auricular and ocular defects, malar and mandibular hypoplasia
Goldenhar's syndrome	Auricular and ocular defects, malar and mandibular hypolasia
Down's syndrome	Poorly developed or absent bridge of the nose, macroglossia
Kippel-Feil syndrome	Congenital fusion of a variable number of cervical vertebrae, restriction of neck movement
Goiter	Compression of trachea, deviation of larynx/trachea
Acquired :	
Infections:	
Supraglottis	Laryngeal oedema
Croup	Laryngeal oedema
Abscess (intraoral, retropharygeal)	Distortion of the airway and trismus
Ludwig's angina	Distortion of the airway and trismus
Arthritis:	
Rheumatoid arthritis	Temporomandibular joint ankylosis, cricoarytenoid arthritis, deviation of laynrx, restricted mobility of cervical spine
Ankylosing spondylitis	Ankylosis of cervical spine, less commonly ankylosis of temporomandibular joints, lack of mobility of cervical spine
Benign tumors: Cystic hygroma, lipoma, adenoma, goiter	Stenosis or distortion of the airway, fixation of larynx or adjacent tissues secondary to infiltration or fibrosis from irradiation
Malignant tumor, Facial injury, cervical spine injury, laryngeal/tracheal trauma	Edema of the airway, hematoma, unstable fraction(s) of the maxillae, mandible and cervical vertebrae.
Obesity	Short thick neck, redundant tissue in the oropharynx, sleep apnea
Acromegaly	Macroglossia, prognathism
Acute burns	Oedema of airway

Taken from Pre assessment / Pre-procedure ICP for Patient's undergoing Elective DCCV V1 p9

Appendix 3

Basildon and Thurrock University Hospitals NHS
NHS Foundation Trust

Affix Patient ID Label wholly inside this region

Family Name:

Given Name

BTUH Hospital No: Gender:

NHS No: DOB: / /

Affix Patient ID Label wholly inside this region

Patients Declaration of Compliance to Therapy

Version: 1
Order Ref: Internal
Approved: 30/10/2015
Review By: 30/10/2018
File Under: Health Record\Clinical Record

Form ID: CTC034A
Do not write on or obscure the barcode

The Essex
Cardiothoracic Centre
At Basildon University Hospital - a centre for excellence

Why is this required?

In patients with atrial fibrillation the irregular heart rhythm can lead to the formation of small blood clots in the upper chambers of the heart. These clots can become dislodged and travel through the bloodstream, and may come to rest anywhere in the body. If they lodge within the small vessels in the brain they can be one cause of a stroke. Similarly atrial flutter which can be a regular rapid rhythm can have an increased risk of a stroke.

..... is an anticoagulant drug which slows blood clotting with the purpose of preventing these blood clots from forming. However, due to the short duration of the anticoagulant effect, if a patient misses a dose (or doses) this may allow the formation of small clots before the effect of the drug is restored after the next dose is taken.

The action of electrical cardioversion or ablation is such that any existing clots might inadvertently be forced into the circulation. It is therefore vitally important that the anticoagulant drug is taken regularly without a break for the three weeks prior to the procedure to ensure no clots are present at the time of the procedure.

Declaration

I, Mr/Mrs/Ms ..... declare that I have / have not (delete as applicable)

taken the ..... as directed on the label for the three weeks prior to today without a break i.e. with no missed doses. I understand that if this is not the case then I may be at increased risk of adverse effects following cardioversion, in particular a cerebrovascular event (stroke).

Signed:

Print:

Date:

1 of 2

WHO Surgical Safety Checklist for Nurse-Led cardioversions ONLY (adapted from the WHO Surgical Safety Checklist)

SIGN IN (to be read out loud)

Before giving sedation

Have all Nurses introduced themselves by name and role?
- ☐ Yes

All team members verbally confirm with patient:
- ☐ What is the patient's name?
- ☐ What procedure is planned?

Has the patient confirmed procedure and consent?
- ☐ Yes

Is the following equipment checked and ready?
- ☐ Oxygen
- ☐ Suction
- ☐ Monitoring
- ☐ Resus Trolley
- ☐ Defibrillator

Has the ECG been confirmed?
- ☐ Yes

Rhythm.....

Are the Pads applied correctly?
- ☐ Yes
- ☐ N/A

Have all allergies been confirmed
- ☐ Yes
- ☐ N/A

Are there any risks to sedation?
- ☐ Compromised airway (COPD, Asthma)
- ☐ Sleep apnoea
- ☐ Obesity
- ☐ Facial deformities/abnormalities
- ☐ Renal impairment
- ☐ Aspiration risk
- ☐ N/A

Has VTE prophylaxis been undertaken?
- ☐ Yes
- ☐ N/A

Are the required drugs available and in date?
- ☐ Yes

Are there any critical or unexpected steps you want the team to know about?
- ☐ Yes
- ☐ N/A

Before start of Procedure

Anticipated critical events
- ☐ Are there any patient-specific concerns?
- ☐ What is the patient's ASA grade?
- ☐ What monitoring equipment and other specific levels of support are required, for example Capnography?

2 Registered practitioners present:
- ☐ Are there any equipment issues or concerns?

Are there any patient specific requirements?
- ☐ Yes
- ☐ N/A
  - o Patient warming
  - o Hair removal
  - o Glycaemic control
  - o Cannula flushed and patent
  - o Have any implanted devices been recorded?

