Rapid Tranquilisation and the Management of Violent and Aggressive Paediatric Patients

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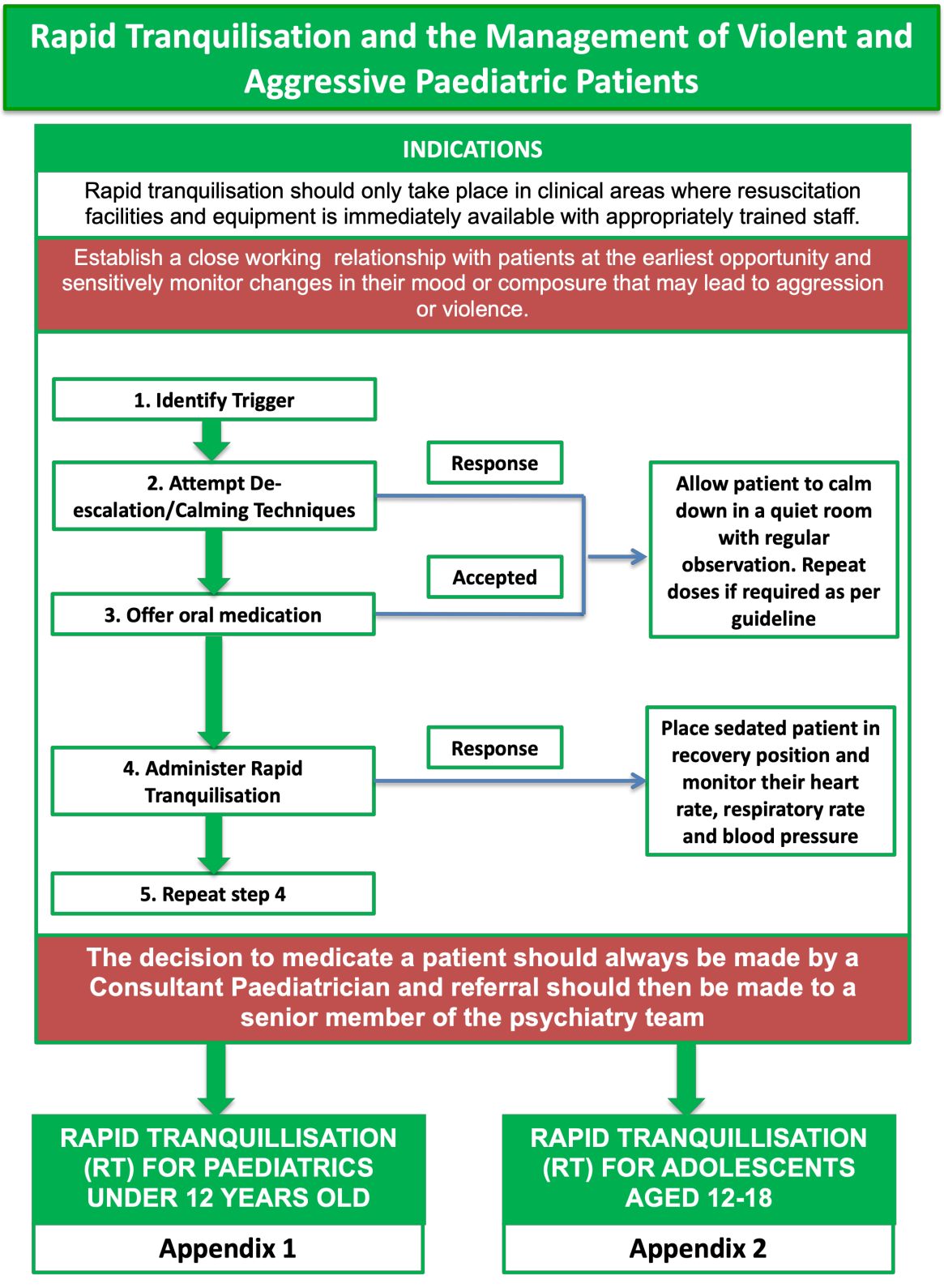
Contents

Flow-chart


Rapid Tranquilisation and the Management of Violent and Aggressive Paediatric Patients
INDICATIONS
Rapid tranquilisation should only take place in clinical areas where resuscitation facilities and equipment is immediately available with appropriately trained staff.
Establish a close working relationship with patients at the earliest opportunity and sensitively monitor changes in their mood or composure that may lead to aggression or violence.
1. Identify Trigger
2. Attempt De-escalation/Calming Techniques
Response
Accepted
3. Offer oral medication
Allow patient to calm down in a quiet room with regular observation. Repeat doses if required as per guideline
4. Administer Rapid Tranquilisation
Response
Place sedated patient in recovery position and monitor their heart rate, respiratory rate and blood pressure
5. Repeat step 4
The decision to medicate a patient should always be made by a Consultant Paediatrician and referral should then be made to a senior member of the psychiatry team
RAPID TRANQUILLISATION (RT) FOR PAEDIATRICS UNDER 12 YEARS OLD
Appendix 1
RAPID TRANQUILLISATION (RT) FOR ADOLESCENTS AGED 12-18
Appendix 2

