PROCEDURE FOR THE ADMINISTRATION OF INTRAVENOUS MIDAZOLAM FOR CONSCIOUS SEDATION

<table>
<thead>
<tr>
<th>Issue History</th>
<th>Issue Version</th>
<th>Purpose of Issue/Description of Change</th>
<th>Planned Review Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>One</td>
<td>To promote safe and effective treatment for adult patients who require conscious sedation with intravenous midazolam</td>
<td>2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Named Responsible Officer:-</th>
<th>Approved by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head of Community Dental Services</td>
<td>Risk and Governance Group</td>
<td>December 2011</td>
</tr>
</tbody>
</table>

Section: - Medicines Management
MM 21

Target Audience
Dental Services

UNLESS THIS VERSION HAS BEEN TAKEN DIRECTLY FROM THE TRUST WEB SITE THERE IS NO ASSURANCE THIS IS THE CORRECT VERSION
CONTROL RECORD

Title: Policy for the Administration of Intravenous Midazolam for Conscious Sedation for Salaried Dental Services

Purpose: To promote safe and effective treatment for adult patients who require conscious sedation with intravenous midazolam

Author: Quality and Governance Service (QGS)

Equality Statement: Integrated into procedure

Yes

No

Subject Experts:
- Head of Dental Services
- Andrew Kwasnicki Dentist
- Lisa Knight Pharmacist

Document Librarian: QGS

Groups consulted with: Medicines Management Group

Date formally approved by Risk and Governance Group: 1st December 2012

Infection Control Approved: ✓

Method of distribution: Email ✓ Intranet

Archived: Date Location S Drive QGS

Access: Via QGS

VERSION CONTROL RECORD

<table>
<thead>
<tr>
<th>Version Number</th>
<th>Author</th>
<th>Status</th>
<th>Changes / Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version 1 – December 2011</td>
<td>N/ TC</td>
<td>New procedure to comply with National Patient Safety Alert</td>
<td></td>
</tr>
</tbody>
</table>

Status – New / Revised / Trust Change
PROCEDURE FOR THE ADMINISTRATION OF INTRAVENOUS MIDAZOLAM FOR CONSCIOUS SEDATION

INTRODUCTION

This procedure outlines the actions to be followed by dentists who undertake intravenous conscious sedation with midazolam for Wirral Community NHS Trust Salaried Dental Services (SDS). This may take place within suitably equipped primary care dental surgeries (Patients classed as “ASA I or II”) or in the secondary care setting of Arrowe Park Hospital Sedation Suite (APHSS) (ASA class I, II and stable class III). It also outlines the actions to be followed by supporting Registered General Nurses (RGN) or Sedation Trained Dental Care Professionals (STDCP) working within the dental sedation team.

All staff involved must accept the following definition of conscious sedation:-

A technique in which the use of a drug or drugs, produces a state of depression of the central nervous system enabling treatment to be carried out, but during which verbal contact with the patient is maintained throughout the period of sedation. The drugs and techniques used to provide conscious sedation for dental treatment should carry a margin of safety wide enough to render loss of consciousness unlikely. The level of sedation must be such that the patient remains conscious, retains protective reflexes and is able to understand and respond to verbal commands. (General Dental Council GDC: “Maintaining Standards” 2001).

In patients who are unable to respond to verbal contact even when fully conscious (e.g. patients with hearing impairment) the normal method of communicating with them must be maintained. The concept of “deep sedation” in which the criteria listed above are not fulfilled is regarded as general anaesthesia by the GDC.


TRAINING

All dental clinicians undertaking conscious sedation with intravenous (IV) midazolam must have successfully completed;

- A post graduate course in standard technique conscious sedation and completed a portfolio of experience
- All clinicians must attend a yearly update course on conscious sedation
- Clinicians practicing IV sedation will be peer reviewed once yearly by another suitably qualified experienced member of the conscious sedation team. The peer review session will involve, observation of treatment, observation of patient assessment and a sedation related medical emergencies scenario.
- All dental clinicians and nurses assisting with this procedure must have successfully completed service specific training, including basic life support training and bi-annual intermediate life support training.

Dental clinicians under no circumstances should either carry out conscious sedation techniques for which they have insufficient clinical experience or sedate patients who are more complex than they have been trained/have documented experience treating.

