Worcestershire NHS
Acute Hospitals NHS Trust

ADULT RAPID TRANQUILLISATION IN THE EMERGENCY DEPARTMENT (A&E) AND MEDICAL ASSESSMENT UNIT

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

Patients presenting to either the emergency department (ED) or other acute care areas such as the medical assessment unit (MAU) requiring rapid tranquillisation for their own safety represent a high risk group of patients. Requirement for rapid tranquillisation may be due to psychiatric illness, diseases such as encephalitis, injury (traumatic brain injury) or due to the ingestion of drugs. The confusion / violence / aggression / agitation that may accompany such illnesses presents many challenges to those who have to manage the patient not least the undifferentiated nature of the underlying disease. The decision to undertake emergency Rapid Tranquillisation (RT) should only be done if it is the patient's best interests and all other avenues to gain patient co-operation have been exhausted.

THIS GUIDELINE IS FOR USE BY THE FOLLOWING STAFF GROUPS :

- Medical practitioners qualified to administer and prescribe tranquillising drugs.
- Qualified Nurse / Practitioner trained to administer tranquillising drugs.
- Medical practitioner capable of providing assisted ventilation should apnoea occur.

Lead Clinician(s)

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Date	Amendment	By:
08.03.2011	No amendments made to guideline	James France
12.02.2013	Reviewed with minor amendment to title	James France
01.11.2015	No substantial amendments made	James France
Oct 16	Further extension as per TMC paper approved 22ND July 2015	TMC
November 17	Document extended whilst under review	TLG
24.11.17	Changes to doses of midazolam and lorazepam Changes to requirement for clinical incident	James France

	reporting and documentation of mental capacity	
02.10.2019	Post Incident Debrief	James France

ADULT EMERGENCY RAPID TRANQUILLISATION IN THE EMERGENCY DEPARTMENT (A&E) AND ACUTE MEDICAL UNIT

INTRODUCTION

Patients presenting to either the emergency department (ED) or other acute care areas such as the acute medical unit requiring rapid tranquillisation for their own safety represent a high risk group of patients. Requirement for rapid tranquillisation may be due to psychiatric illness, diseases such as encephalitis, injury (traumatic brain injury) or due to the ingestion of drugs. The confusion / violence / aggression / agitation that may accompany such illnesses presents many challenges to those who have to manage the patient not least the undifferentiated nature of the underlying disease. The decision to undertake emergency Rapid Tranquillisation (RT) should only be done if it is the patient's best interests and all other avenues to gain patient co-operation have been exhausted.

DETAILS OF GUIDELINE

Related trust guidelines

- Mental Capacity Act 2005. Summary and Guidance for Staff. January 2008
- Policy for the Management of Violence and Aggression. October 2006
- WAHT-SUR-003 Prescribing Guidelines for Rapid Tranquillisation of Disturbed Patients. May 2008 (this applies to inpatients, particularly post operative vascular patients)

Rationale for guidelines

This guideline is required in addition to the above documents because it is recognised that patients presenting to the ED / MAU represent special challenges in safe patient management:

- Undifferentiated nature of illness requires careful choice of drugs and dosages.
- Emergency situation requires immediate familiarity with drugs and their side-effects.
- Clinicians may be forced initially to have to manage the patient in less than ideal surroundings.
- The often violent nature of the presentation may require multidisciplinary team working including involvement of the police.
- Staff as well as patients are likely to be frightened by the behaviour of a patient requiring RT.

- It is a relatively infrequent occurrence.

Patient groups

Only those patients who have been assessed as lacking capacity and who represent a danger to themselves or others in the acute care area should be considered for RT. The use of RT is for patients who are likely to have an underlying injury or illness that has caused them to be disturbed or behave in a violent or aggressive manner.

- Adults.
- Patients in the ED or acute care areas such as MAU.
- These patients may or may not be accompanied by the police.

This guideline is not designed to include the following patients:

- In-patients e.g. post operative confusion, confusion in the elderly.
- Psychiatric in-patients.

