Bradford Teaching Hospitals NHS
NHS Foundation Trust

Policy on
Sedation for Procedures in Adults

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1. Introduction

The aim of sedation is to alleviate anxiety for the patient and reduce procedure discomfort. Sedation forms only a part of patient management. Careful explanation, indicating the reasons for the discomfort that may be experienced, reduces the need for sedation. Local and topical anaesthesia, where appropriate, are useful adjuncts.

Individuals who are involved in providing sedation for procedures come from a wide range of medical and non-medical backgrounds with varying degrees of training in sedation. Sedation is potentially hazardous and it is important that it is performed as safely as possible.

2. Policy statement

This policy has been produced to enhance patient care by ensuring good sedation practice through implementation of the UK Academy of Medical Royal Colleges guidance on *Safe Sedation Practice for Healthcare Procedures: Standards & Guidance* published in 2013. Specialist guidelines for sedation in endoscopy, the Emergency Department (ED), interventional radiology and bronchoscopy, as well as NICE guidelines for the sedation of children and young adults, complement this document. This policy has been drawn up in consultation with senior consultants who carry out procedures requiring sedation in areas which are not critical care areas and with expert advice from senior pharmacists and nurses.

2.1 This policy applies to all adult patients receiving sedation for procedures excluding those patients ventilated in critical care areas.

2.2 This policy covers drug-induced sedation by all routes of administration.

2.3 The policy covers the situation where such sedation is a predictable property of a given drug even though it may be administered for another purpose (e.g. as an analgesia or as an antiepileptic).

2.4 The policy covers local anaesthesia that is supplemented by sedation and the use of nitrous oxide.

2.5 This policy does not cover:

- the sedation of agitated patients;
- sedation in children;
- symptomatic palliation for end of life care;
- sedation by trained Anaesthetists: Where deep sedation is provided by an anaesthetist, full monitoring, equipment, staffing & recovery must be available as in the theatre environment

3. Definitions

The definitions of minimal, moderate and deep sedation used in this policy are based on those of the American Society of Anesthesiologists (ASA).

3.1 Minimal sedation (anxiolysis)

A drug induced state during which patients are awake and calm. They respond normally to verbal command or can be woken up to full consciousness by minimal stimuli. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

3.2 Moderate sedation (usually termed '*conscious sedation'*)
Drug induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation (reflex withdrawal from a painful stimulus is *not* considered a purposeful response). No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. The drugs and techniques used to provide conscious sedation should carry a margin of safety wide enough to render loss of consciousness unlikely. Sedation should be titrated to this desired endpoint and top-ups administered at intervals that reflect the onset and time-to-peak drug action.

3.3 Deep sedation/analgesia
Drug induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function is impaired. Patients require assistance in maintaining a patent airway and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. In terms of the procedures that can be performed, this state may not equate to general anaesthesia, but there is a consensus that its supervision requires the same level of training and skill.

3.4 Anaesthesia
Consists of general anaesthesia and spinal or major regional anaesthesia. It does *not* include local anaesthesia.

3.5 Dissociative sedation
Ketamine is a unique drug used in sedation practice that does not fit the ASA standards listed above as it produces a 'dissociative state'. A separate sedation category has therefore been introduced

4 Scope of the Policy

4.1 Minimal sedation practice can be covered by generic guidelines, policies and standard operating procedures.

4.2 Specific clinical guidelines/policies must exist covering situations where a parenteral or gaseous agent is used to deliberately induce moderate sedation ('conscious sedation').

4.3 Clinical guidelines/policies must specify drugs allowed to be used in particular circumstances, their order of choice, their doses and routes of administration and reversal agents where appropriate (See Appendix 4)

4.4 A single person must not administer sedation and perform the procedure without another person dedicated specifically to the care of the sedated patient. This excludes staff with other roles related to the procedure, i.e., there must be a dedicated sedation provider.

4.5 Clinical staff prescribing or administering sedation must be able to demonstrate achievement of the agreed competencies. In the case of those trained to administer any form of moderate sedation the Foundation Trust requires documentary evidence of training for these competencies which should be signed-off by an educational supervisor, recognised trainer and Clinical Business Unit (CBU) Clinical Director

4.6 Persons deemed suitable to undertake such a sign-off are those who have undergone formal training in assessment and are fully conversant with this policy and the appropriate Foundation Trust guidelines/policies relevant to their area of practice.

5. Roles and Responsibilities

5.1 CBU Clinical Directors, CBU Managers:

- Are responsible for ensuring staff within their area of responsibility are aware of this policy.
- Must ensure that staff are clear about their specific roles and responsibilities.
- Must ensure that staff who carry out sedation are aware of this policy, have the necessary training and competencies and are able to evidence this.
- Must ensure processes and procedures are implemented in accordance with this policy.
- Must ensure that monitoring/audit of practice and procedures is undertaken.
- Must provide an infrastructure to deliver safe sedation including providing resources to cover an after-hour service where it is required. This includes patients who require procedures under sedation in other clinical areas – for example radiology

5.2 Sedation Provider

The Sedation Provider is an experienced registered practitioner working with the Operator and is responsible for patient care (monitoring, assessing level of consciousness and airway support) during the procedure. The provision of sedation remains the responsibility of the Sedation Provider.

5.3 The Operator

The Operator must be an appropriately trained healthcare professional. The Operator is responsible for carrying out the procedure. The Operator must follow the advice of the Sedation Provider with regard to sedation of the patient.

