## Drug Treatment of Acute Behavioural Disturbance (Rapid Tranquillisation) Guidance

<table>
<thead>
<tr>
<th>Author:</th>
<th>Marjorie McGhie Lesley Dewar</th>
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<tbody>
<tr>
<td><strong>Endorsing Body:</strong></td>
<td>Mental Health &amp; Learning Disability Drug &amp; Therapeutic Committee</td>
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<td>Mental Health &amp; Learning Disability Clinical Governance Committee</td>
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### CONSULTATION AND DISTRIBUTION RECORD

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<p>|                                 | • Consultant Psychiatrists &amp; associated medical staff |</p>
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<td>4/03/14</td>
<td>L Dewar</td>
<td>Additional amendments from Old Age Psychiatry, CAMHS &amp; following EDIA</td>
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<tr>
<td>01/02/16</td>
<td>L Dewar</td>
<td>Change to wording around maximum dose of lorazepam (ref: SPC) and administration advice re haloperidol IM (ref: SPC)</td>
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<td>Additional wording for LD population</td>
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<td></td>
<td>Reference to MEWS and insertion of MEWS tool in appendix 1 to replace old monitoring form.</td>
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<tr>
<td>04/11/17</td>
<td>L Dewar</td>
<td>Mews replaced with NEWS Haloperidol maximum dose changed in algorithms and associated text Review date extended to March 2018</td>
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<tr>
<td>05/03/18</td>
<td>L Dewar</td>
<td>Review date extended to September 2018 pending New Guidelines Haloperidol contra-indication added</td>
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1. INTRODUCTION

In a minority of cases behavioural disturbance, including agitation and aggression which occurs during the acute phase of psychosis, schizophrenia, patients with dementia and in individuals with learning disability, requires management by means of rapid tranquillisation. The NICE Clinical Guideline number 25 on Violence states that ‘rapid tranquillisation, physical intervention or seclusion should only be considered once de-escalation and other strategies have failed to calm the service user’.

Rapid tranquillisation (RT) in the context of this guidance describes the use of medication to control severe mental and behavioural disturbance including aggression associated with schizophrenia, mania, learning disability and other psychiatric conditions. It usually involves the administration of medication over a limited time period of 30 – 60 minutes. This guidance should not be used for the management of alcohol withdrawal, unless on specialist advice the guidance should not be used in acute confusional states.

2. AIM, PURPOSE AND OUTCOMES

The aim and purpose of this document is to provide guidelines, for medical and nursing staff, on the safe and appropriate use of medication to treat acute behavioural disturbance in in-patients.

3. SCOPE

This policy is intended to provide guidelines for medical and nursing staff involved in the treatment in the following patient groups:-

- General Adult Psychiatric In-Patients (18-65yrs)
- In-Patients with Learning Disability
- Old Age Psychiatry In-Patients (>65yrs)
- CAMHS Patients In-patients (12-17yrs)
4. PRINCIPLE CONTENT

4.1. Aim

The aim of RT is to achieve a state of calm in the severely agitated patient who is behaving in a disturbed or violent manner that cannot be modified by interventions already in the patient’s care plan. The purpose of RT is to reduce the risk of imminent and serious violence or harm to self or others, rather than to treat the underlying psychiatric condition. Staff must be trained in how to assess and manage potential and actual violence, using de-escalation techniques, restraint, change of environment and RT. Details of the clinical situation and all interventions must be recorded in the patient’s medical notes.

4.2. General Points

- Patient should only be treated with the following medication after an assessment of risk of harm to self and/or others and when it has been established that the risk of not treating is greater than the risk of acute pharmacological treatment
- If patient is pregnant or is breastfeeding seek specialist advice and liaise with the patient’s pre-natal team regarding the treatment given.
- RT should only be considered if de-escalation and other non-drug strategies have been tried without success or felt to be inappropriate
- If medical cover is available the doctor attending the patient must obtain as much history as possible from patient and other sources. (Always seek advice of senior colleague/consultant when unsure)
- Consider non-psychiatric causes of behavioural disturbance and manage accordingly e.g. hypoglycaemia, delirium, drug/alcohol intoxication or withdrawal. Physical causes of distress e.g. pain should be considered particularly in patients with Learning Disabilities or cognitive impairment
- Note other medication previously prescribed or administered, drug allergies and use of combination doses of oral and IM
- The patient should be informed of the proposed medication and the reason for giving it. At an appropriate time following the use of rapid tranquillisation, this should be repeated ensure the patient understands what has happened. This should be communicated in a way that is appropriate for the individual, taking into account any physical, intellectual or language communication difficulties. See Section 12 Links for advice and assistance.
- If an Advance Statement exists it should be given due consideration
- Mental Health Act status should be checked. If patient is detained a T4 form will need to be completed unless rapid tranquillisation is already included in the treatment form
- For Old Age Psychiatry wards and other wards without 24 hour medical cover see appendix 2 for advice on dealing with respiratory depression when there is no-one available to administer IV medication
- Refer to the current SPC or BNF for the most up to date advice on contraindications or drug interactions with current medication.
4.3. Principles of Drug Treatment

