PURPOSE

To ensure that patients within Bay of Plenty District Health Board (BOPDHB) facilities with acute behavioural disturbance are medically managed in a safe and effective manner.

This guideline has been developed primarily to:

- Minimise distress to service users caused by acute behavioural disturbance through an efficient and effective treatment regimen.
- Assist both prescribers and administrators to identify and intervene efficiently and effectively in the management of acute behavioural disturbance.

STANDARDS TO BE MET

1. Background, Principles and Goals

1.1. There are many reasons why people become acutely behaviourally disturbed, and potentially violent to self or others. Such disturbances may not solely be due to psychosis or mania and can be situational. Such situational factors influencing a violent presentation can include overcrowding, coercive behaviour, verbal abuse of others, threatening gestures by others and failure to carefully set limits. Regardless of previous psychiatric history, acute behavioural disturbance requires a thorough evaluation of possible causes, and attempts to diffuse the situation prior to further escalation.

1.2. There are a range of approaches for managing acute behavioural disturbance which should be considered in the first instance. These include de-escalation, sensory modulation techniques, distraction techniques, cultural input and consideration of placement within the unit

1.3. These guidelines focus primarily on the selection of appropriate medicines for the control of acutely disturbed behaviour. Caution should be exercised when using this guideline in medication naïve, older or physically compromised adults.

1.4. Acutely disturbed, agitated, or violent behaviour by an individual in an inpatient psychiatric setting poses a serious risk to the individual, other service users, staff members, and the service as a whole.

1.5. The aims of the pharmacological management of acutely disturbed behaviour are to:

a) Reduce psychological suffering
b) Reduce the risk of self-harm for the service user
c) Reduce harm to others by maintaining a safe environment
d) Minimise the harm to the service user
e) Return the service user to the least restrictive environment as soon as possible.

1.6. <u>Advanced Directives</u>

a) Ideally plans for the management of individual patients with a history of psychiatric illness should be made in advance of an episode of acutely disturbed behaviour and documented clearly. These will usually involve a combination of nursing interventions, levels of supervision, placement in a safe environment and beneficial pharmacological methods.
b) It is common practice to prescribe a range of medicines and formulations for future use to manage an acute behavioural disturbance. In such situations the prescription should clearly indicate:
   i. In what circumstance a particular medicine and formulation should be chosen
   ii. Which medicines should be chosen first, and
   iii. The time before a further dose is to be administered.

c) If no guidance is provided the schedules in this document are recommended.

1.7. Documentation

a) Provide clear documentation within the patient's notes with regard to:
   i. Impact of non-drug measures
   ii. Reason for progression through each guideline step
   iii. Medications given including the dose and route
   iv. The response
   v. Follow-up after the event (both patient and staff feedback).

2. Baseline Examinations

2.1. Introduction

a) Perform the following background examinations (psychosocial and physical) where appropriate to determine underlying cause(s) of the disturbed behaviour:
   i. Discussion with patient and/or close contacts
   ii. Physical examination (according to degree of co-operation)
   iii. Formulation of possible causes (including substance or alcohol use/misuse, stress or emotional triggers)
   iv. History of medicines already taken (particularly during the past 24 hours)
   v. Check of NZ Mental health (Compulsory Assessment and Treatment) Act, 1992 (amendment 1999).

b) If the patient is unco-operative, across-the-room observations (noting movement, respiration, facial flushing or pallor, sweating etc.) should be documented.

c) These background examinations are described in further detail below.

2.2. Discussion with the patient

a) Attempt to discuss with the patients the cause of the disturbance and possible ways to address any distress and anger.

b) Close contacts may be able to provide further information (e.g., time-frame of escalating behaviour, triggers etc.).

2.3. Physical Examination (according to the degree of co-operation)

a) Use the physical examination to identify other causes of acute disturbance such as delirium due to a medical condition, acute neurological insults, intoxication or withdrawal of any medicine or substance (prescribed or recreational), or other physically compromised states and to act as a baseline.

b) Assess for:
   i. Level of sedation/arousal
   ii. Facial flushing/pallor
   iii. Hydration status, blood pressure, pulse, temperature, sweating, respiration rate, stridor
   iv. Abnormal movements (underlying extrapyramidal side effects (EPSEs))
   v. Degree and types of movement
   vi. Identification of previous medicine exposure and adverse medicine reactions
   vii. General medical condition (GMC), especially delirium (including performing specific blood tests)
   viii. Evidence of concurrent substance use e.g. intoxication/withdrawal, pupil size, order baseline toxicology tests
   ix. Baseline ECG – to assist with prescription choice
   x. Oxygen saturation.