All STDCP or RGNs acting as the second appropriately trained person must have successfully completed an appropriate training course and required experience.
INDICATIONS FOR CONSCIOUS SEDATION

Local anaesthesia remains the mainstay of pain control during dental treatment. However in some patients conscious sedation can be an effective method of facilitating dental treatment and is used in conjunction with an appropriate local anaesthesia. Sedation is a valuable tool in dentistry, it is not a therapy. Sedation, like local anaesthesia, is an adjunct to patient management. There are some patients in whom sedation is contraindicated or is unsuccessful. There must always be an indication for using sedation and this must be apparent from the patient’s clinical records.

The indications for sedation are listed below:

Psychological / Social

Patients who have dental anxiety or phobia and are unable to accept treatment which they view as traumatic or distressing; sedation often allows the acceptance of such treatments.

Medical

Anxious patients with medical conditions that are precipitated or aggravated by stressful procedures can often benefit from receiving sedation. Anxiety and pain can cause overactive sympathetic nervous activity (hypertension, tachycardia, arrhythmias). Normal psychological responses to anxiety and fear are not usually harmful; however, in a medically compromised patient they may present a risk to the patient’s health. Sedation reduces psychological responses to anxiety and fear. Epilepsy, asthma, hypertension and angina are examples of systemic diseases that may be exacerbated by stress.

Patients who have involuntary movements due to neuromuscular disease (e.g. cerebral palsy or Parkinson’s disease) may wish to have dental treatment, but are unable to physically co-operate. It is often difficult to treat patients with movement disorders safely; and sedation facilitates dental management in this group of patients.

Patients with learning disabilities may not necessarily be anxious prior to dental treatment, but they may become anxious or distressed during treatment. Consent for sedation can allow treatment to be undertaken in a non-threatening manner which the patient finds acceptable.

Dental

Patients who usually find dental treatment acceptable may need sedation for surgical or difficult procedures that they view as stressful. Oral surgery procedures (e.g. the surgical removal of teeth or implant replacement) under local anaesthesia (LA) are understandably viewed as unpleasant by many patients.

Patients who have a disruptive gag reflex are also included in this indication.

ASSESSMENT OF PATIENTS

Assessment establishes the suitability of the patient to undergo intravenous sedation and is essential to the process of consent. Patients should be assessed using the inclusion and exclusion criteria outlined below:

Inclusion Criteria

- Patients with a psychological/social, medical, or dental requirement for intravenous conscious sedation with midazolam. (see section on Indications for Conscious Sedation for full details)
- Patients who are classified as ASA1, ASA2 or stable ASA 3 where it is safe and within the experience of the clinician to do so (see appendix 1 ASA classification)
- Patients who are 16 years or over
- Patients with valid written consent
• Patients who have arranged appropriate home care for themselves and for any persons who are usually dependent upon them.
• Patients who will be accompanied by a responsible adult escort and can be taken home by car or taxi

Exclusion Criteria
• Patients without a psychological/social, medical, or dental requirement for intravenous conscious sedation with midazolam.
• Patients who are classified as unstable ASA3, ASA4 or ASA5
• Patients who the clinician feels are unsafe to treat due to a combination of medical factors who may otherwise be classed as ASA2 or below.
• Patients with a systolic blood pressure of above 180mmHg and/or a diastolic blood pressure of 100 mmHg or above, who have not been assessed as medically fit to undergo the procedure, by their General Medical Practitioner.
• Patients with a measured resting oxygen saturation of below 93%. (Refer any patients with a measured resting oxygen saturation of below 95%, to their General Practitioner for investigation of underlying cause if not already known).
• Patients with a pulse rate indicative of tachycardia or bradycardia, that cannot be otherwise explained as due to anxiety.
• Patients who are under the age of 16 years. (In exceptional circumstances and at the discretion of the treating clinician patients under 16 years can be sedated using this method, however the decision making process must be clinically documented)
• Patients who are pregnant. (Those in dental pain unable to cope with treatment under local anaesthetic alone will be referred urgently to Liverpool Dental Hospital for assessment there)
• Patients who have not provided valid written consent
• Patients who cannot provide a suitable escort or are unable to arrange suitable aftercare for 24 hours. (Alternative methods of pain and anxiety control will be re-evaluated)
• Patients who are allergic to or have known contraindications to any medication used in the procedure including midazolam, flumazenil or any local anaesthetics used.