- Use oral, then IM if necessary. (IM preferred over IV for safety)
- After administration of rapid tranquillisation, use MEWS tool to monitor Temp, Pulse, BP, level of alertness, oxygen saturation.- score and escalate if necessary, i.e. score of > 3
- Start with the lowest recommended dose because under-dosing is easier to remedy than over-dosing
- Always allow time for medication to work
- Always have facilities for resuscitation available
- NEVER mix drugs in the same syringe
- NEVER use the same administration site
- Polypharmacy within a class of medication (e.g. antipsychotics) should, where at all possible, be avoided
- Consider concurrent antipsychotics and the potential for inadvertent High Dose therapy
- If patient has previously responded well to a particular medication it should be used again
- Clopixol Acuphase should never be administered for RT because the onset of effect is too slow. See appendix 4 for guidance on the use of Clopixol Acuphase

4.4. Risks Associated with RT

- Excessive sedation
- Loss of consciousness
- Respiratory depression or arrest
- Cardiovascular complications
- Seizures
- Akathesia, dystonias and dyskinesias
- Neuroleptic malignant syndrome

4.5. Circumstances where Special Caution is Required

Separate treatment guidance has been developed for physically frail adults and those with dementia. Physically frail adults are defined as older adults, those with co-morbid conditions or those who are underweight. There is additional guidance for acutely disturbed patients over 12 years seen by the Child and Adolescent Mental Health Service (CAMHS).

In patients with Learning Disabilities, whose response to the drugs used in rapid tranquillisation is unknown, lower doses should be used initially or the algorithm for CAMHS or Old Age Psychiatry followed. Some people with learning disabilities can be very sensitive to the effects of medication, so until response is established proceed with caution. In addition maximum doses of haloperidol are lower when this is being used for challenging behaviour where there is no underlying schizophrenia, psychosis, mania and hypomania. Lorazepam is usually the drug of choice in these patients particularly if there
is a history of epilepsy or behavioural disturbance due to seizure activity cannot be ruled out.

Prescriptions for PRN protocol medication should follow the algorithms in this guidance. If a ‘PRN Protocol’ specifies medication that is not within the recommendations of this guidance, the reasons for this should be documented in the patient notes and on the patient’s protocol.

Caution should be used when using haloperidol as this is contra-indicated in prolonged QTc and this should to be excluded from a recent ECG before using the drug. Co-prescriptions of other drugs which have the potential to cause QTc prolongation is also contraindicated.

4.6. Assessment Prior to Prescribing RT

Conduct a physical examination where possible with particular reference to:
- Parkinson’s Disease, lewy body dementia, organic syndromes, acute confusional state
- General condition and weight
- Falls
- State of hydration
- Infection
- Evidence of pre-existing cardiac or pulmonary conditions
- Pregnancy
- Baseline pulse, blood pressure, temperature and respiratory rate
- Head injuries and seizures
- Intoxication with alcohol, benzodiazepines or illicit drugs
- Hypoglycaemia
- Baseline electrolytes and ECG where possible

If a physical examination or any aspect of a physical examination is not possible, the reasons for this should be documented in the patient’s case notes.

4.7. Rapid Tranquillisation Algorithms

The following pages provide algorithms for the drug treatment of acute behavioural disturbances in the stated patient groups. Each algorithm should be used in conjunction with the notes on its preceding page and the document in general. After treatment the patient must be monitored as detailed in section 4.8 and Appendix 1.

Adults 18-65 years – notes – pages 8 & 9
Adults 18-65 years – algorithm – page 10
Adults over 65 years – notes – page 11
Adults over 65 years – algorithm – page 12
Adolescents 12-17 years – notes– page 13
Adolescents 12-17 years – algorithm – page 14
4.7.1 Adults 18 - 65 yrs - Drug Treatment
(including those with learning disabilities but see section 4.5)

1. Consider NON-DRUG measures:
   Talking down, distraction, safe place or change of environment.

2. If medication is required consider previous exposure to antipsychotics and cardiac status.

   NOTE: avoid antipsychotics in patients with cardiac disease— use benzodiazepines alone.
   If antipsychotic medication is considered necessary seek specialist advice
   Baseline ECG is recommended prior to treatment with Haloperidol

3. ORAL therapy should be offered initially
   (lower doses may be necessary for patients with learning disabilities- see section 4.5)

   Consider orodispersible or liquid formulations where available

   **First line oral therapy option**

   **Lorazepam 1 - 2mg** Repeat after 60 minutes if necessary. (Max. dose 8 mg in 24 hours).
   NB maximum daily dose for oral lorazepam in BNF/SPC is 4mg daily. If doses between 4mg and 8mg daily are used, ensure that the responsible psychiatrist is notified at the earliest opportunity
   Sedation in 30-45 minutes, peak plasma concentrations in 2 hours.