Appendix 1: Rapid Tranquillisation (RT) for Paediatrics under 12 years old

PRIOR TO RAPID TRANQUILISATION

STEP 1 – Identify Triggers

- Keep the patient safe and choose the appropriate pathway;
- Consider physical causes and conditions (acute infection, akathisia, alcohol/illicit substance intoxication, physical co-morbidities)
- Review medicines given in the last 24 hours. If greater than BNF max contact senior doctor

STEP 2 – De-escalation and Calming Techniques

- If a patient becomes agitated or angry, a s ingle member of staff should take the primary role in communicating with them and:
- Assess situation for safety
- Negotiate with patient to resolve situation in a non-confrontational manner
- Use emotional regulation and self-management techniques to control verbal/non-verbal expression of anxiety/frustration
- Use a designated area/room to reduce emotional arousal/agitation

The decision to medicate a patient should always be made by a Consultant Paediatrician and referral should then be made to a senior member of the psychiatry team.

STEP 3 – Offer Oral/Buccal Medication

Consider the following as first line options:
Lorazepam 0.5-1mg PO
Promethazine hydrochloride 5-10mg PO (max 25mg/day)
Buccal Midazolam
5-10 years 7.5mg PO
10-12 years 10mg PO
Consider an antipsychotic if NOT already taking a regular oral or depot anti-psychotic
1st choice: Risperidone 0.5-1mg PO
2nd choice: Olanzapine 2.5-5mg PO

START CHECKLIST

STEP 3 – Consider Rapid Tranquillisation where 2 doses of oral treatment have failed or sooner if patient is placing themselves or others at risk

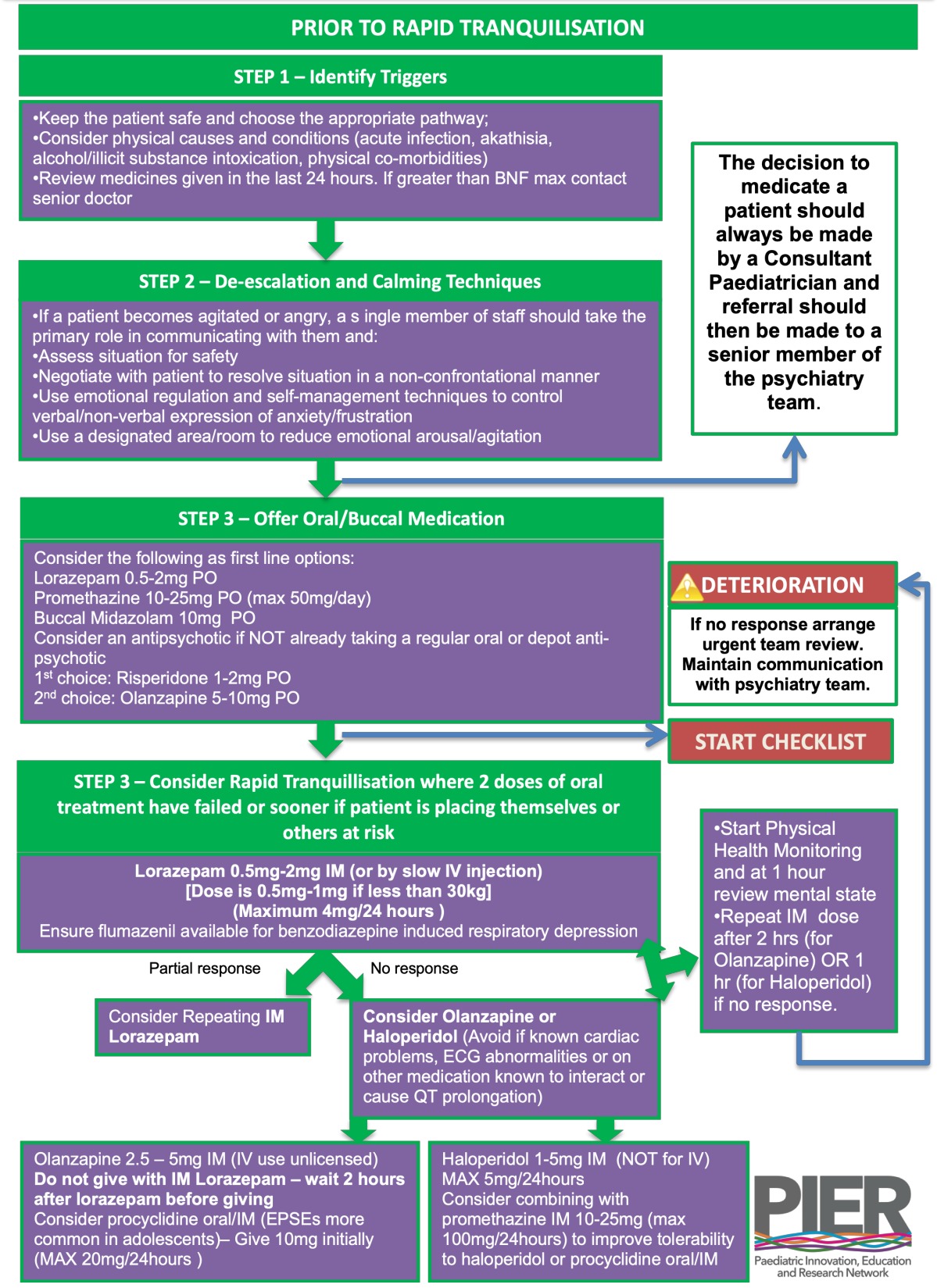
- **Intramuscular (IM) treatment**
- **Lorazepam 0.5mg-1mg IM (or by slow IV injection)**
  - Ensure flumazenil available for benzodiazepine induced respiratory depression
- **Promethazine hydrochloride 6.25-12.5mg IM (or by slow IV injection)**
  - Useful option in benzodiazepine–tolerant patients
- **Olanzapine 2.5-5mg IM (IV use unlicensed)**
  - Olanzapine and lorazepam administration should be separated by 2 hours
  - Consider procyclidine oral/IM (EPSEs more common in adolescents) Give 5mg initially (MAX 10mg/24hours)