ASSESSMENT VISIT

All patients who undergo IV sedation must be assessed prior to treatment and it is best practice for consent to be done at this assessment appointment. The conscious sedation assessment is ideally performed within the clinical setting in which treatment is to take place. This is in order to familiarise the patient/carer with the venue and surroundings. This facilitates acclimatisation and gives the sedation team an opportunity to establish a rapport with the anxious patient. However under certain circumstances it may be impractical to carry out the assessment within the same setting (for example a patient with learning disabilities who’s initial appointment is at an alternative clinic who would find it stressful and upsetting to undergo a second assessment visit elsewhere.)

At the assessment visit the following information is collected by the STDCP or RGN and then confirmed by the dental clinician.
• Letters of referral
• Assessment form
• Full medical and drug history
• Blood pressure
• Pulse oximetry
  • measure resting oxygen saturation
  • record pulse rate

The patient then has a full dental examination performed by the dental clinician including:
• Reason for referral (dental complaint)
• Dental history
• Dental examination
• Radiographic examination
• Examination of veins of arm and hand

From this an assessment is made by the clinician into:
• The appropriateness of the referral
• Level of patient anxiety
• Urgency of treatment
• The suitability of the patient to the inclusion and exclusion criteria of the service as a whole.
• The suitability of the patient to the skills and experience of the clinician.

Using this information and by referring to the inclusion and exclusion criteria the suitability and need of the patient to receive IV sedation is established. If the patient fulfils the criteria for intravenous conscious sedation within the SDS a treatment plan is devised and the consent process begins.

• Pre and post operative verbal and written instructions must be given to the patient regarding the conscious sedation by the dental clinician, this must then documented within the clinical notes. Patient information leaflets on pre and post operative instructions are available on the Trust intranet
• The role and the responsibilities of the appropriate escorting person must be explained and highlighted to the patient
• Patient information leaflets outlining the treatment to be performed must be discussed verbally and given in writing. e.g. extraction / root canal. Patient information leaflets outlining specific treatments are available on the Trust intranet. The codes for the PILS given must be documented in the clinical notes.
• Full written consent must be gained for the treatment plan using Trust approved consent forms.
• Document the phone number of the responsible adult escort to ring, if after the procedure an emergency arises

Once the process of consent is complete:-
• Convenient treatment appointments are arranged.

Prior to leaving the surgery a final check must be made that the patient is happy with the proposed treatment plan and that they fully understand what their and the escorts responsibilities are on the day of treatment. Further emphasis must be made for the need to keep the appointments. Consent although agreed at this appointment must be revisited at every sedation appointment (see Trust policy on consent for further details)

EQUIPMENT

It is the responsibility of the supporting RGN or STDCP to ensure that the surgery is fully operational and all monitoring equipment is checked, regularly maintained, fully working and appropriate records are kept.

• The supporting RGN or STDCP is required to prepare two medicine trays, the contents of which are outlined below
• Batch numbers and expiry dates of medicines and instruments used must be logged, ensuring that expiry dates have not been exceeded
• The two medicine trays should be available at the chair side for every patient receiving conscious sedation with midazolam.
• When not in use all medicines are to be locked away.
Tray 1 must contain the following:

<table>
<thead>
<tr>
<th>Tray 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midazolam 5mg in 5ml</td>
</tr>
<tr>
<td>10 ml Syringe</td>
</tr>
<tr>
<td>Adhesive &quot;midazolam 1mg in 1ml (5mg in 5ml)&quot; label</td>
</tr>
<tr>
<td>Drawing up needle</td>
</tr>
<tr>
<td>Sodium chloride 0.9% for injection</td>
</tr>
<tr>
<td>Sterile, transparent dressing</td>
</tr>
<tr>
<td>Cotton wool roll for pressure dressing</td>
</tr>
<tr>
<td>Swab</td>
</tr>
</tbody>
</table>

The Midazolam tray contains the ampoule and syringe. When drawn up this syringe must be labelled and contained in tray 1

Tray 2 must contain the following:

<table>
<thead>
<tr>
<th>Tray 2 (Reversal Drug Tray)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flumazenil (500mcg /5ml)</td>
</tr>
<tr>
<td>Adhesive “Flumazenil 500mcg/5ml” label</td>
</tr>
<tr>
<td>5ml syringe</td>
</tr>
<tr>
<td>Drawing up needle</td>
</tr>
</tbody>
</table>

The reversal drug tray (Tray 2) should be kept at the chair side, but in a location apart from the midazolam drug tray.