   **Second Line oral therapy options**

   **Olanzapine 10mg** Repeat after 2 hours if necessary. (maximum dose 20mg in 24 hours)
   Peak plasma concentrations in 5-8 hours. (orodispersible tablets available)

   or

   **Risperidone 2mg** Repeat after 2 hours if necessary. (maximum dose 6mg in 24 hours)
   Peak plasma concentrations in 1-2 hours. (orodispersible tablets available)

   or

   **Haloperidol 5mg + Lorazepam 2mg**. Repeat after 60 minutes if necessary.
   (Haloperidol maximum oral dose 20mg in 24 hours)
   Peak plasma concentration in 2-6 hours
   Maximum oral dose in people with learning disabilities without underlying schizophrenia, psychosis, mania or hypomania is 15mg/day

   **NB Haloperidol**
   - Pre-treatment ECG is required to exclude prolonged QTc
   - Contra-indicated with any other medicine which has the potential to prolong QTc

   **NOTE**: Antipsychotics should only be used on specialist advice to manage behaviour problems of dementia in patients regardless of age

3. Consider INTRA-MUSCULAR INJECTION
   If patient has refused oral or if oral therapy unsuccessful.
   See table on following page and algorithm on page 10
4. If no response after repeat injections of any of the options described on the following pages seek further advice from Senior Medical Colleague

Information on medication for intra-muscular injection included in the algorithm

<table>
<thead>
<tr>
<th>First line option</th>
<th>Drug</th>
<th>Usual Adult Dose</th>
<th>Peak Plasma</th>
<th>Guideline maximum dose</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lorazepam IM</td>
<td>2mg Repeat after 30 – 60 minutes if required</td>
<td>1-1.5 hours</td>
<td>Maximum 8 mg in 24 hrs (including any oral) NB notify responsible psychiatrist if doses of 4-8mg are used</td>
</tr>
<tr>
<td>First line alternative Only if lorazepam IM is not available</td>
<td>Midazolam IM</td>
<td>7.5mg Repeat after 2 hours if required Note interaction with macrolide antibiotics and ‘azole’ antifungals Reduce dose of midazolam</td>
<td>30 minutes</td>
<td>Maximum 15mg/24 hours Ensure flumazenil I/V is available if respiratory depression occurs</td>
</tr>
<tr>
<td>Second line Option 1</td>
<td>Promethazine IM Avoid IM benzodiazepine within one hour</td>
<td>50mg Slow onset of action Allow 2 hours to assess response</td>
<td>Not known</td>
<td>Maximum 100mg in 24 hours</td>
</tr>
<tr>
<td>Second line Option 2</td>
<td>Olanzapine IM Do not give within one hour of an IM benzodiazepine</td>
<td>10mg use 5mg if &gt;60 years old or renal/hepatic impairment (Repeat either 5mg or 10mg dose after 2 hours if required.)</td>
<td>15 – 45 minutes</td>
<td>Maximum 20mg in 24 hours including any oral Maximum of 3 injections in any 24 hours and treatment for not more than 3 days</td>
</tr>
<tr>
<td>Second line Option 3</td>
<td>Aripiprazole IM</td>
<td>9.75mg Repeat after 2 hours if necessary</td>
<td>1 – 3 hours</td>
<td>Maximum 30mg in 24 hours including any oral Maximum 3 injections in 24 hours</td>
</tr>
<tr>
<td>Second line Option 4</td>
<td>Haloperidol IM C/I prolonged QTc &amp; co-prescription with other drugs with the potential to cause prolonged QTc Not recommended previous good response to haloperidol</td>
<td>5mg Repeat after 30 – 60 minutes if necessary</td>
<td>15 – 60 minutes</td>
<td>Maximum dose 12mg in 24 hours 10mg in 24 hours in learning disabilities without underlying psychosis or mania Procyclidine injection must be available</td>
</tr>
</tbody>
</table>

Note:
The following points are important:
- Lorazepam IM can be given in addition to the antipsychotic BUT DO NOT ADMINISTER IM Olanzapine within one hour of administering IM Lorazepam DO NOT ADMINISTER IM Lorazepam within one hour of administering IM Olanzapine Careful monitoring is required after administration of both a benzodiazepine and antipsychotic
- Whenever possible, IM Lorazepam is preferred but best avoided in patients who have significant respiratory impairment because of the risk of respiratory depression. When IM Lorazepam is not available IM Midazolam should be used (note: also risk of respiratory depression)
- When use of a benzodiazepine is not appropriate e.g. when patient is benzodiazepine tolerant consider using IM promethazine
- NHSL MHLD DT consensus is that BNF maximum doses should be followed for haloperidol. Doses higher than the BNF maximum should not be used in rapid tranquillisation without consultant advice
Guidance for Drug Treatment of Acute Behavioural Disturbance (Rapid Tranquillisation)