- Start Physical Health Monitoring and at 1 hour review mental state
- Repeat IM (or IV where appropriate) dose after 30 – 60 minutes if no response.

DETERIORATION

If no response arrange urgent team review. Maintain communication with psychiatry team.

Appendix 2: Rapid Tranquillisation (RT) for adolescent aged 12 - 18



*EPSE = extra pyramidal side effects

1 Introduction

Violence and aggression refers to “a range of behaviours or actions that can result in harm, hurt or injury to another person, regardless of whether the violence or aggression is physically or verbally expressed, physical harm is sustained or the intention is clear.”

“Rapid tranquillisation in this guideline refers to the use of medication by the parenteral route (usually intramuscular or, exceptionally, intravenous) if oral medication is not possible or appropriate and urgent sedation with medication is needed” (NICE NG10).

The aim of rapid tranquillisation is to achieve a state of calm sufficient to minimise the risk posed to patients or others. The patient should be able to respond to communication throughout the period of rapid tranquillisation. Rapid tranquilisation should only be considered appropriate where a patient presents a risk to themselves or others and de-escalation (including the use of ‘when required’ medication where appropriate) and any other appropriate non restrictive techniques have failed, or the situation cannot be appropriately managed in any other way.

There can be any number of medical reasons for aggressive behaviour and any reversible causes should be investigated and managed appropriately before commencing rapid tranquillisation.

The use of rapid tranquillisation is a high risk practice which has to be well managed in order to avoid unnecessary harm. The risks associated with rapid tranquillisation have been identified as

- Over-sedation causing loss of consciousness
- Over-sedation causing loss of alertness
- Loss of airway
- Cardiovascular collapse (problems with arrhythmias, hypotension, sudden death)
- Respiratory depression (Be Aware acute dystonias may compromise respiratory rate)
- Interaction with medication (prescribed or illicit including alcohol)
- Damage to the therapeutic relationship
- Underlying coincidental physical disorders

Rapid tranquilisation should only take place in clinical areas where resuscitation facilities and equipment is immediately available with appropriately trained staff.

1.2 Scope

This guideline applies to all paediatric patients in the region but not to neonates on neonatal units.

1.3 Purpose

The purpose of this guideline is to provide a standardised approach for rapid tranquilisation and the management of violent and aggressive paediatric patients.

1.4 Definitions

Rapid tranquillisation in this guideline refers to the use of medication by the parenteral route (usually intramuscular or, exceptionally, intravenous) if oral medication is not possible or appropriate and urgent sedation with medication is needed" (NICE NG10).