The reversal agent Flumazenil should not be drawn up unless it is required to be administered to the patient.

Blank labels should be readily available in each surgery to label syringes containing sodium chloride 0.9% for injection.

- A pulse oximeter is mandatory and a blood pressure machine should be available
- An oxygen supply is essential with both nasal cannulae and a non rebreather mask. (if supplemental oxygen is given this must be documented in the clinical notes)
- There should be immediate availability of emergency medicines and equipment as follows:-
  
  Adrenaline/ Epinephrine 1:1000 1mg/ml injection  
  Glucagon (GlucaGen HypoKit 1mg)  
  Glucose 40% (GlucoGel 25g tubes)  
  Midazolam 10mg/1ml buccal liquid  
  Glyceryl Trinitrate Spray 400mcg  
  Salbutamol Inhaler 100mcg per metered dose  
  Dispersible Aspirin Tablets 75mg  
  Sodium Chloride Eye Bath  
  1ml syringe  
  Blue needles 23g  
  4 Guerdal Airways  
  Thermometer  
  Defibrillator  
  Razors  
  Volumatic Spacer Device  
  Reversal tray 2  
  A stop watch and tourniquet to be available

All staff should be familiar with the allocation of these items.
CLERKING IN PROCEDURE

The majority of patients who attend the sedation unit will have been assessed at an earlier appointment. Patients who attend for emergency care or at short notice will need to be assessed as outlined in section on Assessment of Patients, before commencing treatment. If there are any doubts treatment should be postponed.

Prior to treatment the patient should be clerked in by the RGN/STDCP. The following to be confirmed and reported to the dental clinician:-

- Full name of patient, date of birth and address
- That the patient has an appropriate escort with them and has appropriate travelling home arrangements
- The patient has appropriate postoperative care at home
- Clinical notes are available and valid consent has been given
- No medical/medicine history changes have occurred since assessment that would exclude the patient from the procedure
- The patient has not become pregnant
- Blood pressure, pulse rate and oxygen saturation are within the excepted criteria for this process
- Check a two hour time interval has elapsed since the patient’s last food and/or drink

If the patient no longer fulfills the inclusion criteria the dental clinician must be informed, as the procedure should not be performed.