Procedure

- ☐ 1. Connect patient to defibrillator
- ☐ 2. Connect patient to Oxygen
- ☐ 3. Perform BP
- ☐ 4. Confirm cardiovertable rhythm
- ☐ 5. Press and confirm the synchronise button is on
- ☐ 6. Select correct energy
- ☐ 7. Give sedation
- ☐ 8. Ensure the room is quiet and no entry
- ☐ 9. Is the patient asleep but rousable to voice
- ☐ 10. Charge the defib
- ☐ 11. Turn the Oxygen off
- ☐ 12. Is the patient asleep
- ☐ 13.1Deliver energy shock
- ☐ 14. Confirm rhythm
- ☐ 15. Turn the Oxygen on
- ☐ 16.Record a full set of observations if successful

If unsuccessful repeat from step 4 up to two further time

Before any member of the team leaves the room

Registered Practitioner /HCA verbally confirms with the team:
- ☐ Has the name and side of the procedure been recorded?
- ☐ Have all pieces of invasive equipment used been accounted for?
- ☐ Have any implanted devices been recorded?
- ☐ Have the specimens been labelled (including with patient's name)?
- ☐ Have any equipment problems been identified that need to be addressed?

Radiologist, Anaesthetist and Registered Practitioner:
- ☐ Have the instructions for post procedural care for this patient been agreed?

PATIENT DETAILS	
Last name:	
First name:	
Date of birth:	
NHS Number*:	
Procedure:	

*If the NHS Number is not immediately available, a temporary number should be used until it is

The checklist is for Nurse-Led Cardioversions ONLY

This modified checklist must not be used for other surgical procedures.

TIME OUT (to be read out loud)

SIGN OUT (To be read out loud)

This checklist contains the core content for England and Wales

Appendix 5

Competency Framework for Nurse Led DC Cardioversion

Name of Nurse Assessed:		
Achieved	**Signature:**	**Date:**
Qualifications		
• First level Registered Nurse Band 7 • Cardiac Course with Arrhythmia management (including Advance ECG interpretation)		
• Advanced Life Support/ Intermediate life support/ eALS		
• Conscious Sedation course		
Requirements		
• Competently and safely perform a minimum x 5 DC cardioversions under supervision	**1.**	
	2.	
	3.	
	4.	
	5.	
Clinical Knowledge		
• Advanced ECG interpretation • Demonstrate knowledge of arrhythmia management guidelines and policy • Demonstrate a sound theoretical knowledge of cardioversion procedure, benefits and possible complication risks • Knowledge of how to manage the adverse physiological reactions that may occur in relation to cardioversion • Knowledge of equipment required for cardioversion • Competent in using equipment safely		
Clinical Competencies		
• Demonstrates ability to safely assess patient's suitability for cardioversion • Ability to obtain informed consent in relation		

to the administration of DC cardioversion • Provide patient with information regarding DC Cardioversion including; benefits, complication risks and post-procedural care • Ensures that patient is adequately sedated prior to DC cardioversion • Apply pacing pads correctly • Demonstrates ability to select, prepare and administer DC synchronised shock using Defibrillator • Ability to manager adverse physiological reactions that may occur in relation to Dc cardioversion • Ability to explain the outcome of the cardioversion • Ensure patient is fit for discharge and make arrangements for follow up • Completes Discharge summary		

Assessor Record

Name	Designation	Initial	Signature

Appendix 6

Airway Assessment Competencies

Name of Nurse Assessed:			
Airway Assessment Competencies	**Assessment Date:**	**Assessment Date:**	**Assessment Date:**
	Signature	**Signature**	**Signature**
• The nurse is able to discuss and perform a full clinical assessment of the patient. Note any allergies; areas of concern are patients with sleep apnoea, COPD, asthma, other respiratory conditions, rheumatoid/osteoarthritis limiting lung expansion or neck mobility. Sleep Apnoea /CPAP. Attention to any other organ dysfunction (Renal, Liver, neurological)			
Discusses with the patient regarding any other previous Sedation and/or Anaesthetic problems: • Able to discuss relevant concerns such as known difficult airway alert/allergies/reactions etc.			
• Demonstrates the ability to assess dentition and jaw mobility. Ensures that the patient is able to bring their lower jaw to protrude in front of upper incisors (can patient bite their upper lip with lower teeth).			
• Demonstrates the ability to assess neck mobility. • Ensure that the patient has greater than 90 degrees of neck movement both vertically and laterally. Is there any restriction in neck mobility due to scoliosis, arthritis, muscular or other problems for example goitre etc.			
• To demonstrate competence in assessing Mallampati airway assessment score: Ensures that the patient is assessed in the correct upright sitting position. • Ensure that the nurse assessor is positioned so that she/he is in line with the patients mouth at time of assessment. • Ensure that the patient is able to open his/her mouth greater than or equal to 3 cm, (distance between incisors).			

Demonstrates ability to assess thyromental distance. • It should be greater than 6 cm. Measurement assessed from under the tip of the chin to the top of the notch of the thyroid cartilage with the patients neck fully extended.			
Nurse can demonstrate correct identification of the ASA classification score			
Nurse demonstrates competency in preparation of the bed space ensuring that all necessary equipment is to hand in the room.			
Demonstrates the correct positioning of the patient to facilitate optimal pre-oxygenation prior to sedation administration.			
The nurse is able to demonstrate correct assessment and insertion of Oro-pharyngeal and nasopharyngeal airway adjuncts.			
Demonstrates ability to adequately ventilate using head tilt chin lift and bag valve mask (2 handed, two person technique). • Able to discuss awareness of factors that may affect ability to effectively ventilate the patient more difficult (Dentition, age, facial shape, BMI, facial hair, history of snoring, pulmonary disease).			

Assessor Record

Name	Designation	Initial	Signature