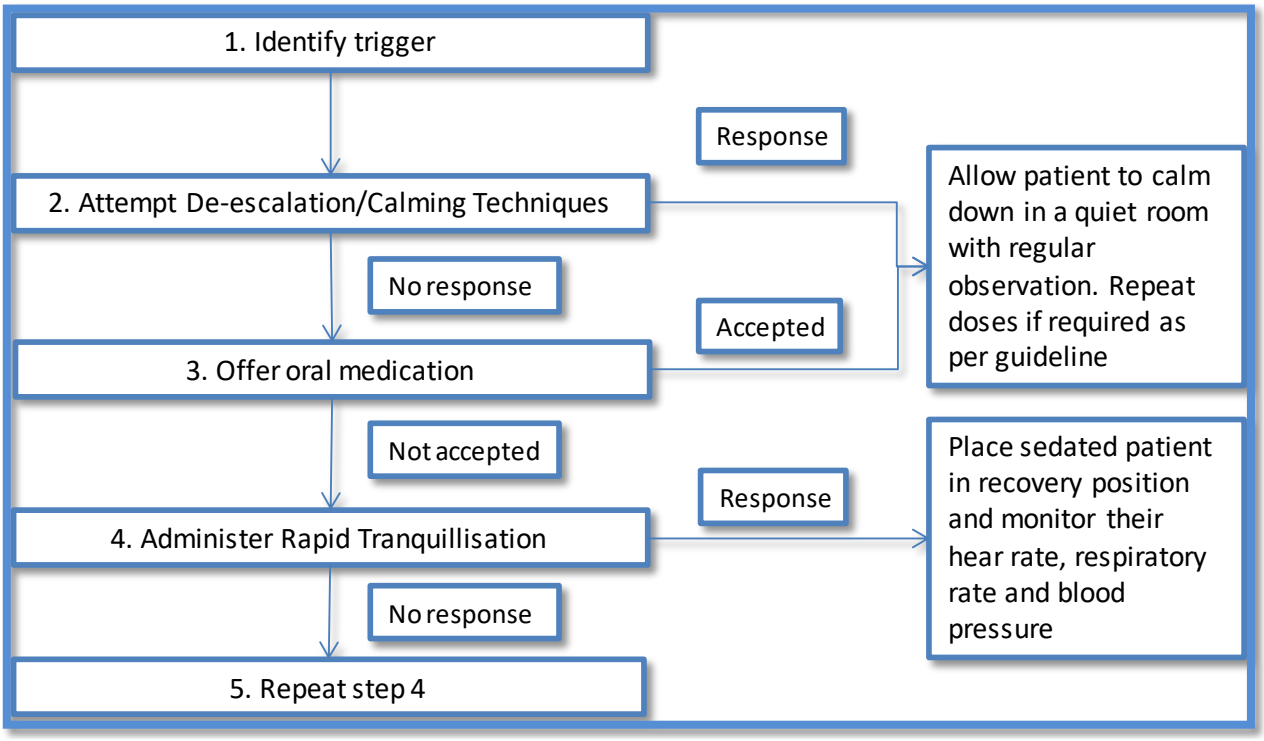
2 Recommendation

Children with challenging behaviour may be a danger to themselves, to other children in the hospital and to medical staff. Their difficult behaviour may be due to a variety of causes such as organic disease, psychosocial problems or alcohol / drug abuse. Acutely disturbed behaviour may arise in the course of almost any medical disorder or its treatment.

Establish a close working relationship with patients at the earliest opportunity and sensitively monitor changes in their mood or composure that may lead to aggression or violence.

- recognise the early signs of agitation, irritation, anger and aggression
- understand the likely causes of aggression or violence, both generally and for each patient (sometimes it might be because they are not allowed to go out for a cigarette)
- use techniques for distraction and calming, and ways to encourage relaxation
- recognise the importance of personal space
- respond to a patients' anger in an appropriate, measured and reasonable way and
- avoid provocation
- offer the child or young person the opportunity to move away from the situation in which the violence or aggression is occurring, for example to a quiet room or area/parental presence
- aim to build emotional bridges and maintain a therapeutic relationship

Take into account the child or young person's level of physical, intellectual, emotional and psychological maturity. The Mental Capacity Act 2005 applies to young people aged 16 and over. Collaborate with those who have parental responsibility when managing violence and aggression in children and young people. Use safeguarding procedures to ensure the child or young person's safety.



Summary of Management Flowsheet

2.1 De-Escalation Techniques

If a patient becomes agitated or angry, a single staff member should take the primary role in communicating with them. That staff member should assess the situation for safety, seek clarification with the patient and negotiate to resolve the situation in a non-confrontational manner.

Use emotional regulation and self-management techniques to control verbal and non-verbal expressions of anxiety or frustration (for example, body posture and eye contact) when carrying out de-escalation.

Use a designated area or room to reduce emotional arousal or agitation and support the patient to become calm.

2.2 Offer Oral/Buccal Options

Oral/buccal medication should be considered first line where de-escalation techniques have been unsuccessful in managing the patient and considered prior to using rapid tranquilisation (parenteral therapy).

Patients 12 years and under

Consider the following as first-line options:

- **Lorazepam** 0.5-1mg PO
- **Promethazine** 5-10mg PO (max 25mg/day)
- **Buccal midazolam**
  - 5-10 years = 7.5mg
  - 10-12 years = 10mg

Consider an antipsychotic if NOT already taking a regular oral or depot antipsychotics

- 1st choice: **Risperidone** 0.5-1mg PO
- 2nd choice: **Olanzapine** 2.5-5mg PO

Patients 12-18 years
Consider the following as first line options:

- **Lorazepam** 0.5-2mg PO
- **Promethazine** 10-25mg PO (max 50mg/day)
- **Buccal Midazolam** 10mg

Consider an antipsychotic if NOT already taking a regular oral or depot antipsychotics

- 1st choice: **Risperidone** 1-2mg PO
- 2nd choice: **Olanzapine** 5-10mg PO

2.3 Rapid Tranquillisation

Rapid tranquilisation should always be viewed as an option of last resort and only considered after any reversible causes have been appropriately treated and de-escalation techniques have been attempted or have been deemed to be inappropriate. **The decision to medicate a patient should always be made by a Consultant Paediatrician and referral should then be made to a senior member of the psychiatry team**.

For any patient initiated on rapid tranquillisation a RT checklist should be started (see appendix).

Patients 12 years and under
Preferred IM treatment is with one of the following:

- **Lorazepam** 0.5mg-1mg IM (or by slow IV injection)
  Ensure flumazenil available for benzodiazepine induced respiratory depression

- **Promethazine** 6.25-12.5mg IM (or by slow IV injection)
  Useful option in benzodiazepine–tolerant patients

- **Olanzapine** 2.5-5mg IM (IV use is unlicensed)
  Olanzapine and lorazepam administration should be separated by 2 hours
  Consider prescribing with procyclidine oral/IM to reduce the risk of EPSEs, these are more common in adolescents: 5mg initially (MAX 10mg/24hours)

For patients that show partial or no response a second dose may be administered after 30-60minutes, **olanzapine however should not be given within 2 hours of lorazepam**.