6. Training

6.1 CBUs are required to ensure any service providing sedation uses staff with appropriate skills. Reference should be made to the following resources:

- http://www.rcoa.ac.uk/revalidation-cpd/online-cpd
  - Register with the RCoA to gain access to the online e-learning system, which upon completion of resources allows for logs to be placed on e-portfolios and CPD records
- http://www.rcoa.ac.uk/e-SAFE
  - Use this link to order e-learning DVDs from the RCoA
- http://www.e-lfh.org.uk/projects/ela/more_info.html
  - Register with e-lfh using registration button on left hand page, then click on ‘launch e-LA’ to work through anaesthesia e-learning package

6.2 A minimum of two trained healthcare professionals should be available during sedation. The Sedation Provider must retain responsibility for the continuous monitoring of the patient and documentation of monitoring data in the healthcare record. For all but brief and simple procedures a ***third*** assistant is required

6.3 The second healthcare provider, the Operator, will carry out the procedure.

6.4 Both healthcare professionals should have the following:

Knowledge, understanding and competency in:

- sedation, drug pharmacology and applied physiology;
- assessing patients for sedation;
- monitoring patients;
- recovery care;
- complications and their management including life support.

Practical experience of:

- effectively delivering the chosen sedation technique and managing complications;
- observing clinical signs (for example, airway patency, breathing rate and depth, pulse, pallor, cyanosis, circulatory status and depth of sedation). They must understand the significance of

failing to achieve adequate ventilation
- using monitoring equipment.

Documented up-to-date evidence of competency including:
- a satisfactory completion of a theoretical training course covering the principles of sedation practice;
- a comprehensive record of practical experience of sedation techniques.

6.4.1 The necessary competencies can be found under 'Sedation' in the basic & intermediate sections of the CCT in Anaesthetics Training Curriculum http://www.rcoa.ac.uk/training-and-the-training-programme/the-stages-of-training. Specific competency requirements for sedation providers in ED are listed in 'Safe Sedation of Adults in the ED', 2012 p.8-9

6.5 The Sedation Provider must have up to date Intermediate Life Support (ILS) skills. The Sedation Provider must also be trained specifically in using combination of drugs. The skills and knowledge required by the Sedation Provider are detailed in Appendix 2.

6.5.1 Sedation Providers must complete the training and competency assessment in accordance with the standards laid down by the Foundation Trust Education Department.

6.5.2 Operators will be compliant with current specialty training standards as specified by the relevant Royal College & the Foundation Trust Education Department. Examples include:
- *Safe Sedation of Adults in the Emergency Department*. Royal College of Anaesthetists & College of Emergency Medicine
- Joint Advisory Group on GI Endoscopy: *JAG Trainee Certification, Guidance for Colonoscopy*
- *Safe sedation, analgesia and anaesthesia within the radiology department.* Royal College of Radiologists

This is not an exhaustive list.

7 Patient Assessment

7.1 Patients must be assessed as to whether they are suitable to receive sedation. Significant co-morbidity should be documented. A checklist (Appendix 4a) must include the patient name, date of birth and hospital number, the intended procedure, drug allergies, their weight, an assessment of their airway including the presence of dentures, and the period of starvation.

7.2 Sedation should be avoided, or used with extreme caution, if the patient cannot lie flat or if the patient is breathless at rest.

7.3 Elderly patients are particularly sensitive to sedative drugs and doses should be adjusted accordingly.

7.4 Sedation should be used with extreme care if the patient has an increased risk of aspiration (see Appendix 1).

7.5 Intravenous sedation is contra-indicated in the following circumstances:
- there is a known allergy to sedative drugs or opioid analgesics
- in patients with obstructive sleep apnoea where there is increased sensitivity to the side effects of sedative drugs or opioid analgesics ;
- the patient has an impaired level of consciousness;
- the patient is not appropriately starved (see below);
- the procedure is deemed too painful for conscious sedation;
- there is a lack of immediate access to resuscitation equipment.

7.6 When sedation is contra-indicated, alternatives such as local anaesthesia, regional anaesthesia or

general anaesthesia should be considered.

7.7 The Anaesthetic Department or on-call Anaesthetist can be contacted for advice.

8. The Procedure

8.1 Valid consent is an essential preliminary including risks/benefits and alternatives to sedation should be clearly explained. Sedation Providers should make efforts to ensure that the patient understands the info they are given about sedation, specifying that sedation may not guarantee unawareness for events or guarantee amnesia. During sedation the patient will be aware & have recall, but the intention is to improve comfort & reduce anxiety (NAP5). Consider using guidance on the form of words to use when consenting a patient for sedation (modified from the NAP5 Report, see Appendix 4)

8.1.1 Fasting

8.1.2 In accordance with the Anaesthetic Department's guidelines for General Anaesthesia for elective procedures, patients should be starved of solids for six hours and clear fluid (this includes coffee or tea with skimmed milk) for two hours prior to receiving sedation.

8.1.3 For emergency procedures the clinical urgency to perform the procedure may outweigh the risk of aspiration if a patient is not fasted. This may apply to very urgent procedures (e.g. cardioversion for life-threatening dysrhythmias, reduction of fracture or dislocation with soft tissue/neurovascular compromise or intractable pain/suffering) and urgent procedures (e.g. reduction of other fractures/dislocations, drainage of abscess cavity, pyonephrosis or upper urinary tract obstruction, rescue angioplasty). The on-call anaesthetist should be contacted for advice prior to any sedation being given to these patients.

