Torbay and South Devon NHS
NHS Foundation Trust

Patient Group Direction 2193 version 1.0
Administration of Intravenous Adrenaline (Epinephrine) 1 in 10,000 (100micrograms per ml) Injection in Cardiopulmonary Resuscitation by Registered Practitioners employed by Torbay and South Devon NHS Foundation Trust
(Community Hospitals only)

Date of Introduction: September 2017
Review Date: August 2019

Developed By	Name	Signature	Date
Physician	Emergency Department Consultant		
Pharmacist			
Lead Professional	Senior Manager MIU Services / Nurse Consultant Emergency Care Unit		

Note: The Lead Professional is responsible for ensuring the co-ordination, composition, consultation, revision and distribution of the PGD to practitioners who will be using the PGD as well as ensuring that the PGD is no longer used if becomes out of date and once it has expired.

The Clinical Effectiveness Department will write to the Lead Professional approximately 4 months before the review date as a reminder that a review is required.

Ratified on behalf of: TORBAY AND SOUTH DEVON NHS FOUNDATION TRUST	
Medicines Management Committee Chair	
Signed:	
Name:	Clinical Director – Pharmacy and Prescribing
Date:	
Lead Officer	
Signed:	
Name:	Medical Director
Date:	

Patient Group Direction 2193 **version 1.0**

Administration of Intravenous Adrenaline (Epinephrine) 1 in 10,000 (100micrograms per ml) Injection in Cardiopulmonary Resuscitation by Registered Practitioners

Objective	To enable Minor Injury Practitioners (nurses / paramedics) in MIUs to provide effective management of cardiac arrest.

1. Clinical Condition

Definition of condition/situation	▪ Adjunctive use in the emergency management of cardiac arrest according to the Resuscitation Council (UK) Advanced Life Support (ALS) algorithm for cardiopulmonary resuscitation and relevant Trust resuscitation policy. ▪ **Dial 999 immediately.**
Facilities required	▪ Resuscitation trolley. ▪ Emergency drug box, including adrenaline 1 in 10,000 pre-filled 10ml syringe
Criteria for inclusion	Intravenous Adrenaline (epinephrine) is indicated: ▪ If VF/VT (ventricular fibrillation/ventricular tachycardia) persists after third shock ▪ For PEA (pulseless electrical activity) / asystole as soon as intravenous access is achieved ▪ All patients meeting the criteria as defined in the Resuscitation Council (UK) Advanced Life Support (ALS) algorithm for cardiopulmonary resuscitation (adults & children) and relevant Trust resuscitation policy.
Criteria for exclusion	▪ Documented DO NOT ATTEMPT RESUSCITATION (DNAR) decision.
Action if excluded	▪ If patient not for resuscitation, discuss URGENTLY with doctor. Document 'not for resuscitation' status and refer to DNAR policy (Treatment Escalation Plan TEP and Resuscitation Decision record)
Action if patient refuses medication	Not applicable

2. Characteristics of Staff

Qualifications required	Minor Injury Practitioner (nurse or paramedic) working in community MIU who have completed appropriate Resuscitation Council (UK) approved to a minimum level of intermediate adult life support training and cannulation and IV therapy training from relevant Trust.

Additional requirements	▪ Working knowledge of relevant Trust Policies, including Medicines Policy and associated Standard Operating Procedures, Resuscitation policy, Anaphylaxis Policy, Consent Policy and Injectable Medicines Policy and associated risk assessments where appropriate. ▪ Working knowledge of relevant trust protocols ▪ Knowledge of the Trust resuscitation policy and Resus Council Adult Life Support algorithm with evidence of competency in adult Immediate Life Support (ILS) training. ▪ Evidence of continuing professional development, training and competence in IV cannulation and IV drug administration. ▪ Working knowledge of the Nursing Midwifery Council (NMC) Standards for Medicines Management 2008, (updated 2010) www.nmc-uk.org and other relevant codes of professional practice. ▪ Working knowledge of the HCPC Standards of Proficiency for Paramedics (September 2014), http://www.hpc-uk.org/assets/documents/1000051CStandards_of_Proficiency_paramedics.pdf and other relevant codes of professional practice