Version No. 1.7
September 2018
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General Adult (18-65 yrs) Psychiatric In-Patients
(Including Patients with Learning Disability but see section 4.5)
Algorithm for Drug Treatment of Acute Behavioural Disturbance

Consider NON DRUG measures
E.g. Talking down, time out, seclusion
Obtain as much drug history as possible from the patient and other sources

Disturbed but accepting oral medication.
- Nurse in non stimulating area
- On-going verbal de-escalation
- Review current medication
- Decide whether additional oral/ dispersible medication is required

First line oral
Lorazepam 1-2mg
Can be repeated after 1 hour
Max. 8mg/24 hours – notify responsible psychiatrist if doses of 4-8mg in 24 hours are used

Second line oral
Olanzapine (10mg)
Can be repeated after 2 hours
Max 20mg/24 hours

or
Risperidone (2mg)
Can be repeated after 2 hours
Max 6mg /24 hours

or
Haloperidol (5mg) + lorazepam(2mg)
Can be repeated after 1 hour
Max. 20mg haloperidol/24 hours*; 8mg lorazepam/24hours)
NB haloperidol – see C/I P10
NOTE: Antipsychotics should only be used on specialist advice to manage behaviour problems of dementia in patients regardless of age

Consult Senior Colleague If no improvement after second injection

If unsuccessful or inappropriate

Disturbed (includes violence to self or others) but refusing oral medication
- Review all medication prescribed & administered within the last 24 hours. (BNF limits, side effects)
- Seek Senior Medical opinion if unsure

First line IM
Lorazepam 1-2mg IM
Can be repeated after 30 – 60minutes
Max. 8 mg/24 hours - notify responsible psychiatrist if doses of 4-8mg in 24 hours are used
Sedation in 30-45minutes, peak 1-3 hours, lasts 4-6 hours.
Or ONLY in situations where IM lorazepam is not available and flumazenil is available
Midazolam 7.5mg IM
Can be repeated after 2 hours if required
Max. 15mg/24 hours
Sedation in 18 minutes, peak 30 minutes, lasts 82 mins

Second line IM
Option 1: Promethazine 50mg IM
Allow 2 hours to assess response
Max 100mg/ 24hours
Option 2: Olanzapine 5-10mg IM
Can be repeated after 2 hours
Max .dose 20mg /24 hours in max of 3 injections
Peak plasma 15-45mins
Option 3: Aripiprazole 9.75mg IM
Can be repeated after 2 hours if necessary
Max. 30mg/ 24hours
Peak plasma 1–3 hours t1/2 75 –146 hours
Option 4: Haloperidol (5mg) IM (see C/I on P10)
Can be repeated after 30- 60 minutes
Maximum 12mg/24 hours* 
Sedation in 10mins, peak 15-60 minst1/2 10-36 hours.

IM Lorazepam (or midazolam) can be given in addition to the IM antipsychotic but DO NOT use IM Lorazepam (or midazolam) and IM Olanzapine within an hour or each other

*In learning disabilities without underlying psychosis or mania max oral 15mg/ IM 10mg
4.7.2. Adults over 65 years and frail adults – Drug Treatment

1. **Consider NON-DRUG measures:**
   - Talking down, distraction, safe place or change of environment
   - Exclude causes due to physical illness

2. **If medication is required,** consider previous exposure to antipsychotics, presence of Lewy Body Dementia and cardiac status
   - Antipsychotics should not normally be used if Lewy Body Dementia has not been ruled out because of the risk of neuroleptic sensitivity. Seek specialist advice if antipsychotic medication is being considered
   - Note: Where possible **avoid antipsychotics in patients with cardiac disease**—use benzodiazepines alone. If antipsychotic medication is being considered seek specialist advice. Baseline ECG is recommended prior to treatment with haloperidol – if ECG is not available the reason why should be documented in the notes.

2. **ORAL therapy should be offered initially**
   Consider liquid or orodispersible formulations where available

   - **Where Dementia with Lewy Bodies is present or cannot be excluded:**
     Lorazepam 0.5 - 1mg Repeat after 60 minutes if necessary.
     Max dose 2mg in 24 hours.
     Sedation in 30-45 minutes; peak plasma concentration in 2 hours
     or
     Trazodone 50mg (max dose 100mg in 24 hours)
     Peak plasma concentration in 2 hours

   - **Where Dementia with Lewy Bodies has been excluded:**
     Lorazepam 0.5mg - 1mg Repeat after 60 minutes if necessary.
     Max dose 2mg in 24 hours.
     Sedation in 30-45 minutes; peak plasma concentration in 2 hours
     or
     Haloperidol 0.5mg – 1mg Repeat after 60 minutes if necessary.
     Maximum oral dose 3mg in 24 hours.*
     Haloperidol reaches peak plasma concentration in 2-6 hours.