PROCEDURE FOR CONSCIOUS SEDATION

<p>| The dental clinician must verbally confirm the identity of the patient by asking for their full name and date of birth. If the patient is unable to confirm, check identity with family/carer | To avoid mistaken identity |
| The dental clinician and RGN/STDCP must introduce themselves and any other colleagues involved at the contact, as staff members | To promote mutual respect and put patient at their ease |
| The dental clinician and RGN/STDCP must wear identity badges which include name status and designation | For patients to know who they are seeing and to promote mutual respect |
| The dental clinician must check procedures have been completed to gain valid consent including outlining the risks and benefits and this must be documented in the patient’s record. | To ensure client understands procedure and relevant risks |
| Written consent must be obtained prior to the administration of sedative drugs | To comply with Trust policy |
| The dental clinician must establish that the patient has no known allergies to the medication being administered, checking in the patient’s records and also by asking patient/family of any known allergies. The dental clinician must document any known allergies | To reduce risk of allergic reactions |
| When clinically indicated the dental clinician may prescribe topical dermal anaesthetics to aid the cannulation process (e.g. patients with a needle phobia) once checked this can then be administered by the RGN/STDCP according to the manufacturer’s guidelines | To aid patients ability to undergo cannulation |
| When clinically indicated (e.g. needle phobia/learning disability) the dental clinician may prescribe a premedication which would be | For some patients their level of anxiety/understanding is such that a degree of sedation is required prior to the insertion of an indwelling |</p>
<table>
<thead>
<tr>
<th>Procedure Step</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>checked by the RGN/STDCP prior to being administered by the dental clinician</td>
<td>venous cannula. This is to aid the patient to accept treatment</td>
</tr>
<tr>
<td>Two staff are required to be present when drawing up medication from the ampoules</td>
<td>To minimise risk of medication errors</td>
</tr>
<tr>
<td>The dental clinician must check batch number and expiry date and record in patient records this must be checked by the RGN/STDCP or another suitably qualified person</td>
<td>To provide an audit trail of batch numbers used and to reduce the risk of out of date medicines being given</td>
</tr>
<tr>
<td>Decontaminate hands prior to procedure</td>
<td>To reduce the risk of transfer of transient micro-organisms on the healthcare workers hands</td>
</tr>
<tr>
<td>Draw up the Midazolam 5mg in 5ml into a 10 ml syringe.</td>
<td>It is recommended that Midazolam is drawn up into a 10ml syringe, this will help to avoid potential confusion with Flumazenil</td>
</tr>
<tr>
<td>The dental clinician will draw up the medication this must be checked by the RGN/STDCP or another qualified dental clinician.</td>
<td>To reduce medication errors</td>
</tr>
<tr>
<td>Any medicines drawn up into a syringe must be immediately labelled by the dental clinician</td>
<td>To enable colleagues to check content of syringe and to promote safe administration of medication</td>
</tr>
<tr>
<td>The supporting RGN/STDCP must monitor the patient throughout the procedure.</td>
<td>To ensure blood pressure, pulse rate and oxygen saturation levels are within the expected criteria for this process</td>
</tr>
<tr>
<td>Patients should have their blood pressure taken pre-operatively and should be available throughout treatment</td>
<td>To provide a baseline for blood pressure to compare against the inclusion criteria</td>
</tr>
<tr>
<td>The pulse oximeter should be recording the patient’s pulse and oxygen saturation during the procedure at the time of administering midazolam and until the treatment episode is completed</td>
<td>To monitor the patient’s pulse and oxygen saturation levels before and during the procedure</td>
</tr>
<tr>
<td>Decontaminate hands</td>
<td>To reduce the risk of transfer of transient micro-organisms on the healthcare workers hands</td>
</tr>
<tr>
<td>Apply single use disposable apron</td>
<td>To protect clothing or uniform from contamination and potential transfer of micro-organisms</td>
</tr>
<tr>
<td>Apply single use disposable non-sterile gloves</td>
<td>To protect hands from contamination with organic matter and transfer of micro-organisms</td>
</tr>
<tr>
<td>An indwelling venous cannula must be used to obtain intravenous access at the most accessible site in line with Trust policy.</td>
<td>To ensure intravenous access is maintained until discharge</td>
</tr>
<tr>
<td>Cleanse area of chosen site for at least 30 seconds with 2% chlorhexidine in 70% isopropyl alcohol (Chloraprep) swab/applicator and allow to dry naturally for 30 seconds.</td>
<td>Reduce the risk of transfer of any transient micro-organisms from skin to subcutaneous tissues or bloodstream (Pratt et al 2007)</td>
</tr>
<tr>
<td>Stabilise the vein and insert the tip of the cannula, when blood appears in the chamber this is known as flashback and this indicates that that the initial entry into the vein has been successful. The cannula should be advanced gently and smoothly into the vein whilst withdrawing needle</td>
<td>Patient comfort, and ease of cannula insertion. To prevent mobilisation of the vein (Douglas and Lister 2008). To ensure cannula correctly placed in the vein lumen</td>
</tr>
<tr>
<td>The appropriate needle free access system must be connected to the cannula through which medication or fluids can be administered</td>
<td>To prevent blood leakage and contamination</td>
</tr>
<tr>
<td>After successful cannulation the cannula is</td>
<td>To secure cannula in place</td>
</tr>
</tbody>
</table>
taped securely using recommended sterile
dressing. If necessary the success of
cannulation can be confirmed by injecting
1-2mls of sodium chloride 0.9%
Reduce risk of infection
To maintain patency of the cannula

In difficult access cases no more than 4
attempts to be made at cannulation at any one
visit. These attempts should be judged
according to patient’s cooperation and
willingness. If access remains a problem
consider re schedule with anaesthetist
Further unsuccessful attempts may limit future
vascular access and cause unnecessary trauma
to patient

Midazolam must be titrated incrementally to
patient response and not given as a bolus dose
Standard adult incremental administration of
midazolam:

- Initial dose of 2mg/2ml IV midazolam
  administered over 1 minute and
  assessed against patient response for a
  further 1 minute
- Subsequent 1mg/1ml IV midazolam
  increments given over 1 minute and
  assessed for a further 1 minute against
  patient response
- Subsequent increments are given until
  the clinician is happy that the sedation
  endpoints have been reached