8.1.4 Factors that may increase the risk for aspiration must be considered carefully (see Appendix 1).

8.1.5 The Anaesthetic Department or on-call Anaesthetist can be contacted for advice.

8.2 Drugs
If a procedure involves sedation then a specific clinical guideline approved by the Drug and Therapeutics Committee (DTC) Medicines Safety Group must be followed.

8.2.1 Non-painful procedures
Ideally, a single agent should be used to sedate the patient. The most commonly used sedative drug is midazolam which should be used as a 1mg per ml concentration (as per NPSA Alert). The dose should be titrated to the patient response but it would be unusual for the total dose required to exceed 5mg. The aim is for an ASA Sedation Score of 2 (see Appendix 3).

8.2.2 Painful procedures
For all patients undergoing a painful procedure sedation should be augmented (and preceded) by local anaesthesia and/or pre-procedure (opiate and non-opiate) analgesia. Consider the use of nitrous oxide/oxygen (entonox) and IV paracetamol unless contraindicated. If sedation is used, the target level of sedation is ASA Score 2. Intravenous fentanyl with intravenous midazolam may need to be considered for more painful procedures.

8.2.3 If a combination of drugs is used there should be a clear understanding of the synergistic effects of benzodiazepines and opioids and the increased potential for causing respiratory depression.

8.2.4 Where an opioid is given in combination with a sedative the opioid should be given first and allowed time to become maximally effective before any sedative is added.

8.2.5 Use of antagonist drugs
These are usually reserved for emergency use but must be readily available in all areas where sedation is given

8.2.6 Supplementary oxygen must be given to all patients prior to sedation being given.

3. Pre-Procedure Checks

3.1. The Sedation Provider must be present throughout the procedure and has the defined responsibility for monitoring patient safety and making a written record. Where patients do not speak English or who communicate using British Sign Language, communication must be through a suitably qualified interpreter.

8.3.2 A pre-sedation assessment must be undertaken to include a review of the patient's past and present medical and drug history with a formal documentation of risk. The patient must provide their informed consent

8.3.3 A written plan must be produced for the patient's sedation. The plan must include criteria for terminating monitoring and deeming full recovery to have occurred.

8.3.4 Any appropriate deviation from a policy or approved guideline needs to be documented, with reasons, in the medical record.

8.3.5 Any clinician who suspects at any stage that the plan and implementation of that plan has deviated inappropriately from a policy or approved guidelines should complete a risk incident form.

8.3.6 The following equipment must be present and functioning:

- blood pressure and ECG monitoring equipment;
- pulse oximeter;
- source of supplemental oxygen and apparatus for delivery: (Should be administered from commencement of sedation)
    - devices for administering oxygen via nasal cannula or facemask must be available;
- suction apparatus with appropriate suction catheters;
- cardiac arrest trolley immediately available;
- patient bed/trolley should be capable of being tipped head down

8.3.6(a) Capnography should be used to monitor adequacy of ventilation for all patients undergoing moderate sedation and available during recovery of these patients. It is recommended at lighter levels of sedation.

8.3.7 Venous access must be secured and flushed.

8.3.8 If moderate sedation (ASA score 2) is to be used and an antagonist exists for that sedative, sufficient antagonist to reverse any accidental overdose situation is to be verified as immediately available in that clinical area before the sedative is administered.

8.3.9 If verbal responsiveness is lost, the patient requires a level of care identical to that needed for general anaesthesia; accordingly, such care must be deliverable. An anaesthetist should be called

8.3.10 Monitoring sedation: A sedation scoring system should be used throughout the procedure *and* during recovery to monitor depth of sedation and ensure conscious sedation occurs. We recommend the ASA, aiming for score 2 (see Appendix 3)

8.3.11 Post procedure oxygen should be used and prescribed in accordance with the Trust oxygen prescribing policy

8.3.12 Consider use of WHO Surgical Safety Checklist

9. Facilities including recovery

9.1 Patients must be sedated on a trolley that can tip head down. In the angio suite and interventional radiology this will require that radiography staff are immediately available Suction apparatus must be present in the same room and the arrest trolley must be immediately available (in the same suite).

9.2 Patients must be recovered in a clinical area that provides the same level of facilities & monitoring as those required during the procedure, and by a healthcare professional with the core skills required by a recovery nurse. The patient must not be left unsupervised until they have fully recovered from sedation i.e. fully alert and responsive and return to pre-admission vital signs.

9.3 Every patient must be monitored until discharge from the recovery area is contemplated. Monitoring may need to be continued after discharge if deemed clinically appropriate eg interdepartmental transfer.

9.4 Verbal and written instructions, drawn up in accordance with the Policy on Communication with Patients, should be given to patients including advice on refraining from driving, operating machinery, drinking alcohol and signing legal documents up to 24 hours after receiving sedation.

10. Record keeping

10.1. The Sedation Provider is responsible for keeping a written record of observations during the procedure.

10.2. The minimum dataset must include patient details, procedure, sedative drug dose, time, and top-ups, level of sedation as per ASA Sedation Scale, oxygen saturations, heart rate and blood pressure.

10.3. Observations should be recorded at 5 minute intervals and up to 30 minutes after the last top-up.

10.4. The record should be signed and stored in the patient's medical notes. The anaesthetic/sedation record chart must be used (see Appendix 4).

