



Title CSOP Procedural Sedation

Version No: 2.4

Effective date: 23/11/2022

APPROVALS

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	November 2024		

HISTORY

Effective Date	Version No.	Summary of Amendment
19/10/12	2.0	Review and update
07/01/15	2.1	Minor editing/review
September 2016	2.2	Review
April 2020	2.3	Review ,minor amendments, change of appendix 2
July 2022	2.4	Review and minor updates

REFERENCES

Document Reference Number	Document Title
Annex 1	Drugs used in Procedural Sedation
Annex 2	Checklist

1 PURPOSE / SCOPE

It's sometimes necessary to provide sedation on scene to allow some procedures to be tolerated by patients. Adequate sedation may reduce on-scene time by allowing rapid extrication packaging and may improve patient outcome by facilitating early reduction and/or relocation of limb injuries.



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This document addresses the need to have a consistent and safe approach to sedation. It does not cover pre-PHEA sedation in an agitated patient or post-PHEA maintenance of anaesthesia.

2 LICENSING & RESTRICTIONS

A Paramedic may only administer a medication:

1. That is listed in the Prescription Only Medications (POMS) exemptions and contained in the most recent copy of the JRCALC Clinical Practice Guidelines, or
2. Which is covered by a specific Patient Group Direction (PGD) issued by The Air Ambulance Charity in which the Paramedic has been trained, or
3. On behalf of a HEMS Doctor who is present at the scene – this is a HEMS trained Doctor working within TAAS or an Immediate Care Doctor trained to an equivalent standard ~~and known to the crew.~~
4. Fentanyl is not to be carried by a double CCP crew due to legislation and other sedation options being available. See Annex 1.

3 RISK ASSESSMENT

Before commencing sedation, the crew should consider the indication for sedation and assess the potential risks and whether the perceived benefits outweigh the anticipated risks. The crew should agree on a sedation strategy, including the target depth of sedation, rescue airway management, emergency extrication, the likelihood of needing to progress to anaesthetic levels of sedation or the alternative option of performing an PHEA.

If there is a high likelihood of progressing to airway management during the sedation in times of national pandemic, consider your level of PPE before commencing the procedural sedation.

Specific considerations include:

- Airway - The ability of the patient to maintain an airway, or the ease with which it can be maintained and the likelihood of difficulties in managing the airway should it become compromised
- The potential for vomiting - all patients are assumed to have a full stomach and be at risk of vomiting
- Ventilation and respiratory reserve



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- Cardiovascular status - patients in shock are more likely to collapse on administration of sedation
- Access to the patient- ideally 360° access should be achieved
- In the case of entrapment, there must be access to the patient's head, neck and airway, and a plan for immediate release and extrication should be agreed on before sedation is started in consultation with fire and rescue service on scene.
- Position of the patient- patients trapped in a seated, prone or standing position are more likely to suffer cardiovascular or respiratory compromise following sedation

4 PREPARATION

Monitoring

Monitoring must include ECG, oxygen saturations, waveform capnography and intermittent NIBP set to an automatic cycle.

IV Access

At least one patent, functional IV line should be in place, preferably two, to allow for failure of a line if, for example it was pulled out during extrication. Where this has not been placed by the HEMS crew, it must be checked prior to sedation starting. If there are any doubts on patency or functionality, it should be replaced.

In extreme circumstances, it may be necessary to use IO access for sedation.

Equipment

The following must be readily available and accessible:

- a. Advanced and basic airway equipment
- b. Suction -set up with a Yankaeur catheter, checked and within reach
- c. Oxygen - One cylinder connected to the patient's face mask and one spare cylinder available
- d. BVM
- e. PHEA drugs
- f. Equipment related to the procedure such as rescue tools, extrication boards, traction splints or chest drains should be ready and positioned where they will be accessible
- g. Anticipated PPE that you may require



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Consent

Where possible and appropriate the patient should be given a brief explanation as to what you plan to do and why. Where the patient is a child, it is important to explain the procedure to the parents or guardians if they are present, gaining their understanding, cooperation and consent. Refer to TAAS Patient Consent SOP for further information.