   NB haloperidol in contra-indicated with prolonged QTc (recent ECG required to exclude) and with other drugs with the potential to cause QTc prolongation

   *(NOTE: There is a clear increased risk of stroke and a small increased risk of death when antipsychotics (typical or atypical) are used in elderly people with dementia – MHRA guidance March 2009.)*

   *The BNF (August 17) states higher maximum doses for some indications in the elderly. Using higher doses than 3mg in 24 hours should only be carried out in exceptional circumstances with due care and consideration
**Adults Over 65 years and Frail Adult In-Patients**

Algorithm for Drug Treatment of Acute Behavioural Disturbance (Rapid Tranquillisation)

**USE NON-DRUG APPROACHES**

Try talking to the patient, use of distraction, non-stimulating environment etc.  
Consider environmental factors that could be modified.  
Consider medical / physical causes of behavioural disturbance.

Always seek senior medical opinion if unsure

**If unsuccessful or inappropriate**

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**Dementia with Lewy Bodies present / cannot be excluded**

<table>
<thead>
<tr>
<th>Oral medication</th>
<th>Lorazepam 0.5mg – 1mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>(continue non-drug approaches)</td>
<td></td>
</tr>
<tr>
<td>Little or no effect after 60 minutes</td>
<td></td>
</tr>
</tbody>
</table>

**Repeat oral medication**

<table>
<thead>
<tr>
<th>Lorazepam 0.5mg – 1mg</th>
<th>(continue non-drug approaches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or no effect after 60 minutes</td>
<td></td>
</tr>
</tbody>
</table>

**Consider alternative oral medication**

<table>
<thead>
<tr>
<th>Trazodone 50mg</th>
<th>(continue non-drug approaches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or no effect after 30 minutes</td>
<td></td>
</tr>
</tbody>
</table>

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**Dementia with Lewy Bodies has been ruled-out**

<table>
<thead>
<tr>
<th>Oral medication</th>
<th>Lorazepam 0.5mg – 1mg or Haloperidol 0.5mg – 1mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>(<em>baseline ECG recommended before treatment with haloperidol</em>)</td>
<td></td>
</tr>
<tr>
<td>(continue non-drug approaches)</td>
<td></td>
</tr>
<tr>
<td>Little or no effect after 60 minutes</td>
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**Repeat oral medication**

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<tr>
<th>Lorazepam 0.5mg – 1mg or Haloperidol 0.5mg – 1mg</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Little or no effect after 60 minutes</td>
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</table>

**Consider alternative oral medication**

<table>
<thead>
<tr>
<th>Haloperidol 0.5mg – 1mg or Lorazepam 0.5mg – 1mg</th>
<th>(continue non-drug approaches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little or no effect after 30-60 minutes</td>
<td></td>
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</tbody>
</table>

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**IN CASES OF EXTREME EMERGENCY ONLY**

Consider intra-muscular injection

<table>
<thead>
<tr>
<th>Lorazepam 0.5mg – 2mg IM (or Midazolam I/M 0.5 – 1mg if lorazepam IM not available)</th>
<th>(only use haloperidol if Dementia with Lewy Bodies has been ruled-out and see CI on page 12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note: Midazolam should be given only if there are trained staff present who can administer I/V flumazenil</td>
<td></td>
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<tr>
<td><strong>or</strong></td>
<td></td>
</tr>
<tr>
<td>Haloperidol 0.5mg – 1mg IM</td>
<td></td>
</tr>
</tbody>
</table>
4.7.3. CAMHS patients (12-17 yrs) - Drug Treatment

1. Consider NON-DRUG measures:
   - Talking down, distraction, safe place or change of environment.
   - Assess the nature of the disturbed mental state
   - Exclude causes due to physical illness
   - Obtain past and current medication history

2. If medication is required, consider previous exposure to antipsychotics. Adolescents have developing brains and are vulnerable to side effects e.g. disinhibition due to the use of benzodiazepines. Start with the lowest recommended dose unless the patient has had the medication before and is known to tolerate and require a higher dose. Use the lowest possible dose at all times.
   **It is NEVER appropriate to use haloperidol in adolescents**