10.5. Post procedure oxygen

11. Reporting of adverse outcomes

11.1. Unanticipated adverse outcomes after sedation must be documented as a risk incident. The following is a non-exhaustive list of adverse outcomes

- profound hypoxaemia (<90%)
- aspiration
- the patient cannot be awoken (requiring the use of either flumazenil or naloxone)
- respiratory arrest (requiring bag and mask ventilation)
- airway obstruction (requiring insertion of a laryngeal mask airway or endotracheal intubation)
- severe hypotension requiring intervention
- severe bradycardia requiring intervention
- emergency request for anaesthetic help
- cardiac arrest

11.2. Unanticipated adverse outcomes after sedation must be discussed promptly, fully, and compassionately to help patients and professionals better cope with after effects. This process should be undertaken according to the National Patient Safety Agency 'Being Open' framework: www.nrls.npsa.nhs.uk/beingopen

12. Local Guidelines/Policies

Each specialty that provides sedation for procedures excluding those in critical care areas must have local procedures in place that comply with this policy. Currently the Emergency Department Adult Sedation Policy (Appendix 5) is the only exception.

13. Equality and Diversity Statement

The Foundation Trust is committed to ensuring that as far as is reasonably practicable, the way services are provided to the public and the way staff are treated reflects their individual needs and does not discriminate against individuals or groups on the basis of any of the protected characteristics under the Equality Act 2010.

An initial Equality Impact Assessment of this policy (Appendix 6) found no detrimental impact on any of the groups covered by the Equality Act 2010.

14. Financial

The cost of providing a sedation service is managed within the Foundation Trust's normal budgetary arrangements within CBUs. There is no specific Trust-wide allocation or reserve.

15. Links to other policies/guidelines

Safe Sedation Practice for Healthcare Procedures: Standards & Guidance, October 2013. Academy of Medical Royal Colleges

Safe Sedation of Adults in the Emergency Department, November 2012. Royal College of Anaesthetists & College of Emergency Medicine

The Foundation Trust's:
Resuscitation policy
Clinical Guidelines for Adult Airway Suctioning
Oxygen prescribing policy
Medicines' policy
Anaesthetic Department's Guidelines for General Anaesthesia: Preparation of Patients for Anaesthesia and Surgery Guidelines (Word)

16. Policy Review

This policy will be reviewed every 2 years or when there is a specific change to practice.

17. Monitoring compliance

The Drug and Therapeutics Committee will monitor compliance with this policy, through the:

- receipt of analysis reports from the anaesthesia department for incidents relating to sedation in adults for procedures excluding those carried out in critical care areas;
- receipt of reports from the Education Department confirming or otherwise completeness of training records for Sedation Providers;
- approval of local specialty specific procedures.
- Sedation providers will periodically audit practice against this policy, and submit resulting audit reports to the Drug & Therapeutics Committee along with an recommendations and actions.

Healthcare professionals involved in delivering training will return records of training to the Education Department for upload into ESR LMS (this is the Foundation Trust's training database). Reports from the system will be sent to the Drug and Therapeutics Committee.

18. References

Safe Sedation Practice for Healthcare Procedures: Standards & Guidance, October 2013. Academy of Medical Royal Colleges

Safe Sedation of Adults in the Emergency Department, November 2012. Royal College of Anaesthetists & College of Emergency Medicine

National Institute for Health and Clinical Excellence: Sedation in children and young people (CG112) December 2010

Guidance for the use of propofol sedation for adult patients undergoing ERCP & other complex upper GI endoscoic procedures, March 2014. Royal College of Anaesthetists

Scoping our practice: The 2004 Report of the National Confidential Enquiry into Patient Outcome and Death. http://www.ncepod.org.uk/pdf/2004/04sum.pdf

Safe Sedation, Analgesia and Anaesthesia within the Radiology Department (BFCR(03)4), Sept 2003. Royal College of Radiologists

Sedation for gastrointestinal endoscopic procedures in the elderly: Getting safer but still not nearly safe enough 2006. British Society of Gastroenterology http://www.bsg.org.uk/pdf_word_docs/sedation_elderly.pdf accessed 14th December 2016

British Thoracic Society guideline for diagnostic flexible bronchoscopy in adults 2013

Guidelines on safety and sedation during endoscopic procedures. BSG, 2013

Continuum of depth of sedation: definition of general anaesthesia and levels of sedation/analgesia. ASA, 2009

Standards of monitoring during anaesthesia and recovery, 2015. Association of Anaesthetists of GB & Ireland (AAGBI)

Anaesthetic Department's guidelines for General Anaesthesia.

Bradford Teaching Hospitals Foundation Trust (2008) Aseptic Technique.

Bradford Teaching Hospitals Foundation Trust (2009) Infection Prevention and Control Policy.

Bradford Teaching Hospitals Foundation Trust (2008) Patient Identification Policy.

Department of Health (2003) Essence of Care: Privacy and Dignity. DH: London.

Department of Health (2009) Reference guide to consent for examination or treatment. 2nd Ed. DoH: London.