Patients 12-18 years

Lorazepam

Patients under 30kg	0.5-1mg IM (or by slow IV injection)
Patients 30kg or more	0.5-2mg (max 4mg/24hrs)

If patient has a partial response a second dose may be given at 1hr
In patients that fail to respond to lorazepam second-line treatment is with an anti-psychotic:

Olanzapine 2.5-5mg IM (IV use is unlicensed):
Consider use first line, but do not give within 2 hours of lorazepam. Consider prescribing with procyclidine oral/IM to reduce the risk of EPSEs, these are more common in adolescents: 10mg initially (MAX 20mg/24hours)

Haloperidol 1-5mg IM (**NOT** for IV use)
Consider combining with promethazine IM 10-25mg (max 100mg/24hours) or procyclidine oral/IM to improve tolerance to haloperidol

2.4 Cautions and Contraindications to Rapid Tranquillisation

Rapid tranquillisation should always be considered as a restrictive intervention and not routinely prescribed, as treatment is associated with risks. Careful consideration should be given to any pre-existing co-morbidities and current therapy (i.e. those already taking anti-psychotics or other medication known to have similar side effects). The following is a summary of key risks associated with treatment:

2.4.1: Antipsychotics (e.g. olanzapine, haloperidol, risperidone)

The main risks/side effects associated with anti-psychotic use include:

- ***Loss of consciousness/Excessive sedation***
- ***Cardiovascular toxicity*** i.e. tachycardia, arrhythmias, hypotension, QT prolongation and rarely sudden death. Antipsychotics should therefore be avoided in patients with known cardiac problems or ECG abnormalities. The risk is greater with haloperidol.
- ***Extrapyramidal Side Effects (EPSEs)*** i.e. tremor, rigidity, dystonias (abnormal face and body movements), akathisia (restlessness) and tardive dyskinesia. These occur more commonly with the older “typical” antipsychotics including haloperidol, but can still occur with atypicals (olanzapine, risperidone), particularly in adolescence. Prevention/management is with an anti-muscarinic (procyclidine IM/oral) which can be given simultaneously.
- ***Neuroleptic Malignant Syndrome*** characterised by temperature dysregulation, fluctuating blood pressure, altered consciousness, autonomic dysfunction (pallor, sweating, urinary incontinence) and raised creatinine kinase. This is a medical emergency and requires urgent referral

Notes

Avoid antipsychotics if:

- Known cardiac problems
- Known abnormal ECG parameters – e.g. Prolonged QT interval (especially over 500ms)
- On other medication that can prolong QT or cause pharmacokinetic interactions – e.g. amitriptyline, imipramine, doxepin, citalopram, escitalopram, methadone or anti-arrhythmics e.g. amiodarone, calcium channel blockers.

Consider simultaneous use of procyclidine with atypical antipsychotics as extra pyramidal side effects are more common in adolescents even when using atypicals.

Pregnancy: Ensure perinatal service is involved.

Benzodiazepines should be avoided in adolescents that are physically unwell / delirious or have significant respiratory impairment e.g. asthma.

2.4.2: Benzodiazepines (e.g. lorazepam, midazolam)

The main risks/side effects associated with benzodiazepines include:

- ***Loss of consciousness/Excessive sedation***
- ***Respiratory depression*** all areas where patients are receiving benzodiazepines should stock flumazenil
- ***Paradoxical increase in aggression*** risk is increased in children/adolescence.

2.4.3: Antihistamines (e.g. promethazine)

The main risks/side effects associated with anti-histamines include:

- ***Excessive sedation***
- ***Enhanced anti-muscarinic effects***
- ***Cardiovascular toxicity*** i.e. hypotension, arrhythmias.

2.5 Monitoring Requirements

2.5.1 What to Record

- Temperature
- Blood pressure
- Pulse
- Respiratory rate
- Level of consciousness (alert, vocalise, pain, unresponsive)
- Oxygen saturation
- Fluid balance – to ensure adequate hydration

2.5.2 When to Record

Monitoring should be carried out:

- Baseline on admission/prior to RT
- Every 15 minutes for the first hour
- Hourly until there are no concerns

2.5.3 What to do if unable to monitor

Where it is not possible to monitor patients this must be documented in the patients notes. Record anything that you can monitor through observation i.e. alertness/awake, pallor, respiratory rate etc. If the patient appears asleep then wake to assess level of consciousness.

3. Post Incident Review

- Any incident requiring rapid tranquillisation (or physical intervention) must be contemporaneously recorded. All appropriate staff should be trained to ensure that they are aware of how to correctly record any incident using the appropriate documentation.

- A post incident review should take place as soon as possible and at least within 72 hours of an incident ending. Wherever possible a person not directly involved in the incident should lead the review which should address:
  - What happened during the incident
  - Any trigger factors
  - Each person's role in the incident
  - Their feeling at the time of the incident, at the review and how they may feel in the near future
  - What can be done to address their concern?

Patients should be given the opportunity to document their own account of the intervention. This should be filed in their medical notes.

4 Implementation

This guideline will be displayed on the PIER network website, accessible to all paediatricians working within the Wessex region

5 Process for Monitoring Effectiveness

Audit results will be circulated and presented at the multidisciplinary audit meetings. Any areas of non compliance or gaps in assurance that arise from the monitoring of this guideline will result in an action plan detailing recommendations and proposals to address areas of non compliance and/or embed learning. Monitoring of these plans will be coordinated by managers of this guideline. The resulting actions will be reviewed or followed up at the subsequent multidisciplinary audit meeting(s).

