Guideline for the use of Clonidine for Sedation in Adult Intensive Care

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.

INTRODUCTION

This guideline covers the prescribing of clonidine for critically ill adult patients

THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUPS:

All qualified healthcare professionals involved in prescribing or administering clonidine for critically ill adult patients.

Lead Clinician(s)

Keith Hinton — Lead Clinical Pharmacist Critical Care, Worcestershire Acute Hospitals

Approved by Accountable Director on: 4th May 2020

Review Date: 4th May 2023

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

Key amendments to this guideline

Date	Amendment	By:
12.11.2008	Approved by Medicines Safety Committee	
20.12.2010	Guideline reviewed – no amendments made	K Hinton
17.10.2012	Guideline reviewed – no amendments made	K Hinton
23.03.2015	Guideline reviewed – no amendments made	K Hinton
August 2017	Document extended for 6 months in line with TMC approval	TMC
December 2017	Sentence added in at the request of the Coroner	
December 2017	Document extended for 3 months as per TLG recommendation	TLG
January 4, 2018	Guideline reviewed, no amendments made	K Hinton
Jan 2020	Guideline reviewed with no changes. Approved by Tania Carruthers on behalf of MSC	K Hinton/ MSC

Guideline for the use of Clonidine for Sedation in Adult Intensive Care

Introduction

This guideline covers the prescribing of clonidine for critically ill adult patients

Details of Guideline

Indication

- Additional sedative agent when adequate sedation cannot be maintained using standard drugs according to sedation protocol. In addition to sedation, clonidine has opioid sparing analgesic properties.
- To aid weaning from conventional sedation when agitation secondary to alcohol and/or nicotine withdrawal reactions are problematic.

Background Information

- Clonidine is a centrally acting alpha$_2$-agonist, which reduces blood pressure and slows heart rate by reducing sympathetic stimulation. Analgesia occurs as a result of stimulation of opiate receptors centrally and peripherally.
- It may be used for sedation, withdrawal reactions and hypertension.
- Half-life has been variably reported between 6 to 24 hours. Fifty per cent is excreted renally.
- An alternative method of administration is 150micrograms by slow IV injection or PO/NG three times a day.

Dosage

Bolus doses

- 50-150micrograms 8-hourly slow IV (over 15 minutes) or PO/NG (if absorbing)

Continuous infusion

- Treatment may be started with a bolus dose of 10mcg which maybe repeated until desired effect is reached.
- Usual dose by IV infusion is 0.5-1microgram/kg/hour although doses up to 2micrograms/kg/hour may be used if necessary (although the dose is often limited by reduction in blood pressure). Start with the higher dose and reduce as sedative effect is achieved.

Administration

- Concentration in syringe 750 micrograms in 50ml sodium chloride 0.9% or glucose 5% (resulting in 15micrograms/ml). See below for withdrawal of clonidine.
- Give centrally or peripherally.
- Little compatibility data available. Use dedicated line.

Side – effects

- May cause hypotension and bradycardia. As clonidine is a negative chronotrope, caution should be used in patients with low cardiac output or impaired ventricular function.
- Accumulation in renal impairment. Adjust dose according to response.
- Dry mouth
- Headache
- Nausea and vomiting
- Constipation

Withdrawal of clonidine

- Sudden withdrawal of clonidine may result in agitation, sweating and hypertension.
- Reduce dose gradually, rate will depend on duration of infusion.
- Withdrawal should usually be over several hours. If the patient has been on clonidine for several days then reduction over 36 hours may be required.
- For low rates of infusion when weaning clonidine, less concentrated preparations may be used

Conversion to oral clonidine from intravenous

- Calculate the total dose of IV clonidine given over 24 hours. The bioavailability is the same.
- Divide this total daily dose into three doses to be given orally up to a maximum of 200micrograms tds.
- Doses must be in increments of 25micrograms and reduced gradually according to patient response.

References

1. Bohrer H et al. Clonidine as a Sedative Adjunct in Intensive Care. Intensive Care Medicine 1990; 16: 265-266
2. The British Medical Association and the Royal Pharmaceutical Society of Great Britain. British National Formulary, No. 55: March 2008. The Bath Press, Bath.
3. Guidance from Royal Brompton and Harefield NHS Trust
4. Borthwick, M. et al. Detection, prevention and treatment of delirium in critically ill patients. June 2006. UKCPA
5. Boehring Ingelheim Ltd. Catapres Ampoules (August 2007) www.emc.medicines.org.uk/emc/industry/default.asp?page=displaydoc.asp&documentid=283. Accessed 16.1.2008
6. Tryba M, Kulka PJ. Critical Care Pharmacotherapy: a review Drugs 1993;45:338-352
7. Ip Yam PC et al. Clonidine in the treatment of alcohol withdrawal in the intensive care unit. Br J Anesthes 1992;68:106-108

CONTRIBUTION LIST

Key individuals involved in developing the document

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Monitoring Tool

This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
2	IV Infusion rate should not exceed 2micrograms/kg/hour	Prospective review	10 times a year	ITU Pharmacists	Keith Hinton	10 times a year
3	On withdrawal, IV infusion rates should be reduced slowly over at least several hours	Prospective review	10 times a year	ITU Pharmacists	Keith Hinton	10 times a year

Supporting Document 1 - Equality Impact Assessment Tool

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

		Yes/No	Comments
1.	**Does the policy/guidance affect one group less or more favourably than another on the basis of:**		
	Race	No	
	Ethnic origins (including gypsies and travellers)	No	
	Nationality	No	
	Gender	No	
	Culture	No	
	Religion or belief	No	
	Sexual orientation including lesbian, gay and bisexual people	No	
	Age	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the policy/guidance likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the policy/guidance without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

Supporting Document 2 – Financial Impact 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 by the Accountable Director before progressing to the relevant committee for approval