   Any clinically significant abnormality of any of the above requires appropriate intervention. Seek further medical advice if necessary.

c) During a period of disturbed behaviour it may not be feasible to undertake this complete battery of tests. In such circumstances reference should be made to whether recent tests have been undertaken to provide an up to date picture of the physical condition. If such current test results are not available this should generate greater caution in both the selection and doses of prescribed medicines, keeping in mind however the overall goal of effectively managing the patient to reduce harm to themselves or others.

2.4. Formulation of Possible Causes

a) There are many reasons why people become acutely behaviourally disturbed and potentially violent to self or others. These can include:
   i. Acute psychosis or mania
   ii. Acute confusion
   iii. Acute stress reaction in a vulnerable individual
   iv. Substance or alcohol use/misuse
   v. Electrolyte imbalance
   vi. Adverse reactions to medications.

b) In many situations the cause may be a complex combination of illness and situational factors. Such factors include overcrowding, coercive behaviour, verbal abuse by others, threatening gestures by others and failure to carefully set limits.

2.5. Past Medicine History

a) Thoroughly review the patient's medication history, especially those medications administered with in the past 24 hours. A more extensive history may be required in patients presenting with acute behavioural disturbance due to a medical cause such as electrolyte imbalance, drug accumulation, or interacting medications.

3. General Prescribing Information

3.1. Before administering any medications suggested in this document the prescriber and/or administrator MUST:

a) Check and take into consideration ALL medications received by the patient over the previous 24 hours
b) Allow for medications given recently that may not yet have reached full effect
c) Consider any regular doses which are due in the next few hours
d) Avoid concurrent administration of two drugs of the same class.

3.2. Doses recommended in this protocol apply to healthy adults. Reduce dosage in patients with medical comorbidities, or in older of physically debilitated (e.g. underweight) adults. Dosage given is usually between a quarter and a half of the standard adult dose.

3.3. Risk Associated with Medications

a) Rather than obtaining a calming effect alone, over-sedation with loss of alertness or even loss of consciousness can occur.
b) Polypharmacy within a class of medication should be avoided where possible (e.g. the use of two benzodiazepines). Where the MDT considers the use of more than one medicine of the same class necessary, the dose equivalence and total daily dose must be considered.
c) Medical risks include cardiac arrhythmias, respiratory depression, hypotension, NMS and EPSE (note, list not exhaustive).
d) There are specific risks associated with the different classes of medication that are used. When combinations are used, risks may be compounded. These risks include:

Benzodiazepines	Antipsychotics
• Loss of consciousness • Respiratory depression or arrest • Cardiovascular collapse (in service users on both clozapine and benzodiazepines) • Disinhibition (also referred to as paradoxical reactions) • Dependence on long term use	• Loss of consciousness • Cardiovascular and respiratory collapse • Seizures • Subjective experience of restlessness (akathisia) • Involuntary movements (dyskinesia) • Acute muscular rigidity (dystonia) • Stiffness of muscles, tremor (Parkinsonism) • NMS • Excessive sedation

e) Clinicians need to ensure that service users are not inadvertently given high doses of antipsychotics. This could occur through the use of PRN medication given in combination with regular medication.

3.4. <u>As Required (or PRN) Medication</u>

a) If it is necessary to prescribe a range of medication and administration routes for use the prescription should clearly indicate:
   i. Which medication should be used first line
   ii. Indication
   iii. Maximum dose in 24 hours
b) Frequent use of PRN medication should prompt a review of regular medication, as this may indicate suboptimal treatment.
c) The adequacy and effectiveness of the PRN medication prescription should be regularly reviewed as clinically indicated.
d) Where service users are known to mental health services and PRN is an accepted approach to managing their behaviour within a flexible maintenance dose, a clear management plan must be in place and regularly reviewed by the MDT. The individual's management plan must specify the monitoring required following administration of the PRN medicine.