6 References

- NICE Clinical Guideline 10 - Violence and aggression: short-term management in mental health, health and community settings.
- Southern Health Policy and Guidance: Rapid Tranquilisation: Policy and Guidance for use in Mentally Ill Patients Displaying Acutely Disturbed or Violent Behaviour
- South London and Maudsley Prescribing Guidelines, David Taylor, 12th edition

Simon Birch (Consultant Paediatrician) and Nicola Hill (Pharmacist) manage this guideline.

See Trust Policy for the Production of Drug Therapy Guidelines
Approved by: Formulary & Medicines Group Date: November 2017
Review date: November 2019

Appendix A

Paediatric Regional Guideline Consultation Documentation:

Trust	Name of person consulted* (print)	Designation of signatory	Signature
Chichester	Katy Walker		
Dorchester	William Verling		
Hampshire Hospitals Foundation Trust	Nick Ward		
Poole	Madhvi Velupta		
Portsmouth	Simon Birch Nicola Hill Amanda Freeman Leslie Coles		
Salisbury	Sebastian Gray		
Southampton	Julie Waine Kazeem Olalekan		
IOW	Sian Butterworth		
Solent NHS Trust	Ravi Thyagarajan		

*this person agrees they have read the guidelines, consulted with relevant colleagues and members of MDT, managers and patients, young people & their families as appropriate. Any queries raised during consultation and review process should be documented with responses and any changes made to guideline.

Appendix 1 - Rapid Tranquillisation (RT) for Paediatrics under 12 years old

PIER
Paediatric Innovation, Education and Research Network

Definition: Use of medication by the **parenteral route**, if oral medication is not possible or appropriate and urgent sedation with medication is needed. This is a restrictive intervention.

Prior to Rapid Tranquillisation

Identify Trigger

Keep the patient safe and choose the appropriate pathway;

- Consider physical causes and conditions (acute infection, akathisia, alcohol/illicit substance intoxication, physical co-morbidities)
- Review medicines given in the last 24 hours. If greater than BNF max contact senior doctor.

De-escalation and Calming Techniques

If a patient becomes agitated or angry, a s ingle member of staff should take the primary role in communicating with them and:

- Assess situation for safety
- Negotiate with patient to resolve situation in a non-confrontational manner
- Use emotional regulation and self-management techniques to control verbal/non-verbal expression of anxiety/frustration
- Use a designated area/room to reduce emotional arousal/agitation

Offer Oral/Buccal Medication

Consider the following as first line options:

- Lorazepam 0.5-1mg PO
- Promethazine 5-10mg PO (max 25mg/day)
- Buccal Midazolam
  - 5-10 years 7.5mg
  - 10-12 years 10mg

Consider an antipsychotic if NOT already taking a regular oral or depot anti-psychotic

- 1st choice: Risperidone 0.5-1mg
- 2nd choice: Olanzapine 2.5-5mg

The decision to medicate a patient should always be made by a Consultant Paediatrician and referral should then be made to a senior member of the psychiatry team.

Consider Rapid Tranquillisation where 2 doses of oral treatment have failed or sooner if patient is placing themselves or others at risk

Rapid Tranquillisation - Start RT Checklist

Intramuscular (IM) treatment

- **Lorazepam 0.5mg-1mg IM (or by slow IV injection)**

Ensure flumazenil available for benzodiazepine induced respiratory depression

- **Promethazine 6.25-12.5mg IM (or by slow IV injection)**

Useful option in benzodiazepine–tolerant patients

- **Olanzapine 2.5-5mg IM (IV use is unlicensed)**

Olanzapine and lorazepam administration should be separated by 2 hours

Start Physical Health Monitoring and at 1 hour review mental state. Review by Expert Colleague

Full response

Partial/No response

If this does not work after 30-60minutes try a further IM dose

- **Lorazepam 0.5mg-1mg IM (or IV)**
- **Promethazine 6.25-12.5mg IM (or IV)**
- **Olanzapine 2.5-5mg IM**

Olanzapine and **lorazepam** administration should be

Full response

Continue Physical Health Monitoring and at 1 hour review mental state

If no response arrange urgent team review. Maintain communication with psychiatry

Appendix 2 - Rapid Tranquillisation (RT) for adolescents aged 12-18

PIER
Paediatric Innovation, Education and Research Network

Definition: Use of medication by the **parenteral route**, if oral medication is not possible or appropriate and urgent sedation with medication is needed. This is a restrictive intervention.

Prior to Rapid Tranquillisation

Identify Trigger

Keep the patient safe and choose the appropriate pathway;

- Consider physical causes and conditions (acute infection, akathisia, alcohol/illicit substance intoxication, withdrawal, physical co-morbidities)
- Review medicines given in the last 24 hours. If greater than BNF max contact senior doctor.