The onset of action is about two minutes after
the initial injection, therefore two minutes
following the first dose, 1mg (1ml) increments of
midazolam should be given up to a maximum of
approximately every 60 seconds if required,
titrating to the patient’s response

Where titration of midazolam dosage needs
to be slower
In patients over 50, young patients, patients
taking medication which may interact with
midazolam, patients who have previously been
over sedated/respiratory depressed, patients
with known renal compromise, the frail (this is
not an exhaustive list) an alternative
administration protocol such as outlined below
(or slower) may be used:

- Initial dose of 1mg/ml IV midazolam
  administered over 2 minutes.
- Subsequent 0.5mg/0.5ml IV midazolam
  increments given slowly over 1 minute
  and assessed for 1 minute against
  patient response.
Subsequent increments are given until the
clinician is happy that the sedation endpoints
has been reached

The time interval between administering
consecutive increments may vary and is
influenced by several factors (e.g. medical
history, circulatory problems, drug history, age,
whether the operator has sedated the patient
before).

Observe the patient’s speech, change in
demeanour, eye’s (ability to touch the nose with
a finger) and veeris (ptosis of the eyelids) sign,
respiration rate and reaction to placement of
local anaesthetic (LA) to help identify the end-
point.
The sedation/titration end point can be difficult
to identify in some patients. The clinician should
never ask the patient if they feel adequately
sedated, it is a clinical decision based on clinical
signs (which are not always obvious) and
ultimately based on the patient’s ability to
accept treatment.

The patient’s normal method of communication
is to be maintained at all time during treatment
visit
To ensure that the patient is able to both
understand and respond to verbal commands

A minority of patients will not accept dental
The dental clinician is responsible for
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>treatment despite appearing to be adequately sedated. In these circumstances the dental clinician must abandon sedation and not risk overdosing the patient.</td>
<td>terminating the session if needed for the safety of the patient.</td>
</tr>
<tr>
<td>IV Midazolam is licensed up to a maximum dose of 7.5mg. There may be occasions when the dental clinician decides it is necessary to exceed the licensed dose, however total doses of over 10mg are rarely required. Midazolam should always be titrated incrementally to the patient’s response whilst monitoring the patient’s vital signs both electromechanically and clinically.</td>
<td>By titrating to the patient’s response and documenting doses administered the dental clinician will be able to justify the doses administered.</td>
</tr>
<tr>
<td>The IV cannula must not be removed until the patient is assessed as “fit for discharge”.</td>
<td>To ensure intravenous access is maintained until discharge.</td>
</tr>
<tr>
<td>During the treatment episode the RGN /STDCP acts as the second appropriate person and should remain in the surgery.</td>
<td>At all times the clinician must be chaperoned.</td>
</tr>
<tr>
<td>At no point should either the dental clinician or the second appropriate person be left alone with the patient</td>
<td>The dental clinician and RGN/STDCP act as each other’s chaperone.</td>
</tr>
<tr>
<td>Take blood pressure, pulse rate and oxygen saturation readings prior to discharge.</td>
<td>To monitor patient’s health status.</td>
</tr>
<tr>
<td>After completion of dental treatment, if the patient is not fit for discharge, they are taken into the recovery room by the RGN /STDCP</td>
<td></td>
</tr>
<tr>
<td>The cannula is then removed on the direction of the dental clinician. Safely dispose of sharps into appropriate sharps container.</td>
<td>To prevent inoculation injury.</td>
</tr>
<tr>
<td>On completion of procedure remove and dispose of PPE to comply with waste management policy</td>
<td>To prevent cross infection and environmental contamination.</td>
</tr>
<tr>
<td>Decontaminate hands following removal of PPE</td>
<td>To remove any accumulation of transient and resident skin flora that may have built up under gloves and possible contamination following removal of PPE.</td>
</tr>
<tr>
<td>Document all details of medication administered, including dosage and route of administration.</td>
<td>To maintain accurate records.</td>
</tr>
<tr>
<td>It is the responsibility of the dental clinician to authorise discharge of the patient into the care of the escort</td>
<td>For safe discharge, patients must only be allowed to leave when they have returned to normal level of responsiveness and orientation for age and mental status and can walk unaided.</td>
</tr>
<tr>
<td>The patient will be discharged into the care of the escort having satisfactorily met the requirements of the recovery criteria.</td>
<td>A responsible adult must accompany the patient home after treatment and remain with them as a minimum for the remainder of the day.</td>
</tr>
<tr>
<td>Post operative instructions verbal and written are given to escort, to include post-operative risks, pain control, and management of possible complications. This must be clinically documented</td>
<td>To ensure patient and escort have appropriate aftercare instructions.</td>
</tr>
<tr>
<td>Complete discharge documentation</td>
<td>To maintain accurate records.</td>
</tr>
<tr>
<td>Decontaminate reusable equipment in line with Trust policy</td>
<td>Effective decontamination of reusable equipment minimises the risk of cross infection.</td>
</tr>
</tbody>
</table>
PROCEDURE TO BE FOLLOWED IN THE EVENT OF OVER SEDATION