4. STEP ONE – De-escalation (Measures that do not involve medication)

4.1. <u>General Information</u>

a) Measures that do not involve medication should be the first approach for the control of disturbed or violent behaviour. These can include:
   i. Talking down – verbal de-escalation
   ii. Providing privacy and quiet
   iii. Time out and other techniques
   iv. Sensory modulation
   v. Cultural input

4.2. <u>Escalation to STEP TWO and STEP THREE</u>

a) Document the effect of any interventions tried to de-escalate the service user. Continue to use these measures until satisfactory results are obtained. If measures that do not involve medication are unsatisfactory proceed to STEP TWO (or STEP THREE if the service user is refusing oral medications).
b) Before proceeding to the next step, however, assess the service user's level of agitation using the Dynamic Appraisal of Situational Aggression (DASA), the rationale for proceeding to the next step should be clearly documented in the clinical notes.

5. STEP TWO – Oral Medication

5.1. General Information

a) Consider oral medication if STEP ONE measures have been ineffective.
   i. Aim to induce a state of calm/light sedation with rapid onset
   ii. Ideally base the treatment choice on previous response to a medication
   iii. Tailor any medical intervention to the particular clinical situation and monitor effectiveness closely
   iv. Oral therapy generally has a slower onset of action than intramuscular injections
   v. Even with syrups and dispersible tablets/wafers oral formulations may take at least two hours to achieve peak effect.
   vi. Before deciding to repeat administration of a dose of the selected medication, a review of the level of sedation should take place, taking into account the pharmacokinetics of the specific drug and its formulation.
   vii. Nursing staff should seek advice if unsatisfactory response after two doses of medication or recommended maximum doses in 24 hours has been reached.

5.2. Precautions

a) Before embarking on oral therapy the following should be in place:
   i. Procedures to monitor alertness, temperature, pulse, blood pressure and respiratory rate.
   ii. Check all medication administered in the last 24 hours.
   iii. Ensure you are able to access oxygen, mechanical ventilation, benzatropine IM and flumazenil IV.
b) If possible, obtain an ECG, and repeat ECG as needed, especially if higher doses of antipsychotics are used, or if there is concern about cardiac status.

5.3. Oral Benzodiazepines

a) Benzodiazepines are generally regarded as the medication of choice for the pharmacological management of acutely disturbed behaviour. Where the behavioural disturbance occurs in a non-psychosis context it is preferable to use a benzodiazepine alone.
b) Shorter acting benzodiazepines (e.g. lorazepam) are relatively safe options because they are less likely to accumulate with repeated doses. Lorazepam is also the preferred option for the pharmacological management of acute behavioural disturbance in older adults and those with impaired liver function.
c) Oral lorazepam has a similar speed of onset of sedation to IM lorazepam.
d) Seek consultant advice if two doses of lorazepam have been given at least two hours apart without effect.

ORAL LORAZEPAM PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 1-4mg Q2H PRN • Usual maximum of 8 mg in 24 hours *For older adults, physically frail/compromised or psychotropic naïve:* • 0.5-1mg Q2H PRN • Usual maximum of 4mg in 24 hours
Clinical Rationale and Particulars	• Peak concentration will occur in approximately 2 hours, although initial response will occur earlier • Available as tablets

5.4. Oral Antipsychotics

a) Oral antipsychotics are generally regarded as the second choice medication for the pharmacological management of disturbed behaviour. However, in some circumstances they are regarded as the first choice. These circumstances include:
   i. A prior good response to antipsychotics
   ii. Behavioural disturbance occuring in the context of psychosis
   iii. A prior poor response to benzodiazepines
   iv. Problematic side effects with benzodiazepines
   v. Severe respiratory impairment
   vi. A desire to introduce antipsychotics for future control of psychosis.

b) General principles of antipsychotic use:
   i. Avoid high doses or cumulative doses of antipsychotics due to the risk of cardiac arrhythmias.
   ii. Take into account other medications already administered (i.e., watch for interactions, especially concurrent drugs with the potential for QTc prolongation).
   iii. Seek advice if two doses of an oral antipsychotic have been given at least two hours apart without effect.
   iv. Antipsychotics of any class should be used with caution for service users with dementia due to an increased risk of stroke. Antipsychotics should therefore be used with caution and alternatives sought. The prescribing of antipsychotics may be justified in the context of risk from the service user's mental state in some cases.