5 DRAWING UP AND ADMINISTERING MEDICATIONS

All drugs must be checked by two clinicians. There are no exceptions to this rule. When cross checking ask the question "What is this?" which prompts the checker- to stop and read the vial or bottle, rather than tell the checker what the drug is, which may illicit a positive or confirmatory response without a proper check.

Drugs must only be drawn up in the stipulated concentrations and syringe sizes. This greatly reduces the risk of error.

All syringes must be labelled with an approved colour-coded label, with the concentration clearly marked.

5.1 MEDICATIONS

A combination of sedation and analgesia are needed for painful procedures. This can either be achieved with a single agent such as ketamine, or with a mixture of agents.

Note that benzodiazepines (Midazolam, Diazepam) have minimal analgesic properties if any; morphine does have some sedative properties, but only in high dose. (Caution: a critically ill or elderly patient is more likely to become sedated rather than analgesed with a smaller dose than a fit and healthy patient)

Ketamine is the preferred drug for procedural sedation as it is a single agent with a good safety profile.

Appendix 1 lists the medicines that are approved for sedation. This may only be amended by the Clinical Governance Committee.



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5.2 THIRD PARTY ADMINISTRATION

In some circumstances it may be necessary for personnel other than members of the medical team to administer drugs on our behalf. In these circumstances errors are more likely to occur due to the use of unfamiliar drugs, dilutions and equipment. The person administering the medication on behalf of the lead clinician should be a Paramedic, or someone experienced in the administration of IV medications.

The following is the suggested method to minimise errors:

1. Ensure personnel are happy to administer drugs
2. If wishing to give 2mg (2mls) of morphine, for example, state "I would like you to give 2mls of this. We are at 10mls now, therefore give it until you are at 8mls"
3. Get personnel to repeat the instructions back to you
4. Monitor the amount being given
5. If possible, give instructions for and pass over only 1 drug syringe at a time

If you feel your instructions are not comprehended, an alternative is to take a smaller syringe, draw up the exact amount you want given and only hand that over.

5.3 Drug dose and administration

1. Establish and document the patient's weight or estimated weight being used to calculate the drug dosage.
2. Where medicines are titrated, the drug dose, time and route of delivery should be documented.

6 PLANNING & "TALK THROUGH"

1. A Checklist is available (Annex 2) and should form the framework for a team brief before sedation takes place.
2. Make sure that the HEMS crew have agreed on the indication and risk assessment



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3. One clinician must have the sole responsibility of monitoring and maintaining the patient's airway. This person must not get involved in the rest of the procedure
4. Make sure that this plan is communicated to all present and that specific tasks have been allocated and understood. This brief should include alternative 'Plan B' options.
5. Where sedation is to facilitate extrication, make sure that the Fire & Rescue Services are ready to perform the desired release maneuver.
6. Shut down all generators, engines + noise, move any extra personnel away from the immediate - area (noise and chaos increase the chances of agitation and emergence reactions with ketamine)

7 DOCUMENTATION AND AUDIT

1. The Checklist can form the basis for documentation, which should include any complications or adverse events. This can be photographed in to taasBase if used, along with a trend summary printout.
2. taasBase will automatically generate an audit form if data is entered correctly, trend summary print outs should be photographed into the patient record for audit purposes. Please remember to document whether consent was obtained or not possible during the event recording phase.

7 DEFINITIONS / ABBREVIATIONS

Abbreviations/Acronym	Definitions
PHEA	Pre-Hospital Emergency Anaesthesia
CSOP	Clinical Standard Operating Procedure
IO	Intraosseous
IV	Intravenous
NIBP	Non-invasive blood pressure
BVM	Bag Value Mask
HEMS	Helicopter Emergency Service



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JRCALC	Joint Royal College Service Liaison Committee
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