Loams, and West, (2009) Poor observation skills are risking patient's lives: [online] www.nursingtimes.net/nursing/observation/5007/94.artical

National Audit Project 5 (NAP5): Accidental Awareness During General Anaesthesia in the UK & Ireland

The 'NAP5 Handbook. Concise practice guidance on the prevention & management of accidental awareness during anaesthesia. AAGBI & RCOA (March 2019)

Sedation explained. Royal College of Anaesthetists (2018) http://www.rcoa.ac.uk/document-store/sedation-explained

National Patient Safety Agency (2005) Safer Practice Notice: Wristband for Hospital inpatients improve safety. NPSA: London.

National Patient Safety Agency (2009) in; Poor observation skills are risking patient's lives: [online] www.nursingtimes.net/nursing/observation/5007/94.artical

National Institute for Health and Clinical Excellence CG50 (2007) Acutely ill Patients in Hospital recognition of and response to acute illness in adults in hospital.London: ISBN 1-84629-440-1

Patient Safety First (2008) The 'How to Guide' for Reducing Harm from Deterioration

WHO Surgical Safety Checklist, 2009

NPSA/2008/RRR011: Reducing risk of overdose with midazolam injection in adults. 9th December 2008:
http://www.npsa.nhs.uk/corporate/news/reducing-risk-of-midazolam-overdose-in-adults/

NPSA rapid response alert http://www.nrls.npsa.nhs.uk/alerts/?entryid45=59896

Appendix 1

Aspiration risk factors

Patients are at increased risk of aspiration if one or more of the following are present:

- Features of potential difficult intubation should airway complication occur (short neck, reduced mouth opening, small mandible, large tongue)
- Conditions predisposing to oesophageal reflux (raised intracranial pressure, hiatus hernia, bowel obstruction)
- Upper GI bleeding
- Patients older than 70 years
- ASA 3 or greater (American Society of Anesthesiology)
- Altered level of consciousness.

Appendix 2
Core competencies for Sedation Providers

1 General skills

- Ensure the environment is safe
- Communicate effectively with anxious patients
- Select and check appropriate equipment
- Obtain an appropriate medical/surgical/anaesthetic/social history, including physical evaluation
- Appropriate dosing of sedation to required clinical endpoint
- Administer supplemental oxygen
- Assess the need for sedation/behavioral
- Management
- Formulate a treatment plan
- Obtain valid consent for sedation
- Keep a logbook
- Maintain a caring and professional attitude at all times including recognition of when to call for help
- Record accurate, concise and clear notes
- Assess fitness for discharge

2 Intravenous sedation

- Select and prepare all drugs and equipment
- Assess suitability of veins and perform IV canulation
- Recognise extravascular injection
- Titrate drug to required level of sedation
- Recognise the potential for causing respiratory depression if both a local anaesthetic and sedative are used

3 Monitoring

- Select and use appropriate monitoring, and make decisions and treat the patient on the basis of derived data.

4 Sedation related complications

- Recognise and respond to sedation related complications (e.g. over- or under-sedation, respiratory depression, airway obstruction, etc.) appropriately
- Knowledge of specific antidotes and doses
- Remain calm, decisive and purposeful during emergencies
- Know who and how to call for help
- Recognise and participate in the treatment of procedure –related complications (e.g. bleeding)
- Awareness of and training in accordance with the clinical guidelines for Adult
- Airway Suctioning
- Recognise and participate in the treatment of any other emergency (e.g. anaphylaxis, cardiac arrest, local anaesthetic toxicity)
- ILS trained

Appendix 3

Continuum of depth of sedation (ASA 2009)

1. Minimum Sedation (Anxiolysis) Cognitive function/coordination may be impaired but normal response to verbal stimulation

2. Moderate Sedation/Analgesia ('Conscious sedation') Purposeful response to verbal command either alone or by light tactile stimulation

3. Deep Sedation/Analgesia. Cannot be easily roused but purposeful response to repeated/painful stimulation

4. General Anaesthesia

NB Dissociative sedation: 'a trance like cataleptic state characterized by profound analgesia and amnesia, with retention of protective airway reflexes, spontaneous respirations, and cardiopulmonary stability'
Ketamine is a unique drug used in sedation practice that does not fit the ASA standards listed above as it produces a 'dissociative state'. A separate sedation category has therefore been introduced (5)

Appendix 4

Guidance on the form of words to use when consenting for sedation (modified from NAP5 Report)

	What will this feel like?	What will I remember	What's the risk related to the sedation drugs?
Not sedated; awake	I am awake, possibly anxious. There may be some mild discomfort	Everything	Nearly zero
Minimal sedation	I am awake & calm. There may be some mild/brief discomfort	Possibly everything	Very low risk
Moderate sedation	I am sleep & calm but remain in control. I may feel mild discomfort	I might remember some things	Low risk
Deep sedation	I am asleep. I will not be in control	Probably very little	Higher risk. My breathing may slow when I am asleep - & I may need help to breathe

Appendix 5

Medication guidelines for adult patients receiving procedural sedation.

*This guideline is not intended to be all-inclusive, but to serve as a guide. Please note that **some patients may not tolerate even these recommended doses**. Furthermore, many of these medications have synergistic respiratory depressant effects; when administered in combination these drugs might need to be used at lower doses than those stated below.*
The doses listed below are those licensed for each drug. Doses may vary at the discretion of the prescriber and depending on the age and status of the patient.