De-escalation and Calming Techniques

If a patient becomes agitated or angry, a s ingle member of staff should take the primary role in communicating with them and:

- Assess situation for safety
- Negotiate with patient to resolve situation in a non-confrontational manner
- Use emotional regulation and self-management techniques to control verbal/non-verbal expression of anxiety/frustration
- Use a designated area/room to reduce emotional arousal/agitation

Offer Oral/Buccal Medication

Consider the following as first line options:

- Lorazepam 0.5-2mg PO
- Promethazine 10-25mg PO (max 50mg/day)
- Buccal Midazolam 10mg

Consider an antipsychotic if NOT already taking a regular oral or depot anti-psychotic

- 1st choice: Risperidone 1-2mg
- 2nd choice: Olanzapine 5-10mg

The decision to medicate a patient should always be made by a Consultant Paediatrician and referral should then be made to a senior member of the psychiatry team.

Rapid Tranquillisation - Start RT Checklist

Consider IM Lorazepam (Unlicensed use) (or by slow IV injection)
0.5mg-2mg (max 4mg/24 hours). If less than 30kg – 0.5mg-1mg.

↓

Start Physical Health Monitoring and at 1 hour review mental state. Review by Expert Colleague

Full response ↓

Partial response ↓

Consider Repeating **IM (or IV) Lorazepam**
0.5mg-2mg (max 4mg/24 hours).
If less than 30kg – 0.5mg-1mg

No response ↓

Consider Olanzapine or Haloperidol
Avoid if known cardiac problems, ECG abnormalities or on other medication known to interact or cause QT prolongation

Olanzapine

- Olanzapine 2.5 – 5mg IM **(IV use is unlicensed)**
- **Do not give with IM Lorazepam – wait 2 hours after lorazepam before giving**
- Consider procyclidine oral/IM (EPSEs more common in adolescents)

Haloperidol

- Haloperidol 1-5mg IM (**NOT** for IV use)
- Consider combining with promethazine IM 10-25mg (max 100mg/24hours) to improve tolerability to haloperidol or procyclidine oral/IM

Continue Physical Health Monitoring and at 1 hour review mental state

Partial or no response ↓

- If there is partial response consider a second dose of Olanzapine in 2 hours
- Max 20mg or 3 doses IM in 24 hours, whichever is reached first

No response ↓

Partial or no response ↓

- If there is a partial response consider a second dose of Haloperidol in a minimum of 1 hour
- Haloperidol IM max 5mg in 24 hours

No response ↓

If no response arrange urgent team review. Maintain communication with psychiatry

Appendix 3 - MONITORING

Physical Health Monitoring after RT

What to Record:

Temperature (T), Blood Pressure (BP), Pulse (P), Respiratory Rate (RR)
Level of consciousness (Alert, Vocalise, Pain, Unresponsive)
Oxygen Saturation

When to Record:

Baseline on admission/ prior to RT and then every 15 minutes for the 1st hour, then at least HOURLY until there are no concerns

Fluid Balance

Use Fluid Monitoring Sheet to ensure adequate hydration. Do U&Es if clinically appropriate. Avoid fluid overload

What to do if unable to monitor

Must document why you can't monitor
Record what you can monitor; awake, good colour, RR
Keep the patient on close visual observations
If appears asleep, wake to assess level of consciousness

Pharmacokinetics

Drug	Onset of action	Time to peak
Lorazepam		
IM	20-40 mins	1-3 hrs
Oral	Rapid	2 hrs
Promethazine		
IM	20 mins	2-3 hrs
Oral	15-30 mins	2-3 hrs
Midazolam		
Buccal	15-30 mins	30 mins
Risperidone		
Oral	1 hr	1 hr
Olanzapine		
IM	15-30 mins	15-45 mins
Oral	2-4 hours	4.7 hrs

Pregnancy

After 20 weeks of pregnancy women should never be restrained face down
Pregnancy: ensure perinatal service involved in overall care in patients with psychosis and previous antipsychotic exposure
Haloperidol 1.5mg – 5mg po or 2 – 5 mg IM may be added to Lorazepam. Repeat as necessary. Same max doses apply.
After rapid tranquillisation consider medical review of pregnancy

Management of possible complications of RT which may require urgent medical attention

NB IV administration by medical staff only

Problem	Remedial Measures
Irregular/ Slow Pulse <60/minute	Contact doctor. Consider urgent referral to physicians
Fall in Blood Pressure orthostatic or <50mmHg diastolic	Contact doctor. Lie patient flat. Raise legs if possible. Monitor closely. May need physician referral
Acute Dystonia (inc. oculogyric crisis)	Give Procyclidine 5-10mg IM (or IV). Review antipsychotic medication
Reduced Respiratory Rate; < 10/minute O_2 sats <95	Phone 999 and contact doctor immediately. Give Flumazanil if benzodiazepine-induced and RR falls below 10/min **Initial dose:** 200mcg **IV** over 15 secs – if required level of consciousness not achieved after 60 seconds then: **Subsequent dose**: 100mcg over 10 seconds, repeated after 60 seconds if necessary **Maximum dose:** 1mg in 24 hours (one initial dose and eight subsequent doses) **Monitor** until RR returns to baseline level. Very rarely seizures may occur after flumazenil particularly after long term treatment with Benzodiazepine. If induced by other agent, patient will require mechanical ventilation – arrange transfer to ITU immediately
Increase in Temperature >38ºC	Consider **Neuroleptic Malignant Syndrome** (see below)

Neuroleptic Malignant Syndrome (NMS)