The aim of Rapid Tranquillisation

To provide sedation as safely and quickly as possible, to a patient who is violent and aggressive to allow further management of that patient; which may include emergency investigation and treatment. RT prevents the patient from harming themselves or others (including staff) whilst maintaining the duty of care that the trust owes to its patients.

Conditions for implementation of Rapid Tranquillisation

- The patient must have been assessed by a senior doctor (middle grade or consultant) as:

  -Lacking in capacity and requiring immediate RT to prevent him/her from harming themselves or others within the acute care area.

- All other efforts to try to calm / reassure / gain co-operation from the patient must have been exhausted or deemed inappropriate due to the nature of the presentation including:

  -De-escalation techniques / conflict resolution / seclusion / privacy & quiet.
  -Oral medication e.g. lorazepam 2mg PO (max 6mg/24 hours)

- Discussion with the duty Consultant preferably before RT has taken place, if time allows is recommended
- The clinical notes must clearly document the indication(s) for rapid tranquilisation and the mental capacity assessment.

If time allows then discussion with family and the next of kin may be appropriate; however they cannot overrule the clinical decision to provide emergency rapid tranquillisation if it is

deemed to be in the patient's best interests who also lacks capacity as defined under the Mental Capacity Act 2005.

Provision of Rapid Tranquillisation

- RT should be provided by the most **senior / experienced doctor** available who is competent at providing sedation and treating the complications or side-effects of the procedure. In particular the clinician as a minimum should be capable of providing supportive care which involves the use of airway adjuncts such oropharyngeal airways and manual ventilation with bag and mask devices. The aim is to provide RT as safely and quickly as possible using an appropriate drug and dosage that works after the first attempt.

- RT should ideally be carried out in a **setting** which has immediate access to oxygen via high flow reservoir mask, suction, monitoring for oxygen saturations, blood pressure, heart rate and respiratory rate. Furthermore the availability of equipment and drugs to deal with potential problems should also be ensured; these may include laryngoscope, endotracheal tube, defibrillator, flumazenil, adrenaline, intravenous fluids etc.

- It is recognised that the provision of RT may initially have to take place in less than ideal surroundings, but every effort should be made to have portable equipment ready and a plan to transfer the patient as soon as possible (once the sedative has taken effect) to a high dependency area with the appropriate monitoring facilities and equipment (e.g. in the ED this would be the resuscitation room).

- The **route of administration** in the emergency setting is likely to be intramuscular (IM) this has the benefit of rapid access and minimising the risk of needlestix to others. The period of physical restraint required for a single IM injection is also minimised when compared to attempts at intravenous cannulation in the unco-operative patient. The intravenous route has the advantage of slightly more rapid onset, however it is unlikely to be available for immediate use in the emergency setting. Once the patient has been sedated using the intramuscular route and the patient is more co-operative then intravenous access should be gained and secured as soon as possible.

- The **choice of drug** is dependent of the familiarity of the clinician with the drug and likelihood of side-effects given the emergency presentation and the difficulty in determining the underlying reason for the current violent or aggressive behaviour. The patient's previous drug history should also be considered, particularly recent medication and drugs which have been used in the past.

- In the acute care setting a benzodiazepine is the drug of choice if past medical history is uncertain (history of cardiovascular disease, uncertainty regarding current medication, or the possibility of current illicit drug / alcohol intoxication). Consider using either **lorazepam** 4mg IM or **midazolam** 5mg IM, do not use both. Lorazepam is longer acting, however it is stored in the fridge, needs to be mixed 1:1 with water for injection or sodium chloride 0.9% before injecting, supplies can be erratic and absorption may be no better than orally. Midazolam is a short acting, readily available benzodiazepine that requires no mixing before injection and is stored at room temperature. It has a significantly quicker onset of action and more rapid time to arousal than lorazepam or haloperidol. Midazolam 5mg IM is recommended for patients with acute behaviour disturbance ('excited delerium'), however experience has shown that doses between 7.5-15mg IM can be required initially; clinicians

should balance the risks of the need for prolonged restraint (inadequate dosing) vs likelihood of over sedation. **Flumazenil** should be readily available irrespective of which benzodiazepine is used.