<table>
<thead>
<tr>
<th>Flumazenil should always be available and stored in a separate tray. It should be used to reverse the effects of midazolam if required. The availability of this reversal agent does not justify poor titration technique or over dosage with midazolam.</th>
<th>If flumazenil is required, it must always be drawn up into a 5ml syringe and the clinician should inform the second appropriate person that they are about to administer flumazenil.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The recommended initial dose is 200 micrograms (2ml) administered intravenously over 15 seconds</td>
<td>To follow manufacturer’s instructions</td>
</tr>
<tr>
<td>If the desired level of consciousness is not obtained within 60 seconds a further dose of 100 micrograms (1ml) can be injected and repeated if necessary at 60 second intervals up to a maximum total dose of 1mg (10ml)</td>
<td>To comply with the recommendations made by the National Patient Safety Alert RRR011 (2008) Reducing the risk of overdose with midazolam injection in adults to promote patient safety</td>
</tr>
<tr>
<td>Document all details of medication administered, including dosage and route of administration.</td>
<td>To maintain accurate records</td>
</tr>
<tr>
<td>In the event of flumazenil being administered, it is essential that the patient’s escort is informed. This is because the half – life of flumazenil is shorter than midazolam and there is the possibility of re-sedation occurring.</td>
<td>To promote patient safety</td>
</tr>
<tr>
<td>A Trust incident form must be completed</td>
<td>This would be classed as a ‘near miss’</td>
</tr>
<tr>
<td>If there is a need to administer Flumazenil, administration must be recorded in the patient’s notes and in the log book within the surgery to be audited on a yearly basis</td>
<td>To maintain a robust audit trail</td>
</tr>
</tbody>
</table>

EQUIPMENT

All equipment used for taking physiological measurements e.g.; pulse oximetry and blood pressure are serviced and calibrated by EMBE twice a year. The weighing scales are serviced and calibrated twice a year following Trust regulations.

The dental cart and accessories are serviced yearly by Claudius Ash.

All dental clinical instruments are decontaminated by the Central Sterilisation Unit at Arrowe Park Hospital.

Daily checks are performed by the dental nurse on all equipment before the clinical sessions and logged on a Pre IV Sedation Dental Nurse Check List.

EQUALITY ASSESSMENT

During the development of this procedure the Trust has considered the clinical needs of each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation). There is no evidence of unsupported clinical exclusion of these named groups.

If staff become aware of any clinical exclusions that impact on the delivery of care a Trust incident form would need to be completed and an appropriate action plan put in place.
CLINICAL INCIDENTS

Any related incidents arising from carrying out this procedure which may involve a clinical error or near miss must be reported following Trust Incident Reporting Policy.

REFERENCES


General Dental Council GDC: “Maintaining Standards” 2001


Standardised Evaluation of Conscious Sedation Practice for Dentistry in the UK

Society for Advancement of Anaesthesics in Dentistry April 2009.

Summary of Product Characteristics for Midazolam and Flumazenil available at www.medicines.org.uk
## American Society of Anaesthesiology Classification of Physical Status

ASA Classification

<table>
<thead>
<tr>
<th>Class</th>
<th>Patient Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A normal healthy patient</td>
</tr>
<tr>
<td>2</td>
<td>A patient with mild systemic disease</td>
</tr>
<tr>
<td>3</td>
<td>A patient with severe systemic disease</td>
</tr>
<tr>
<td>4</td>
<td>A patient with severe systemic disease that is a constant threat to life</td>
</tr>
<tr>
<td>5</td>
<td>A moribund patient who is not expected to survive without the operation</td>
</tr>
</tbody>
</table>