3. **ORAL therapy should be offered initially.** Consider liquid or orodispensible formulations where available. The following options can be used:
   - **First line**
     **Lorazepam 0.5 – 2mg** (max dose 4mg in 24 hours) Repeat after 60 minutes if necessary. Sedation in 30 – 45 minutes, peak plasma concentrations in 2 hours
   - **Second line**
     **Promethazine 10 – 25mg** (max 50mg/ 24 hours) Repeat after 60 mins if necessary
   - **Third line**
     **Olanzapine 2.5mg – 5mg** (max 20mg/24 hours) Repeat after 60 mins if necessary. Peak plasma concentrations in 5 – 8 hours (orodispensible tablets available)
     Or
     **Risperidone 0.5 – 2mg** (Max 6mg/ 24 hours) Repeat after 60 mins if necessary. Peak plasma concentrations in 1 – 2 hours (orodispensible tablets available)

4. **Consider Intra-Muscular Injection** if patient has refused oral or if oral therapy is unsuccessful after 2 repeated doses 60 minutes apart.
   - **First line**
     **Lorazepam injection 0.5mg – 2 mg IM:** Repeat after 60 minutes if required
     Max 4mg/24 hours – inclusive or oral & IM doses
     Onset of action 20 – 40 minutes
   - **Second Line**
     **Promethazine 10 – 25mg IM:** Repeat after 60 minutes if required
     Max dose 50mg/24 hours– inclusive or oral & IM doses

   - **Third line** Only for patients with confirmed history of previous antipsychotic exposure
     **Olanzapine IM 2.5 – 10mg:** Repeat after 2 hours if necessary.
     Max 20mg/ 24 hours – inclusive of oral & IM doses – max 3 injections
     Onset of action 15 – 30minutes
     Or
     **Aripiprazole 5.25 – 15mg:** Repeat after 2 hours if necessary
     Maximum dose 30mg/ 24 hours; Onset of action 15 – 20 minutes
CAMHS patients (12-17 yrs)
Algorithm for Drug Treatment of Acute Behavioural Disturbance (Rapid Tranquillisation)

Consider NON DRUG measures
Eg. Talking down, time out, seclusion
Obtain as much drug history as possible from the patient and other

Always seek senior medical opinion if unsure

If unsuccessful or inappropriate.

Disturbed but accepting oral medication
- Nurse in non stimulating area
- On-going verbal de-escalation
- Review current medication
- Decide whether additional oral/ dispersible medication is required

First line
**Lorazepam 0.5mg– 2mg**
Can be repeated after 60 minutes
Max. 4 mg/24 hours

Second line
**Promethazine 10 – 25mg**
Can be repeated after 60 minutes
Max. 50mg/24 hours

Third line
**Olanzapine 2.5 – 5mg**
Can be repeated after 60 minutes
Max 20mg/24 hours
Or
**Risperidone 0.5 – 2mg**
Can be repeated after 60 minutes
Max 6mg /24 hours

Consider combination of lorazepam and antipsychotic if single agent ineffective

Disturbed (includes violence to self or others) but refusing oral medication
- Review all medication prescribed & administered within the last 24 hours. (BNF limits, side effects)
- Seek Senior Medical opinion if unsure

First Line
**Lorazepam 0.5mg – 2 mg IM**
Can be repeated after 60 minutes
(max 4mg/24 hours – oral + IM doses)
Sedation in 30-45minutes, peak 1-3 hours,
lasts 4-6 hours.

Second line
**Promethazine 10 – 25mg**
Can be repeated after 60 minutes
Max 50mg/24 hours –oral & IM

Third line
Only in patients with confirmed history of previous antipsychotic exposure

**Olanzapine 2.5 -10mg IM**
Can be repeated after 2 hours
Max dose 20mg /24 hours in max of 3 injections
Peak plasma 15-45mins
Or
**Aripiprazole 5.25 – 15mg IM** Can be repeated after 2 hours
Max 30mg/ 24hours
Peak plasma: 1 – 3 hours. Half life 75 – 146 hours

IM Lorazepam can be given in addition to the IM antipsychotic but DO NOT use IM Lorazepam and IM Olanzapine within one hour of each other

Plan for next 24 hours:
Continue to monitor status and review all ‘prn’ drugs
4.8. Monitoring after treatment

The NEWS tool should be used to record post administration observations (appendix 4). If clinically possible all observations should be carried out every 5-10mins after each administration. When this cannot be achieved the reasons why not should be recorded. The level of consciousness should always be recorded at this frequency and all parameters recorded every 5-10mins if patient is unconscious. When the patient is conscious and the gold standard of 5-10mins observations cannot be achieved, a minimum standard of every 30mins must always be maintained until patient is ambulatory.