Medication	Route	Dose	Onset	Duration	Considerations	Reversal
Midazolam	im	2.5-5mg	15min	1-2h	Do not exceed 2.5mg/2min. Use cautiously for patients with CCF, COPD, hepatic/renal failure. Contraindications: Acute Glaucoma	Flumazenil
	iv	Initially 2mg (elderly 0.5-1mg), Titrate 1mg every 2-5mins (elderly 0.5mg). Usual total dose 2.5-5mg (max 7.5mg); elderly max 4mg	2-5min	30-90min		
Lorazepam	po	2-4mg 1-2hours before surgery	60min	6-8hours		Flumazenil
Fentanyl	iv	25-100mcg, repeat every 2mins, max 200mcg	1-5min	30-180min	Give slowly. Hold if RR<10/min	Naloxone
Alfentanil	iv	3-6mcg/kg, with 2mcg/kg increments every 10-15 minutes	1-2min	10-30 mins	Greater risk of respiratory depression than with fentanyl	Naloxone
Morphine sulphate	iv	1-2mg slow iv Repeat every 5mins to max 10mg	5 -10min	1-2hrs	Hold if RR<10/min	Naloxone
Medication	**Route**	**Dose**	**Onset**	**Duration**	**Considerations**	**Reversal**

Naloxone	iv	0.1mg increments until desired degree of reversal obtained			Larger than necessary dosages may result in significant reversal of analgesia with subsequent pain and increase in BP
Flumazenil	iv	0.1mg increments until desired degree of reversal obtained. Max total dose of 1mg.	If re-sedation occurs, the initial dosing regimen may be repeated no more than every 20min up to max 3mg in any 1h period. The effects of Flumazenil may subside prior to those of the Benzodiazepine and therefore, the patient may require additional ventilatory support. Do not use in patients requiring a Benzodiazepine for control of a potentially life-threatening condition or in patients with serious concurrent tricyclic antidepressant overdosage.		

Appendix 6a
Sedation Checklist

Bradford Teaching Hospitals NHS
NHS Foundation Trust

Adult Procedural Sedation Checklist

Patient name (Affix ID label)		Date: Procedure: Sedation provider: Dr performing procedure: Nurse present:
D.O.B.		
RAE N°.		

Drug allergy Y N

Sig: Date

Weight	
ASA	
DH	
PMH	
Anaesthetic Problems	
Fasting Status	Time of last Solids: Fluids:
Airway AX	

ANY CONTRAINDICATIONS TO SEDATION?
CONTACT ON-CALL ANAESTHETIST

Pre-procedure checklist	
Consent	
IV cannulation / flush : Site IV infusion YES / NO	
Analgesia considered: If so what?	
Staff present	

Equipment/Drug checklist	
Suction	
Tipping trolley	
Airway equipment (checked)	
Oxygen therapy delivered to patient	
Drug to be used: (Reversal agent available)	

Monitoring – Applied to patient and baseline recorded	
Pulse Oximetry	
BP	
Capnography	
ECG monitoring	
RR	

ALL CHECKS REQUIRE A RESPONSE

Appendix 6b
Sedation Monitoring Sheet

Sedation Observation Chart

Drug allergy Y N

Sig: Date

Time(s)																							
IV midazolam dose																							
Other drugs used/dose																							
ASA Sedation Score																							
O_2 l/min																							
SpO_2 %																							
ET CO_2																							
Systolic BP ▼	**200**																						
	190																						
	180																						
	170																						
	160																						
	150																						
	140																						
	130																						
Diastolic BP ▲	**120**																						
Pulse •	**110**																						
	100																						
	90																						
	80																						

Respiratory rate X	**70**																						
	60																						
	50																						
	40																						
	30																						
	20																						
	15																						
	10																						
	5																						

ASA Sedation Scale (Aim for conscious sedation=2)

1. Minimal Sedation: Normal response to verbal stimulation
2. Moderate Sedation: Purposeful response to verbal/tactile stimulation
3. Deep Sedation: Purposeful response following repeated or painful stimulation
4. General Anaesthesia
5. Dissociative anaesthesia

Any sedation-related complications must be recorded below :

Appendix 7

Please file sedation chart with ED notes

Emergency Department
Adult Sedation Chart

Propofol for sedation may only be used by ED Consultants, SAS doctors and EM Specialist Trainees with appropriate anaesthetic competencies (* signed off at departmental induction)*

Patient name		Date: Dr performing sedation: Dr performing procedure: Nurse present:
Date of birth		
A&E number		

- A senior practitioner (Consultant, SAS grade or ST) must be present for sedation purposes. An additional doctor is required to perform the procedure. An ED nurse should also be present.

Weight of patient:	Anaesthetic problems:
Allergies:	Last ate & drank (time):
Medications:	Past medical / surgical history:

Checklist for nurses and doctors performing procedures under IV sedation

Pre-procedure

- Consent patient for the procedure & document fully (consider written consent on hospital consent form, verbal consent is sufficient if the procedure is to be performed as an emergency, see BRI ED consent policy)
- Move patient to the resuscitation room
- Cannulate patient
- Perform an airway assessment (are you confident of being able to ventilate this patient if necessary? See page 2)
- Estimate patient weight (ideally weigh the patient)
- Analgesia: Adequate analgesia is essential prior to performing painful procedures. Consider the use of nitrous oxide / oxygen mixer as an alternative or addition to IV sedation with midazolam. Consider the use of IV paracetamol **(see "out of hours" guideline, page 3).** Fentanyl (50mcg adult dose) may be considered if propofol is to be used for sedation.
- *Consider risk/benefit of sedation for at risk patients:* the elderly, the morbidly obese and those with concomitant medical disease including: cerebrovascular disease, heart disease, lung disease, renal disease, liver disease and jaundice, bleeding disorders, acute gastrointestinal bleeding, shock, anaemia and concomitant drug therapy
- Choice of sedative agent: Consider propofol sedation for joint relocation (**ED Consultant/SAS/ST must be present**). Midazolam is an alternative to propofol. Avoid the simultaneous co-administration of morphine and midazolam. Midazolam may be titrated cautiously in patients who have received opiates at least more than 15 minutes previously. Flumazenil must be available
- Preparation of drugs. Check and record observations prior to procedure
- Equipment check: suction, tipping trolley, airway equipment