- **Haloperidol** may also be used in the emergency setting, however it is envisaged that this would only be for those patients where there is confirmed history of previous significant antipsychotic exposure, and response to haloperidol and that the current episode is likely to be due to acute psychosis in the absence of illicit drug / alcohol ingestion. A Dose of 5mg of haloperidol IM as a separate injection to the benzodiazepine may be given.

- In the event of failure of either the benzodiazepine or combination of benzodiazepine and haloperidol when given intramuscularly to produce adequate sedation then proceed to gain intravenous access and administer 5mg of diazemuls® intravenously. **Flumazenil** should be readily available and 'to hand' (not locked in a cupboard) as a precaution if resorting to IV diazemuls after IM medication.

- Once RT has been achieved the patient should be moved to an appropriate area to allow continued monitoring, **establishment of intravenous access** and treatment of any complications related to sedation. Emergency investigation and treatment should be undertaken as soon as possible. Provision of further bolus doses of intravenous sedative may be necessary e.g. 2-3mg IV of midazolam or 2-5mg of diazemuls until a definitive management plan has been arranged. Consider early involvement of other specialties e.g. psychiatry, intensive care, medicine.

Drug notes

- In general dosages described are for 'average' sized adults, the dosage may need to be varied according to body habits, age (reduce dose by half in the over 65yrs) and according to other medication which may have recently been taken.

- When administering IM injections use the smallest volume possible, volume should not exceed 5mls.

- Benzodiazepines have no anti-psychotic activity but have useful sedative and anxiolytic effects. Toxicity, such as over-sedation and respiratory depression (respiratory rate <10 breaths per minute or oxygen saturations <90%), can occur at high doses. These effects are rapidly reversed with Flumazenil (Anexate®). Benzodiazepines are well tolerated, with a high therapeutic index, and are not implicated in causing the serotonin syndrome, neuroleptic malignant syndrome, QTc prolongation or dystonic reactions. They have proven safety and efficacy in animal experiments and widespread clinical use for sympathomimetic drug related agitation. They also possess dose dependent efficacy that is easily titratable, and have established seizure prophylaxis and seizure terminating activity. Benzodiazepines have no arrhythmogenic potential with therapeutic or toxic exposures, and hypertensive and arrhythmia preventive activity in sympathomimetic drug toxicity.

- Midazolam (Hypnovel®) is available in strengths of 1, 2 or 5mg per ml.

- Lorazepam (Ativan ®) is kept in the fridge in a strength of 4mg per ml.

- Diazepam should not be used via the intramuscular route – it is extremely irritant and absorption is slow and erratic. Diazemuls® emulsion may be administered 5mg/ml into a large vein.

- Flumazenil (Anexate®) is a benzodiazepine antagonist which may be used to reverse the effects of benzodiazepines that have been administered during sedation procedures. It should not be used in patients presenting with an undifferentiated overdose due to deliberate self harm. Presentation: clear colourless solution 100mcg/ml in a 5ml ampoule. Side Effects: hypertension, dysrhythmias, vomiting, dizziness, flushing, anxiety, headache and convulsions. Avoid, if possible, in known status epileptics and raised intra-cranial pressure. It acts within 30-60 seconds and lasts 15-140 minutes, its duration of action is shorter than that of the benzodiazepines it is antagonising. Administer 200mcg IV over 15 seconds, then 100mcg IV at 60 second intervals. Usual dose range 300-600mcg; max total dose 1mg.

- Haloperidol is a butyrophenone anti-psychotic or neuroleptic. It generally tranquillises without impairing consciousness. Side-effects include extrapyramidal symptoms (parkinsonian symptoms, dystonia, akathisia, tardive dyskinesia), neuroleptic malignant syndrome, prolongation of the QTc interval with sudden cardiac death and seizures. Avoid in patients with known cardiac disease or who may have ingested illicit drugs. Haloperidol should not be administered unless procyclidine or benzatropine are immediately available. Acute dystonia may be treated with either benzatropine 2mg IV or procyclidine 5mg IV, repeated as necessary after a few minutes. Dramatic resolution of symptoms usually occurs after a few minutes.