- Patient must be monitored after each dose of a drug used for the purpose of rapid tranquilisation
- Monitor every 5-10 minutes for 1st hour then monitor every 30mins until ambulatory. Record reasons why if this frequency is not possible and always maintain observations at a minimum of 30min intervals.
- Level of alertness (AVPU scale, part of NEWS) must be monitored every 5-10 minutes for 1st hour then every 30mins until ambulatory.
- Continue to monitor at a frequency of 5-10mins if the patient is unconscious or if there is deterioration in patient’s condition.
- Continue to monitor mental state and behaviour.
- Restart physical observations if there are any concerns.
- ECG and biochemical monitoring are also strongly recommended when parenteral antipsychotics are given, especially when higher doses are used. Hypokalaemia, stress and agitation place the patient at risk of cardiac arrhythmias.
- See appendix 1 on post administration monitoring
- For remedial measures see Appendix 2.

5. ROLES AND RESPONSIBILITIES

NHS Lanarkshire Mental Health and Learning Disability Drugs and Therapeutics Committee and Clinical Governance Committee are responsible for ratifying this policy and overseeing the implementation of this policy.

The Chief Executive is legally accountable for the quality of care that service users receive and for securing service user safety

All staff working on the inpatient units must be aware of the contents of this policy and have undertaken the required training to be able to implement this policy.

It is the responsibility of the lead nurse present at the time of use of rapid tranquilisation to ensure that a post tranquillisation review is conducted for both service users and staff.
6. RESOURCE IMPLICATIONS

There are no additional resource requirements from the previous rapid tranquillisation policy.

7. COMMUNICATION PLAN

Dissemination to Mental Health & Learning Disability medical and nursing staff and in-patient wards (General Adult, Old Age Psychiatry and Kylepark)
First Port (Pharmacy Mental Health site)
Link Mental Health Prescribing Guide.

8. QUALITY IMPROVEMENT

These guidelines will be reviewed by Mental Health Drug & Therapeutics Committee two years after implementation. Intermediate amendments, in response to relevant changes to the product licenses of the drugs listed in these guidelines, may be necessary and will be identified by the Mental Health Drug & Therapeutic Committee.

9. EQUALITY AND DIVERSITY IMPACT ASSESSMENT

This policy meets NHS Lanarkshire’s EDIA ✓ (tick box)

10. SUMMARY

In a minority of cases behavioural disturbance, in patients with mental health problems requires management by means of rapid tranquillisation.
This guidance describes the use of medication to control severe mental and behavioural disturbance including aggression associated with schizophrenia, mania, learning disability and other psychiatric conditions. The guidance outlines appropriate strategies for managing disturbed patients and details the oral and intra-muscular medication considered suitable for administration to adults 18 years old and over, adults over 65 years old & frail adults and patients in the Child and Adolescent Mental Health Service ages 12-17 years. The guidance should not be used for the management of alcohol withdrawal or in acute confusional states.
Medication characteristics and appropriate dosing regimens for the recommended medications are listed in this guidance and remedies for adverse reactions are included
11. REFERENCES

1. British National Formulary. (online November 18)


12. LINKS

   This website provides patient information on medicine used for Mental Health Conditions and has information on Acute Psychiatric Emergency

   This is the link to NHSL Interpreting services

   This is the link to NHSL Equality and Diversity webpage

4. www.medicines.org.uk
   This is the link to the Electronic Medicines Compendium which provides the Summary of Product Characteristics for individual medicines.

   This is the link to access the BNF and the BNF for children.

Appendix 1 Rapid Tranquillisation – Post administration Monitoring

Monitoring

The following parameters should be monitored, documented and scored using MEWS tool

- Temperature
- Pulse
- Blood pressure
- Level of alertness
- Oxygen saturation

Hypokalaemia, stress and agitation place patient at risk of cardiac arrhythmias. When possible ECG and Haematological monitoring is recommended when parental antipsychotics are given. ECG is mandatory before haloperidol treatment.

Frequency of monitoring

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>How long</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of alertness</td>
<td>Every 5-10mins after each administration</td>
<td>For at least one hour</td>
</tr>
<tr>
<td>Temp , Pulse, BP, O₂ Sats</td>
<td>Every 5-10mins after each administration</td>
<td>For at least one hour</td>
</tr>
<tr>
<td></td>
<td>If this frequency is not possible ensure a minimum frequency of every 30mins is maintained</td>
<td>If 5-10min frequency is not possible document the reasons for this</td>
</tr>
<tr>
<td>All parameters</td>
<td>Every 5-10mins if patient is unconscious</td>
<td>Until patient is conscious</td>
</tr>
<tr>
<td>All parameters</td>
<td>Every 30mins when patient has regained consciousness</td>
<td>Until patient is ambulatory</td>
</tr>
<tr>
<td>Level of alertness Mental state and behaviour</td>
<td>Continue to monitor at regular intervals</td>
<td>Step up frequency of all observations if any concerns</td>
</tr>
<tr>
<td>All parameters</td>
<td>Increase frequency if there is a deterioration in clinical condition</td>
<td></td>
</tr>
<tr>
<td>All parameters</td>
<td>Restart at 5-10mins if there are any concerns</td>
<td></td>
</tr>
</tbody>
</table>