ORAL OLANZAPINE PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 5-10mg Q2-4H PRN • Usual maximum of 30 mg in 24 hours • Doses up to 30mg per day may be used. *For older adults, physically frail/compromised or psychotropic naïve:* • 2.5-5mg Q2-4H PRN • Usual maximum of 10mg in 24 hours.
Clinical Rationale and Particulars	• First choice antipsychotic **EXCEPT** where behavioural disturbance is associated with delirium or intoxication • Peak concentration occurs in approximately 6 hours although initial response will occur earlier • Available as tablets or oro-dispersible tablets • Oro-dispersible tablet may be dissolved in a small amount of water immediately prior to administration if required

ORAL HALOPERIDOL PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 2.5-5mg Q2H PRN • Usual maximum 20mg in 24 hours *For older adults, physically frail/compromised or psychotropic naïve:* • 0.5-1mg Q2H PRN • Usual maximum of 10mg in 24 hours.
Clinical Rationale and Particulars	• Considered first-choice for the treatment of behavioural disturbances associate with delirium and intoxication • Available as tablets and liquid • Higher rate of EPSE (e.g. dystonia) compared to other antipsychotics • Ensure intramuscular benzatropine is readily available should EPSE occur • Promethazine given concomitantly with haloperidol may improve rapid response and minimise EPSE

ORAL PROMETHAZINE PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 25-50mg as a once only dose or up to TDS PRN (based on response) • Usual maximum 100mg in 24 hours but doses of 150mg/24 hours have been noted *For older adults, physically frail/compromised or psychotropic naïve:* • Not recommended – clinical judgement advised. • Conservative doses and close monitoring is recommended.
Clinical Rationale and Particulars	• Haloperidol plus promethazine is effective and safe, and its use is based on good evidence. • Haloperidol plus promethazine effectively manages aggressive behaviour swiftly and safely, and is more effective after 30 minutes than haloperidol on its own • Not suitable in delirium due to anticholinergic effects • Available as tablets and liquid

5.5 Service User's Regularly Prescribed Antipsychotic Medication

a) It is reasonable to consider the use of service user's current antipsychotic as a treatment option however, the use of some antipsychotics may be limited by time to peak concentration and maximum doses being reached. Behaviour may also warrant a different level of sedation/effect so alternative antipsychotic treatment may be given temporarily during the period of disturbance.

5.6 Combination of Oral Benzodiazepines and Oral Antipsychotics

a) Whilst there is a lack of robust evidence of superiority, expert consensus from USA and other guidelines from the UK and Australia agree that combining lorazepam and an oral antipsychotic results in a synergistic effect and allows lower dosages, or fewer repeat antipsychotic doses to be used. Oral lorazepam may be combined with the oral antipsychotic of choice (base the dose on recommendations given above)

5.7 Combination of Oral Haloperidol and Oral Promethazine

a) Promethazine is NOT recommended in the elderly. Clinical judgement is advised. If it is deemed clinically appropriate, a conservative approach is recommended.

b) The anticholinergic effects of promethazine may exacerbate delirium.

c) Haloperidol plus promethazine effectively manages aggressive behaviour swiftly and safely, and is more effective after 30 minutes than haloperidol on its own.
d) Haloperidol plus promethazine had a greater sedative effect than lorazepam (which is typically used to treat accompanying anxiety). [reference Haloperidol plus promethazine for psychosis-induced aggression | Cochrane]
e) The combination of haloperidol and promethazine, combines an antihistaminic sedative effect with a selective calming action of haloperidol (with a reduced risk of extrapyramidal effects compared to haloperidol alone because of the anticholinergic properties of promethazine). [reference= Treatment Options for Acute Agitation in Psychiatric Patients: Theoretical and Empirical Evidence (nih.gov)]

5.9. *If step two measures prove satisfactory, continue monitoring the patient for maintenance of control and DO NOT proceed to Step Three.*
5.10. *Consider Step Three measures if oral medication is unsatisfactory at controlling disturbed behaviour or if oral medication is being refused.*
5.11. *Before proceeding to the next step, an assessment of the service user's level of agitation should be performed using the DASA. The outcome and rationale for proceeding to the next step should be clearly documented in the service users' clinical notes*