- Fever, usually above 38ºC, sometimes hyperpyrexia over 40ºC
- Muscle rigidity
- Alteration in consciousness
- Autonomic disturbance – tachycardia, changes in BP, urinary incontinence
- Raised creatine kinase levels

Risk Factors:-

1. Previous NMS or cerebral compromise
2. Catatonia, agitation, overactivity, dehydration
3. Rapid tranquillisation, IM therapy, high potency neuroleptics

STOP ANTIPSYCHOTIC IMMEDIATELY

Consult doctor, can be FATAL, may need ITU. Consider urgent referral

Appendix 4 - CHECKLIST

Rapid Tranquillisation (RT) with IM Injection – Monitoring Checklist for Patients Under 16 years of age

Refer to Rapid Tranquillisation and the Management of Violent Aggressive Paediatric Patients Guidelines

Patients Name	Date of Birth	Hospital Number
Ward		Consultant

Pre RT Checklist. All checks must be completed.

1.	Check for intoxication with alcohol/illicit substances and/or acute infection	**Y**
2.	Non drug approaches considered	**Y**
3.	Medication in last 24 hours checked	**Y**
4.	Oral medication offered before IM injection	**Y**
5.	Does the time interval between doses follow Solent NHS Trust Rapid Tranquillisation Guidelines	**Y N/A**
6.	If this isn't the first dose, has the prescribed interval between doses elapsed?	**Y N/A**
7.	Repeated RT doses – has junior doctor considered contacting a senior doctor?	**Y N/A**
8.	Verbal parental/carer consent obtained	**Y/N**
	Written parental consent obtained	**Y/N**

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . . .

Drug(s) administered	Dose(s)
Date:	Time:

Physical health monitoring checklist

Monitor – Temperature, pulse, blood pressure, respiratory rate, oxygen saturation and level of consciousness every 15 minutes for the first hour then hourly for 4 hours then, depending on clinical need every 4 hours for the next 12 hours.

If patient is asleep they should be woken, unless there is a good reason not to. This reason **MUST** be recorded in the patients notes.. As a minimum the respiratory rate and pulse should be recorded.

1.	Most recent baseline observations recorded	**Y**
2.	Date/times and observations in first hour (every 15 minutes) recorded	**Y**
3.	Date/times and observations for next 4 hours (every hour) recorded	**Y**
4.	Fluid chart started	**Y**

Completed by: . . . . . Date: . . . . / . . . . / . . . .

Physical health review at 5 hours

Clinical status reviewed	**Y**
Physical health monitoring to continue	**Y / N**
Date/times for further monitoring added to records	**Y N/A**

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . .

Post RT Checklist

1.	Incident form completed	**Y**
2.	Diary entry for doctor to review need for U&Es blood test at 24 hours post dose	**Y**
3.	Incident added to next MDT template for review/plan	**Y**
4.	Incident reviewed with patient within 72 hours and documented on System1	**Y/N**
	If no, please state reason:	

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . . .

Rapid Tranquillisation (RT) with IM Injection – Monitoring Checklist for Patients 16-18 years of age

Refer to Rapid Tranquillisation and the Management of Violent Aggressive Paediatric Patients Guidelines

Patients Name	Date of Birth	Hospital Number
Ward		Consultant

Pre RT Checklist. All checks must be completed.

1.	Check for intoxication with alcohol/illicit substances and/or acute infection	**Y**
2.	Non drug approaches considered	**Y**
3.	Medication in last 24 hours checked	**Y**
4.	Oral medication offered before IM injection	**Y**
5.	Does the time interval between doses follow Solent NHS Trust Rapid Tranquillisation Guidelines	**Y N/A**
6.	If this isn't the first dose, has the prescribed interval between doses elapsed?	**Y N/A**
7.	Repeated RT doses – has junior doctor considered contacting a senior doctor?	**Y N/A**
8.	Patient does not have capacity to give consent to treatment and therefore treated in best interests	**Y / N**

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . . .

Drug(s) administered	Dose(s)
Date:	Time:

Physical health monitoring checklist

Monitor – Temperature, pulse, blood pressure, respiratory rate, oxygen saturation and level of consciousness every 15 minutes for the first hour then hourly for 4 hours then, depending on clinical need every 4 hours for the next 12 hours.

If patient is asleep they should be woken, unless there is a good reason not to. This reason **MUST** be recorded in the patients notes.. As a minimum the respiratory rate and pulse should be recorded.

1.	Most recent baseline observations recorded	**Y**
2.	Date/times and observations in first hour (every 15 minutes) recorded	**Y**
3.	Date/times and observations for next 4 hours (every hour) recorded	**Y**
4.	Fluid chart started	**Y**

Completed by: . . . . . Date: . . . . / . . . . / . . . .

Physical health review at 5 hours

Clinical status reviewed	**Y**
Physical health monitoring to continue	**Y / N**
Date/times for further monitoring added to records	**Y N/A**

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . .

Post RT Checklist

1.	Incident form completed	**Y**
2.	Diary entry for doctor to review need for U&Es blood test at 24 hours post dose	**Y**
3.	Incident added to next MDT template for review/plan	**Y**
4.	Incident reviewed with patient within 72 hours and documented on System1	**Y/N**
	If no, please state reason:	

Checklist completed by: . . . . . (Trained Nurse) Date: . . . . / . . . . / . . . .