3. Description of Treatment

Name of Medicine Administered	Adrenaline (epinephrine) injection 1 in 10,000 (100micrograms per ml) pre-filled 10ml syringe.
Legal Class	POM (Prescription Only Medicine)
Storage	▪ Store below 25°C ▪ Do not freeze ▪ Store in outer packaging to protect from light. ▪ Expiry date should be checked on a daily basis
Dose to be used (including criteria for use of differing doses)	All doses refer to the 1 in 10,000 (100micrograms per ml) dilution **Adults initial dose**: 1mg (10ml) **Adults subsequent doses**: 1mg (10ml) to be repeated every 3-5 minutes if necessary until return of spontaneous circulation (ROSC). **Child initial dose**: 10mcg/kg (0.1ml/kg) **Child subsequent doses**: 10mcg/kg (0.1ml/kg) to be repeated every 3-5 minutes if necessary until return of spontaneous circulation (ROSC).
Method or route of administration	Intravenous injection via cannulae However, if injected through a peripheral line, the drug must be flushed with at least 20ml Sodium Chloride 0.9% injection (to aid entry into the central circulation).
Total dose and number of times drug to be given. Details of supply (if supply made)	Dosage to be administered every 3-5 minutes during cardiac arrest until ROSC.
Contra-indications	Cautions and contraindications are relative as adrenaline (epinephrine) is intended for use in life-threatening emergencies, its use should not be delayed – see cardiopulmonary resuscitation policy.

Cautions	Cautions and contraindications are relative as adrenaline (epinephrine) is intended for use in life-threatening emergencies, its use should not be delayed – see cardiopulmonary resuscitation policy. For information: • The effects of adrenaline may be potentiated by tricyclic antidepressants • Volatile liquid anaesthetics increase the risk of adrenaline induced ventricular arrhythmias and acute pulmonary oedema if hypoxia is present. • Severe hypertension and bradycardia may occur with monoamine oxidase and non-selective beta blocking drugs eg propranolol • Alpha-blockers antagonise the vasoconstriction and hypertension effects of adrenaline, increasing the risk of hypotension and tachycardia • The risk of cardiac arrhythmias is higher when adrenaline is given to patients on digoxin or quinidine • Adrenaline induced hyperglycaemia may lead to loss of blood sugar control in diabetic patients • The vasoconstrictor and pressor effects of adrenaline may be enhanced by concomitant administration of drugs such as ergot alkaloids and oxytocin. Pregnancy: Adrenaline crosses the placenta, and may cause foetal tachycardia, cardiac irregularities, extra-systoles and anoxia. There is some evidence of a slight increase in congenital abnormalities. **Adrenaline should only be used in pregnancy if the potential benefits outweigh the risks.**
Interactions	N/A - Adjunctive use in the emergency management of cardiac arrest, dial 999 immediately.
Potential side-effects and adverse reactions	N/A - Adjunctive use in the emergency management of cardiac arrest, dial 999 immediately.
Management of potential side-effects and adverse reactions	N/A - Adjunctive use in the emergency management of cardiac arrest, dial 999 immediately.
Advice and information to patient/carer including follow-up	Explain the current course of action to patient and / or carer and the need for urgent medical assessment. Highlight any known medical history to emergency services on hand over. Confirm dose and number of doses of adrenaline given.

Specify method of recording supply /administration including audit trail	Document allergies and other adverse drug reactions clearly in patient records and inform the GP and other relevant practitioners/patient/carer for further reporting and action if required. Report any adverse drug reactions to the Medicines and Healthcare products Regulatory Agency (MHRA) through the yellow card reporting system (www.mhra.gov.uk). The following will be recorded in the patient's records: ▪ The diagnosis and treatment ▪ The dose of adrenaline (epinephrine) 1 in 10,000 administered ▪ Batch number and expiry date ▪ The route of administration and site of administration where appropriate ▪ The frequency of administration duration of treatment with adrenaline (epinephrine) 1 in 10,000 ▪ The time and date of administration of each dose The signature and name of the person administering the adrenaline and phrase 'PGD'

4. Other Information

Follow up treatment:	Follow up in ED via 999 ambulance.
Arrangements for medicine supply:	MIU stock
Arrangements for medical referral:	Medical referral should be made as detailed in the protocol.
Lines of accountability:	▪ Individual nurses are accountable for their own practice under the code of professional conduct laid down by the NMC (Nursing and Midwifery Council 2002 – section 1). ▪ Individual paramedics are accountable for their own practice under the HCPC Standards of Proficiency for Paramedics (September 2014) ▪ Minor Injury Practitioners are accountable to the senior practitioner on duty and their line manager.