6. STEP THREE – Short-Acting Intramuscular Medication

6.1. General Information

a) Consider short-acting intramuscular therapy if de-escalation measures (Step One) or oral therapy (Step Two) are unsatisfactory or not feasible:
   i. Aim to rapidly induce a state of calm/light sedation.
   ii. Preferred intramuscular agents are benzodiazepines, specifically lorazepam
   iii. Antipsychotics such as olanzapine or haloperidol may also be considered.
b) The following should be able to be accessed quickly and staff should be familiar with their use in case of adverse effects from intramuscular therapy:
   i. Intramuscular benzatropine – if the patient develops a dystonia. Benzatropine IMI can be given every 15 minutes for EPSE and has an additive effect. Manufacturer does not specify a maximum IMI dose, however clinical judgement should be used. Benzatropine should be discontinued when response is adequate.
   ii. Oxygen or mechanical ventilation – if the patient's breathing becomes compromised.

6.2. Intramuscular Benzodiazepines

a) Lorazepam is the benzodiazepine of choice for intramuscular administration. Both IM diazepam and IM clonazepam have a long duration of action and the effects may last for many hours. IM diazepam should be avoided due to its long half-life and unpredictable absorption. Caution should be exercised with IM clonazepam due to possible delayed onset of action compared with PO clonazepam and a long half-life.

INTRAMUSCULAR LORAZEPAM PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 1-4mg IM Q2H PRN • Usual maximum of 8 mg in 24 hours *For older adults, physically frail/compromised or psychotropic naïve:* • 0.5-1mg IM Q2H PRN • Usual maximum of 4mg in 24 hours
Clinical Rationale and Particulars	• Onset of action is similar to PO lorazepam, as distribution of medicine can be slow (approximately 2 hours to peak effect) • Preferred benzodiazepine and first line injectable medication for behavioural disturbance • WARNING: do not give within ONE HOUR of intramuscular olanzapine • Lorazepam injection is not registered in New Zealand and should be supplied using Section 29 of the Medicines Act

6.3. Intramuscular Antipsychotics

a) Olanzapine is considered the antipsychotic of choice for intramuscular administration because of its relatively quick onset of action, sedating properties and low risk of EPSE. It should be avoided if the service user is intoxicated or delirious (in which case, haloperidol may be a better option).

INTRAMUSCULAR OLANZAPINE PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 5-10mg IM Q2-4H PRN • Usual maximum of 30mg in 24 hours. *For older adults, physically frail/compromised or psychotropic naïve:* • 2.5-5mg IM Q2-4H PRN • Usual maximum of 10mg in 24 hours.
Clinical Rationale and Particulars	• Onset of action is approximately 30 minutes • Length of action 15-30 hours • Risk of postural hypotension with IM use • Peak concentration of olanzapine IM is up to 5 times that achieved by equivalent PO dose. Hence, IM doses are usually smaller than oral doses and no more than 10mg per dose. • WARNING: do not give within ONE hour of intramuscular lorazepam

INTRAMUSCULAR HALOPERIDOL PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 2.5-5mg IM Q2H PRN • Usual maximum 15mg in 24 hours *For older adults, physically frail/compromised or psychotropic naïve:* • 0.5-1mg IM Q2H PRN • Usual maximum of 5mg in 24 hours.
Clinical Rationale and Particulars	• Considered first-choice for the treatment of behavioural disturbance associated with delirium and intoxication. • Onset of action is 30 minutes to 2 hours • Commonly associated with dystonia and other EPSEs • The risk of EPSE is dose related. • Promethazine given concomitantly with haloperidol may improve rapid response and minimise EPSE. Promethazine can be drawn up into the same syringe directly prior to administration.