FASTING Record the patient's fasting state. Fasting (>6 hours for solids, >2 hours for clear liquids) is a consideration but not a necessity for sedation in an emergency situation. **For non-fasted patients requiring sedation contact on call anaesthetist**.

PROCEDURE	**Tick when completed**
• Minimum 2 doctors (1 Consultant or SAS grade or SpR as sedationist) and 1 nurse present	☐
Equipment	
• Suction	☐
• Tipping trolley	☐
• Airway equipment	☐
Monitoring	
• Pulse oximetry	☐
• Blood pressure (state interval)	☐
• Capnography	☐
• ECG monitoring	☐
• Respiratory rate	☐
• Patient pre-oxygenated	☐

RELATIVE CONTRA-INDICATIONS TO PROPOFOL	**Tick if present (consider other agent or anaesthetic support)**
• Egg / soya allergy	☐
• Children (age <16)	☐
• ASA >2 (see below)	☐
• Obesity (BMI >30)	☐
• Elderly patient (age > 60)	☐
• Predicted difficult airway (see Airway Assessment above)	☐
• Obstructive sleep apnoea	☐
NO CONTRA-INDICATIONS TO PROPOFOL	☐

ADMINISTERING PROPOFOL (APPROVED ED CONSULTANT/SAS/STR ONLY)

- Pre-oxygenate the patient with an FiO_2 of 1·0 for 3 minutes prior to sedation. Alternatively get the patient to perform five vital capacity breaths
- 250mls crystalloid running
- Give up to 0.5mg/kg IV of propofol as a bolus (caution: may require smaller initial bolus if pre-treated with an opiate) titrated to achieve target ASA Sedation Score 2 (see below)
- Perform the procedure when adequately sedated
- ***Give incremental top ups of 0·25mg/kg of propofol @ one minute prn, max dose 2.5mg/kg (1.5mg/kg in patients over 55 years)***

ASA GRADING circle as appropriate ***1 2 3 4 5***

1. A normal healthy patient.
2. A patient with mild systemic disease.
3. A patient with severe systemic disease.
4. A patient with severe systemic disease that is a constant threat to life.
5. A moribund patient who is not expected to survive with or without the operation.

"OUT OF HOURS" GUIDELINE FOR THE MANAGEMENT OF DISLOCATED SHOULDERS, ANKLES AND ELBOWS IN THE EMERGENCY DEPARTMENT

This guideline should be used out of hours or at times when there is no consultant present

PROPOFOL FOR SEDATION MAY ONLY BE USED BY DOCTORS WITH APPROPRIATE ANAESTHETIC COMPETENCIES

Does the patient clinically have an isolated dislocated shoulder / ankle or elbow joint?

NO → Abandon pathway

YES ↓

Is there any neurovascular or skin compromise ?

YES → Get senior help immediately

NO ↓

1. 1. Move the patient to Resus
   2. Analgesia (as page 1): consider entonox, IV paracetamol, opiates
   3. Organize xrays of the affected joint

Is the joint dislocated radiographically?

NO → Seek senior advice

YES ↓

Once adequate analgesia achieved attempt trial of reduction without sedation if possible
If unable to reduce consider reduction of joint under sedation

It is essential that there is a named nurse and 2 doctors present, one must be a middle grade / senior doctor skilled in sedation.

1. Consider written consent for procedural sedation and reduction/immobilization of dislocated joint.
2. Complete joint dislocation chart & procedural sedation chart and start continuous monitoring.
3. Use titrated I.V. sedative. Ensure reversal agent is available if applicable.
4. Once the patient is sufficiently sedated, reduce the dislocated joint.
5. Immobilize the affected joint as per usual practice.
6. Post procedure monitoring as page 4.
7. Re x-ray to confirm position and recheck neurovascular status.
8. Organize appropriate follow up.
9. Discharge once discharge criteria fulfilled (page 4).