5. Appendices

References used in the development of this PGD:	▪ Resuscitation Council (UK) – Resuscitation Guidelines 2015 (Accredited by NICE) https://www.resus.org.uk/# ▪ Torbay and South Devon Health and Care Trust Resuscitation Protocol 0350 Version 9 https://icon.torbayandsouthdevon.nhs.uk/corp_doc_mgmt/Clinical%20Effectiveness/G0350.pdf ▪ Adrenaline 1 mg/10 ml (1:10,000), solution for injection in pre-filled syringe, Summary of Product Characteristics. Accessed Aug 2017 https://www.medicines.org.uk/emc/medicine/31592 ▪ British National Formulary (BNF) Accessed Aug 2017
Audit details	▪ Periodic audit of compliance. ▪ Case note review of identified patients. We will ask nurses to identify patients they have given medication against PGD and review the appropriateness and documentation against the criteria.
Training	▪ **Medical treatment:** As per clinical protocol ▪ **Competency assessment:** Ongoing CPD – benchmarked competency assessment in clinical protocol. ▪ **Frequency of training / review process:** Ongoing review / supervision.

Please refer to the summary of product characteristics for full information

This Patient Group Direction is operational from the start of September 2017 and expires end of August 2019

Version History

Version	Date	Brief Summary of Change	Owner's Name
V 1.0	August	Two year review of PGD and content uplifted in the Trust's current PGD template	Torbay and South Devon NHS Foundation Trust

For more information on the status of this document, contact:	Medicines Governance Team Administrator Pharmacy Department Torbay Hospital tsdft.medicinesgovernance@nhs.net
Date of Issue	**September 2017**
Reference	PGD 2193 v 1.0 Adrenaline 1:10,000
Path	V:Medicines Governance/PGDs/MIUs/PGD 2193 v 1.0 Adrenaline 1:10,000 Sept17-Aug19

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(Community Hospitals only)

Objective: To enable emergency nurse practitioners (including paramedics) in MIUs to provide effective management of cardiac arrest.

The individual practitioners named below are authorised to operate within the above PGD, being employees of Torbay and South Devon NHS Foundation Trust

CLINICAL AREA	LOCATION / DEPARTMENT

The following list must be kept with a copy of the PGD in each clinical area using that PGD. Each practitioner will receive and sign for an individual copy of the PGD. Only fully competent, qualified and trained professionals may operate within PGDs.

I agree to administer/supply the above preparation in accordance with this Patient Group Direction and I have received an up to date copy of the ratified PGD:

NAME *(please print)*	PROFESSIONAL TITLE	SIGNATURE	AUTHORISING MANAGER *(please print)*	MANAGER'S SIGNATURE	DATE

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Ref No:	2193		
Document title:	Adrenaline (Epinephrine) 1 in 10,000 (100 micrograms per ml) Intravenous Injection in Cardiopulmonary Resuscitation.		
Purpose of document:	Patient Group Direction		
Date of issue:	2 October 2017	**Next review date:**	31 August 2019
Version:	1	**Last review date:**	
Author:	Emergency Department Consultant Pharmacist Senior Manager MIU Services / Nurse Consultant Emergency Care Unit		
Directorate:	Medical Services		
Equality Impact:	The guidance contained in this document is intended to be inclusive for all patients within the clinical group specified, regardless of age, disability, gender, gender identity, sexual orientation, race and ethnicity & religion or belief		
Committee(s) approving the document:	Chair, Trust Medicines Management Committee Medical Director		
Date approved:	19 September 2017		
Links or overlaps with other policies:	All TSDFT Trust Strategies, policies and procedure documents		

	Please select	
	Yes	*No*
Does this document have training implications? *If yes please state:*	☐	☐
Does this document have financial implications? *If yes please state:*	☐	☐
Is this document a direct replacement for another? *If yes please state which documents are being replaced:*	☐	☐

Document Amendment History

Date	Version no.	Amendment summary	Ratified by:
2 October 2017	1	New	Chair, Trust Medicines Management Committee Medical Director