INTRAMUSCULAR PROMETHAZINE PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 25-50mg as a once only dose or up to TDS PRN (based on response) • Usual maximum 100mg in 24 hours but doses of 150mg/24 hours have been noted *For older adults, physically frail/compromised or psychotropic naïve:* • Not recommended – clinical judgement advised. • Conservative doses and close monitoring is recommended.
Clinical Rationale and Particulars	• Haloperidol plus promethazine is effective and safe, and its use is based on good evidence. • Haloperidol plus promethazine effectively manages aggressive behaviour swiftly and safely, and is more effective after 30 minutes than haloperidol on its own • Not suitable in delirium due to anticholinergic effects • Onset of action is 20 minutes to 2 hours • Haloperidol plus promethazine had a greater sedative effect than lorazepam (which is typically used to treat anxiety). There was no difference in the number of people requiring restraints or seclusion.

6.4. <u>Combination of Intramuscular Haloperidol and Intramuscular Promethazine</u>

a) Combined haloperidol and promethazine has a rapid calming effect, and this effect may be maintained over four hours.

b) The data provided in the Cochrane review demonstrates that a haloperidol plus promethazine is effective and safe for use in situations where people are aggressive due to psychoses.

c) When haloperidol plus promethazine was compared with lorazepam or haloperidol alone for psychosis-induced aggression for the outcome not tranquil or asleep at 20-30 minutes, the combination treatment was more effective.

e) Co-administration of promethazine and haloperidol by the intramuscular route may be considered for:

i. Service users continuing to not respond to a single medication

ii. Service users who may be at risk of EPSEs
iii. Service users who have a documented history of good response to the combination rather than the individual medication

f) Promethazine should not be considered for patient with suspected delirium due to additive anticholinergic effects.

6.5. Combination of Intramuscular Benzodiazepines and Intramuscular Antipsychotics

a) Routine co-administration of a benzodiazepine and an antipsychotic medication by the intramuscular route is generally not recommended as the first line treatment
b) Co-administration of a benzodiazepine and an antipsychotic by the intramuscular route may be considered for:
   i. Service users continuing to not respond to a single medication
   ii. Service users who have a documented history of good response to the combination rather than the individual medication
   iii. Service users better suited to low-dose antipsychotic therapy for tolerability reasons, but for whom control is sub-optimal at low doses.
c) **Note:** Do not give intramuscular olanzapine and intramuscular lorazepam simultaneously. There must be at least ONE HOUR between intramuscular doses due to the risk of:
   i. Excessive sedation
   ii. Cardio-respiratory depression
   iii. Deaths have been reported.

This risk exists with CONCOMITTANT parenteral administration.
This same risk does not exist when PO lorazepam is combined with IMI olanzapine, or when PO olanzapine is combined with IMI lorazepam.

d) If Step Three measures prove satisfactory continue monitoring patient for maintenance of control and DO NOT proceed to Step 4
e) Before administering further doses of IM medication the service user must be reassessed using the DASA
f) Nursing staff should seek consultant/prescriber advice if there is an unsatisfactory response after THREE HOURS
g) If the service *user starts to accept oral medication this is the preferred route*
h) **You MUST consult the Responsible Clinician (or on-call acting Responsible Clinician). if:**
   i. Dosages higher than those recommended are considered necessary
   ii. Repeating the intramuscular combination prior to progressing to step FOUR (Zuclopenthixol acetate IM) is being considered
   iii. Progression to Step Four (Zuclopenthixol acetate IM) is being considered
   iv. If you have any clinical concerns related to medication administration within the guideline.

7. STEP FOUR – Longer-Acting Intramuscular Antipsychotic Medications

7.1. General Information

a) Many international guidelines do not regard the IM antipsychotic Zuclopenthixol acetate (Clopixol Acuphase) as appropriate for the acute management of disturbed behaviour. The delay in onset of action is too long for acute management. If the patient is not responsive to verbal direction, refusing oral medication and requiring repeated IM injection the longer-acting intramuscular antipsychotic zuclopenthixol acetate (Clopixol Acuphase) may be indicated.