Record and score all observations on MEWS – escalate if necessary (score > 3)
### Appendix 2 Remedial measures in Rapid Tranquillisation

<table>
<thead>
<tr>
<th>Problem</th>
<th>Remedial measures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Dystonia (including oculogyric crises)</strong></td>
<td>Give procyclidine 5 – 10mg IM</td>
</tr>
<tr>
<td><strong>Reduced respiratory rate (&lt;10/min) or oxygen saturation (&lt;90%)</strong></td>
<td>Give oxygen; raise legs; ensure patient is not lying face down. Give flumazenil if benzodiazepine-induced respiratory depression suspected (see appendix 2). If induced by any other sedative agent transfer to appropriate care to ventilate mechanically</td>
</tr>
<tr>
<td><strong>Irregular or slow pulse (&lt;50/min)</strong></td>
<td>Refer to specialist medical care immediately</td>
</tr>
<tr>
<td><strong>Fall in blood pressure (&gt;30mmHg orthostatic drop or &lt;50mmHg diastolic)</strong></td>
<td>Lie patient flat, tilt bed towards head. Monitor closely</td>
</tr>
<tr>
<td><strong>Increased temperature</strong></td>
<td>Withhold antipsychotics (risk of NMS and perhaps arrhythmias) Check creatinine kinase urgently Monitor closely. Obtain CPK levels. Cool patient Refer to ITU if continued or other signs of NMS: Sweating, Hypertension or fluctuating BP, Tachycardia, Incontinence/ Retention/ Obstruction, Muscular rigidity (may be confined to head and neck), Confusion, Agitation/ Altered Consciousness.</td>
</tr>
</tbody>
</table>
### Appendix 3  Guidelines for the use of flumazenil

<table>
<thead>
<tr>
<th><strong>Indication for use</strong></th>
<th>If respiratory rate falls below 10/minute after the administration of lorazepam, midazolam or diazepam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contra-indications</strong></td>
<td>Patients with epilepsy who have been receiving long-term benzodiazepines</td>
</tr>
<tr>
<td><strong>Caution</strong></td>
<td>Dose should be carefully titrated in hepatic impairment</td>
</tr>
<tr>
<td><strong>Dose and route of administration</strong></td>
<td>Initial 200micrograms intravenously over 15 seconds – if required level of consciousness not achieved after 60 seconds then subsequent dose of 100 micrograms over 10 seconds</td>
</tr>
<tr>
<td><strong>Time before dose can be repeated</strong></td>
<td>60 seconds</td>
</tr>
<tr>
<td><strong>Maximum dose</strong></td>
<td>1mg in 24 hours (one initial dose and eight subsequent doses)</td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>Patients may become agitated, anxious or fearful on awakening. Seizures may occur in regular benzodiazepine users</td>
</tr>
<tr>
<td><strong>Management</strong></td>
<td>Side effects usually subside</td>
</tr>
</tbody>
</table>
| **Monitoring**         | **o** what to monitor  
|                        | Respiratory rate  
|                        | Continuously until respiratory rate returns to baseline level. Flumazenil has a short half life.  
|                        | Respiratory function may recover then deteriorate again                                             |
| **Notes:-**            | - If respiratory rate does not return to normal or patient is not alert after initial doses assume sedation due to some other cause |
|                        | - Few of the mental health and learning disabilities wards have 24 hour medical cover or nursing staff trained to administer IVs. In the event that a patient experiences respiratory depression after administration of IM Lorazepam and no trained member of staff is available to administer flumazenil, a **999 call should be made and the patient transferred to A&E by ambulance**. Each of the three A&E departments at the acute sites holds a stock of Flumazenil. |
|                        | - All wards should hold a stock of IV flumazenil for use in emergency.                              |
## Appendix 5  Audit Criteria

<table>
<thead>
<tr>
<th>Description of criterion</th>
<th>Standard</th>
<th>Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff trained in the short-term management of disturbed/ violent behaviour in line with item 4.1</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>Risk assessment of harm to self and/ or others recorded in case notes</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>De-escalation and non-drug strategies have been tried without success</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>Medication given in line with requirements of patient’s current legal status under the Mental Health Act</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>Oral medication offered before IM is considered</td>
<td>100%</td>
<td>Patient too unwell or on covert medication care plan</td>
</tr>
<tr>
<td>Vital signs monitored on NEWS</td>
<td>100%</td>
<td>Patient refuses/ unable to co-operate</td>
</tr>
<tr>
<td>Drug doses out with those in the Guidance are recorded in patients' notes</td>
<td>100%</td>
<td>None</td>
</tr>
<tr>
<td>Advice sought from a consultant if no response to a second injection</td>
<td>100%</td>
<td>None</td>
</tr>
</tbody>
</table>