- The following drugs **should not** be used to provide RT:

  -IM diazepam
  -IM chlorpromazine
  -Thioridazine
  -IM depot anti-psychotics
  -Olanzapine
  -Risperidone
  -Zuclopenthixol acetate

Post Incident Review

Following the use of rapid tranquillisation a post incident review should take place as soon as possible but within 72hrs. The review should involve those staff present (doctors, nurses, MHL, security, police etc.) and aim to discuss any concerns, ensure the safest and least restrictive practises were followed and to consider if any changes to existing policy are required (eg. treatment approach, education, training etc.)

The post incident review should be documented (person leading the debrief) by completing a brief DATIX confirming time and date of debrief, any significant issues and any recommendations from the de-brief. The DATIX submission should keep the anonymity of those taking part in the debrief.

MONITORING TOOL
This should include realistic goals, timeframes and measurable outcomes.

How will monitoring be carried out?

Who will monitor compliance with the guideline?

STANDARDS	%	CLINICAL EXCEPTIONS
Critical incident forms reviewed by patient safety group.		

REFERENCES

Violence: The short-term management of disturbed/violent behaviour in psychiatric in-patient settings and emergency departments. Clinical Guideline 25. National Institute of Clinical Excellence.

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Nobay F, Simon BC, Levitt MA, Dresden GM. A prospective, double blind, randomized trial of midazolam versus haloperidol versus lorazepam in the chemical restraint of violent and severely agitated patients. Acad Emerge Med 2004; 11(7): 744-9.

Whelan KR, Dargan PI, Jones AL, O'Connor N. Atypical antipsychotics not recommended for control of agitation in the emergency department. Emerge Med J 2004; 21: 649.

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Guidelines for rapid tranquillisation of acutely disturbed patients. Worcester Mental Health Partnership.

Oxford Handbook of Accident and Emergency Medicine. Wyatt JP, Illingworth RN, Robertson CE, Clancy MJ, Munro PT. 2nd Edition, 2005.

Guidelines for the Management of Excited Delirium / Acute Behavioural Disturbance (ABD). Royal College of Emergency Medicine, May 2016.

Guideline for Adult Emergency Rapid Tranquillisation in the Emergency Department (A&E) and Medical Assessment Unit

Assessment by senior doctor:
- Patient lacks capacity
- Patient represents a significant danger to him/herself or others
- Patient requires emergency treatment / investigation

Non drug measures undertaken if possible:
- De-escalation techniques / exclusion
- Oral medication – lorazepam 2mg (max 6mg per day)

Preparation to ensure RT as safe as possible:
- Inform consultant
- Drug drawn up and prepared correctly. Antidotes available.
- Oxygen and high flow reservoir mask
- Monitoring equipment (ECG, pulse oximeter, BP)
- Equipment in case of complications (airways, suction, BMV)

Choice of drug(s):

Either **Midazolam* 5.mg IM**
Or **Lorazepam 4mg IM**

consider using **Haloperidol 5mg** as a separate **IM** injection in-addition to the benzodiazepine in psychosis

If this fails to produce an adequate response then consider **Diazemuls® 5-10mg IV**

Once sedative taken effect:
- Establish and secure intravenous access
- Monitor in a high dependency area
- institute emergency treatment and investigation as necessary
- Maintain sedation with **IV** bolus midazolam 2-3mg or 2-5mg diazemuls until definitive management plan arranged.

Document clearly in the clinical notes:
- the indication(s) for rapid tranquilisation
- the mental capacity assessment.

Notes:

● **Midazolam** doses between 7.5-15mg IM may be required.
● **Lorazepam** should be mixed 1:1 with water for injection or sodium chloride 0.9%. It is stored in the fridge.
● When to add in **Haloperidol -** Confirmed history of previous significant antipsychotic exposure, and response to haloperidol and that this current episode is likely to be due to acute psychosis in the absence of illicit drug / alcohol ingestion.
● Do not give **Diazepam** via the intramuscular route.
● **Flumazenil** should be available as a precaution if resorting to IV diazemuls after IM medication. Initial dose 200mcg slowly.
• **Procyclidine** 5mg IV bolus or **Benzatropine** 2mg IV bolus for treatment acute dystonia secondary haloperidol.

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