7.2. Clopixol Acuphase (Zuclopenthixol Acetate)

a) Intramuscular zuclopenthixol acetate (Clopixol Acuphase) may be considered in the following situations:
   i. When reduction of behavioural disturbance has been insufficient over a period of 24-48 hours utilising previous stages of the guideline.
   ii. Past recorded good response and/or patient choice would favour this option.

b) Zuclopenthixol acetate (Clopixol Acuphase) should only be prescribed after the service user has had further evaluation by a Consultant Psychiatrist.

c) All other prescribed antipsychotics should be withheld for 24 hours post-administration of zuclopenthixol acetate. The prescriber should annotate this on the patient's medication chart and document it clearly in the clinical notes.

d) Zuclopenthixol acetate (Clopixol Acuphase) should be prescribed as a STAT dose at a specific time (and NEVER prescribed as a PRN medicine).

e) This guideline advises against the use of zuclopenthixol acetate (Clopixol Acuphase) in antipsychotic naïve service users, adolescents and in older adults or the physically compromised/frail.

INTRAMUSCULAR ZUCLOPENTHIXOL ACETATE (CLOPIXOL ACUPHASE) PRESCRIBING AND ADMINISTRATION INFORMATION	
Dosing	*For adults:* • 50-150mg STAT • Repeat if necessary, preferably at intervals of 48-72 hours, (however in some cases the second dose may be given 24 hours following the first injection). • Maximum of 400mg over a two-week period, and the number of injections given should not exceed four. • Individual injections should be spaced at least 24 hours apart.
Clinical Rationale and Particulars	• Zuclopenthixol acetate should be prescribed by both generic and brand name to reduce the risk of medication error • Onset of effect generally takes 2-4 hours and levels reach a peak concentration in 24-36 hours • The effect may last up to 72 hours
Monitoring and additional measures	• All other prescribed antipsychotics must be withheld for 24 hours following administration of Zuclopenthixol. It is recommended that the prescriber clearly annotates this on the chart. • Post-administration observations must be carried out to ensure on-going patient safety (See Zuclopenthixol Acetate (Clopixol Acuphase) Post-Administration Observation Record).

f) The recommended observations and monitoring frequency are outlined in the See Zuclopenthixol Acetate (Clopixol Acuphase) Post-Administration Observation Record. Any deviation from these recommendations requires a well-documented rationale.
g) If possible, obtain an ECG, and repeat ECG as needed if there is concern about a patient's cardiac status.
h) The following should be readily available and staff should be familiar with its use:
   i. Oxygen or mechanical ventilation if breathing becomes compromised
   ii. Intramuscular benzatropine.
i) The practice of co-administration of intramuscular benzatropine at the same time as intramuscular zuclopenthixol acetate (Clopixol Acuphase) is NOT recommended.
j) The practice of co-administration of shorter-acting intramuscular injections at the same time as intramuscular zulopenthixol acetate (Clopixol Acuphase) is NOT recommended.
k) If further help and advice is required regarding this guideline or other medication options then contact a mental health pharmacist.

REFERENCES

- Waitemata District Health Board. (September 2015). *Behavioural Disturbances in Adults - Acute Pharmacological Management Guideline*.
- Auckland District health Board. (January 2018). *Behavioural Disturbance – Acute Management.*
- New Zealand Formulary (NZF). NZF v[61]. [2017]. Retrieved from, www.nzf.org.nz.
- Sussex partnership NHS. (2016*). Guidelines for the use of zuclopenthixol acetate (Clopixol Acuphase®) injection*.
- Health and Disabilities Services (Core) Standard NZS 8134:2008
- Health and Disability Services (Restraint Minimisation and Safe Practice) Standards NZS 8134.2:2008
- Medicines Act 1981
- Mental Health (Compulsory Assessment and Treatment) Act 1992
- Ogloff JR, Daffern M. The Dynamic Appraisal of Situational Aggression: an instrument to assess risk for imminent aggression in psychiatric inpatients. Behav Sci Law. 2006; 24(6): 799–813.
- Seclusion under the Mental Health (Compulsory Assessment and Treatment) Act 1992

ASSOCIATED DOCUMENTS

- Bay of Plenty District Health Board policy 1.1.1 Informed Consent
- Bay of Plenty District Health Board policy 2.5.2 Health Records Management
- Bay of Plenty District Health Board policy 4.1.0 Infection Control Management
- Bay of Plenty District Health Board Clinical Practice Manual protocol CPM.M5.3 Sensory Modulation Programme
- Bay of Plenty District Health Board Form Zuclopenthixol Acetate (Clopixol Acuphase) Post-Administration Observation Record

Appendix A: Flowchart for the Pharmalogical Management of Agitation and Aggression