Time(s)																									
Sedative & dose																									
Other drugs used																									
ASA sedation score (page 2)																									
0_2 l/min																									
$Sp0_2$ %																									
ECG sinus / ectopics etc																									
ET CO_2																									
	200																								
	190																								
Systolic BP ▼	**180**																								
	170																								
	160																								
	150																								
	140																								
Diastolic BP ▲	**130**																								
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	110																								
	100																								
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Respiratory rate X	**70**																								
	60																								
	50																								
	40																								
	30																								
	20																								
	15																								
	10																								
	5																								

COMPLICATIONS:

Apnoea ☐ Airway obstruction ☐ $Sp0_2$ <90% ☐ Aspiration ☐ Requiring flumazenil or naloxone ☐

Severe hypotension requiring intervention ☐ Severe bradycardia requiring intervention ☐ Emergent request for anaesthetic help ☐

Cardiac arrest ☐ASA Sedation Score 3-4 ☐ Other:

Post procedure

- The patient should not leave Resus/ 1:1 nursing until at least 30 mins post administration of sedation, and spontaneously alert **and** talking
- Frequency of observations
  - 5 minutes during and for 30 minutes post administration of sedation
  - Then every 15 minutes until discharge criteria met
- Discharge criteria:

• Return to normal level of mobility	
• Able to breathe deeply and cough on demand	
• Awake, alert and orientated to time, place and person	
• Observations back to, or better than baseline	
• Pain controlled	
• Accompanied by a responsible adult	
• Complete the electronic sedation log in Resus (desktop)	
• Verbal and written instructions given to patient (page 5)	

Discharge criteria met: Yes / No

Doctors Signature:_____Doctors Name:_____Date:__

The procedure was eventful / uneventful (delete as appropriate)

Advice sheet for patients following sedation

You have received a medicine that makes you sleepy. You have been kept in Hospital until you have recovered sufficiently from the effects of the sedation and painkiller. It is however possible that your judgement and/or coordination may be impaired for the next 24 hours.

There are a few simple precautions that you should follow for **24 HOURS**:

- **Do not drive or operate machinery.**
- **You need a responsible person to take you home and stay overnight.**
- **Avoid alcohol and non-prescribed drugs.**
- **Avoid signing legal or important documents.**
- **Do not lock the toilet door, or make yourself inaccessible to the person looking after you.**
- **Do not undertake activities involving heights.**
- **Do not undertake sporting activities.**

If you are unsure of anything, or develop any symptoms that cause you concern, please do not hesitate to telephone us. A nurse is always available to give advice and will be happy to help.

Telephone 01274 364012

Bradford Teaching Hospitals NHS
NHS Foundation Trust

Appendix 8

Initial Equality Impact Assessment (EqIA)
Assessment of Policy for Relevance for Promotion of Equality

1 Name of Policy	Policy on Sedation for Procedures in Adults

2 CBU/Department	Anaesthesia

3 Service	Sedation

4 CBU General Manager/Clinical Director	Dr Richard Davidson

5 Assessment Completed By (Author? Equality Lead? Other?)	**a) Name**	**b) Designation**
Equality Leads	Natalie Taylor	HIEC Project Manager
Equality Support	Naz Hussain	Interpreting and Patient Communication Manager
Date Assessment completed: 31/08/2012		
Approved by General Manger: Yes or No:		

6 Does the Policy Benefit or have an Impact on Staff and/or the Public? (please) ✓					
Staff					
Yes	√	No		Not Sure	
Public					
Yes	√	No		Not Sure	

	7 Is there a Differential Impact?				8 The Level of Concern or Evidence?		9 Total Scores	
	7a) Is there any information or reason to believe that the operation of this policy would or does affect groups differently? Answer: Yes 10 No/Not Applicable 0 Not Sure 5		**7b)** How much information or evidence is there? Answer: Not Applicable 0 None 2 Little 1 Some 3 Substantial 5		Has there been any concern expressed by the public or staff about the operation of this policy? Answer: Not Applicable 0 None 2 Little 1 Some 3 Substantial 5			
	Staff	**Public**	**Staff**	**Public**	**Staff**	**Public**	**Staff**	**Public**
Age	0	0	0	0	0	0	0	0
Disability	0	0	0	0	0	0	0	0
Gender	0	0	0	0	0	0	0	0
Gender Reassignment	0	0	0	0	0	0	0	0
Human Rights	0	0	0	0	0	0	0	0
Marriage or Civil Partnership Status	0	0	0	0	0	0	0	0
Maternity/Preg								
Race and Ethnicity	0	0	0	0	0	0	0	0
Religion and Belief	0	0	0	0	0	0	0	0
Sexual Orientation	0	0	0	0	0	0	0	0
						Sub Total	0	0

Grand Total	0

10 Priority			
Total Score	0	**Priority**	Low

11 Reasons for Applicability	
Equality Strand	**Reasons**
Age	Does not specifically impact on age
Disability	Does not specifically impact on disabled people
Gender	Does not specifically impact on gender
Gender Reassignment	Does not specifically impact on trans people
Human Rights	Does not specifically impact on human rights
Marriage or Civil Partnership Status	Does not specifically impact on marriage or civil partnership status
Maternity/Pregnancy	Does not specifically impact on maternity and pregnancy issues
Race and Ethnicity	Does not specifically impact on race and ethnicity
Religion and Belief	Does not specifically impact on religion and belief
Sexual Orientation	Does not specifically impact on sexual orientation

Notes:
The policy does not have a detrimental impact on any of the impact on any of the above strands. Communicating with patients in different formats and methods to take account of their individual needs has been added within the policy.

12 Equality and Diversity Department Sign Off	
Sign off by Department of Equality and Diversity	
Date of Sign Off	31/08/2012

Notice to the Public
If you would like to comment on this Initial Impact Assessment please contact:

Department of Equality and Diversity on telephone on 01274 382412
Or email equality@bradfordhospitals.nhs.uk

Appendix 9

Employee Record of Having Read the Policy

Title of Policy: **Policy on Sedation for Procedures for Adults**

I have read and understand the principles contained in the named policy.

PRINT FULL NAME	SIGNATURE	DATE