1.0 Title
Pharmacological Treatment of Agitated Adult and Elderly Inpatients

2.0 Purpose
To ensure that agitated inpatients who require pharmacological intervention are treated in a safe and appropriate manner and in keeping with evidence based prescribing.

3.0 Procedure
Behavioural disturbance is common within the hospital and multipurpose services environment. Quality clinical management emphasizes a practice of less restrictive techniques, and the importance of engaging the family, friends and carer to assist and support the patient, initiation of the CEC TOP5 and the ACI Care of the Confused Hospitalised Older Patient (CHOPs) programs. The use of medications for behavioural management is a serious and potentially risky intervention that should only be embarked upon after less restrictive approaches have been considered. Only those with experience and adequate clinical support should prescribe medications for management of problem behaviour. Every effort should be made to ensure the environment is optimal and staffing levels meet patient needs before consideration of pharmacological interventions. The most commonly encountered scenarios in the hospital include:

- Delirium;
- Alcohol/Benzodiazepine Withdrawal States (“Delirium Tremens”);
- Dementia with Behavioural Symptoms/Signs;
- Head Injury – acute, chronic;
- Intellectual Disability;
- Acute Psychiatric Illness (liaise with mental health team).

The following guidelines have been formulated to help direct pharmacological interventions in the management of commonly occurring situations of behavioural disturbance.
**Monitoring:**
Refer to local guidelines and/or standards for observations on patients who have received any form of sedation including:

- Post sedation observations: SaO2, respiration rate, BP, pulse, temp, extrapyramidal side effects (EPSE), mental state.
- Frequency: every 15 minutes for 30 min, then every 30 min for 4 hours or until awake.
- Post-sedation bladder care: bladder scan with IDC for urinary retention > 400mL, otherwise 4 hourly bladder scan monitoring.
- Pressure area care: 2\textsuperscript{nd} hourly care in the frail older patient otherwise 4\textsuperscript{th} hourly, a pressure mattress may be considered for those at risk.
- Hydration: initiate a fluid balance chart and encourage and record fluid intake when the person wakes.
- Thorough medical evaluation of person to assess and manage possible causes of behaviour, e.g. delirium.
- Resuscitation equipment and staff who are well trained in CPR may be necessary and available as a precaution.
- Monitor mobility and transfers and ensure a falls risk screen has been attended.

**Sedation Scale:**
5 = highly aroused, violent towards self, others or property.
4 = highly aroused and possibly distressed or fearful.
3 = moderately aroused, agitated, more vocal, unreasonable, or hostile.
2 = mildly aroused, pacing, willing to talk reasonably.
1 = settled, minimal agitation.
0 = asleep.


**Documentation and Reporting:**
Accurate and timely recording of the information related to the management of the agitated patient is and includes:

- Description of the events that contributed to the need for sedation;
- Results of the physical examination of the patient;
- Indication for the sedation;
- Record of the medications administered and the response/effectiveness;
- Record of the vital signs post sedation;
- Record that an explanation of the incident has been given to the patient and carer if appropriate.

**Delirium (not related to alcohol withdrawal)**
There are various measures to screen for the presence of delirium. The Confusion Assessment Method (CAM) is one such measure. The ‘short version’ of CAM considers that a diagnosis of delirium is likely if the following are present:

- acute onset and fluctuating course; and
- inattention; and
- either disorganised thinking or an altered level of consciousness.
As delirium is always caused by a reversible, physical dysfunction of the brain it is considered a medical emergency. Untreated delirium frequently results in death and every effort must be made to determine the underlying cause(s).

It is impossible to emphasise enough how often delirium is due to drugs. It is essential to review the patient’s medication history, as well as other medicines that may have been deliberately or unintentionally taken. While anticholinergic drugs, narcotics and psychotropic drugs are often implicated in delirium, many other drugs can also cause the syndrome. Most patients recover without specific treatment once the drugs are withdrawn.

Pharmacotherapy is unnecessary for most delirious patients. However, clinical experience indicates that there is a place for pharmacological intervention in patients with delirium where distress or agitation is significant. It may be indicated to control anxiety, fear, agitation, aggression, delusions and/or hallucinations. Antipsychotic medications produce a sedative effect, allowing the person to rest and be receptive to care giving. However, the over use of antipsychotic medication has the potential to be a perpetuating factor in the course of delirium through a reduction in ambulation, reduced oral intake and impaired communication.

There are obvious difficulties in obtaining informed consent from people with delirium, especially if they have a pre-existing dementia. It is imperative that family/carers are involved in decisions about treatment and management of symptoms.

At the time of writing, there are no drugs specifically approved by the Australian Therapeutic Goods Administration (TGA) for the treatment of delirium and high quality evidence for their use is also lacking.

The antipsychotics can be sedative and are eliminated slowly so repeat doses may have cumulative effects. As their onset of action can be delayed from 30 to 60 minutes after administration, second doses should not be given for at least 60 minutes. After the first dose is given, the patient should be gently encouraged to a quiet space and allowed to walk around if possible. All unnecessary stimuli should be minimised and staff should maintain a respectful distance as they may exacerbate the patient’s feeling of agitation.

NOTE: A single dose of an antipsychotic is usually adequate. Patients requiring further doses should have a full medical review by a Senior Medical Officer or a Nurse Practitioner in the speciality of Geriatrics or Psychogeriatrics. Ongoing delirium may also be an adverse effect of the antipsychotic.
To treat delirious patients who are agitated, use one of the following:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloperidol 0.5mg orally, or</td>
<td>Haloperidol 0.25mg orally, or</td>
</tr>
<tr>
<td>Olanzapine 2.5mg orally, or</td>
<td>Olanzapine 1.25mg orally*, or</td>
</tr>
<tr>
<td>Risperidone 0.5mg orally.</td>
<td>Risperidone 0.25mg orally or</td>
</tr>
<tr>
<td></td>
<td>Risperidone 0.5mg</td>
</tr>
</tbody>
</table>

* A 1.25mg dose of olanzapine requires cutting a 2.5mg tablet in half. Olanzapine can be irritant to the skin and eyes. If this dose is required, it is recommended that a mask, gloves and eye protection are worn during administration.

If oral administration is impossible and symptoms are severe use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloperidol 0.5mg IM, or</td>
<td>Haloperidol 0.125mg – 0.25mg IM, or</td>
</tr>
<tr>
<td>Olanzapine 2.5mg IM.</td>
<td>Olanzapine 1.25mg IM.</td>
</tr>
</tbody>
</table>

Both first-generation (haloperidol) and second-generation (risperidone, olanzapine) antipsychotic medications have potential side effects associated with their use, and close monitoring of the person and his/her condition is required. First generation antipsychotic medications have a higher incidence of extrapyramidal side effects and a lengthened QT interval on ECG. Therefore, the use of second-generation antipsychotic medications should be considered for patients with existing extrapyramidal signs, such as those with Parkinson’s disease or Lewy body dementia, to avoid worsening of their symptoms. All of the recommended antipsychotics in delirium, but particularly risperidone, are associated with orthostatic hypotension and this effect may be evident acutely, especially if higher doses are administered.

Except for the specific indications of delirium related to alcohol withdrawal or to seizures, benzodiazepines should be avoided because complications are common and long-acting benzodiazepines increase the risk of delirium. This is particularly relevant in the elderly, who have increased sensitivity to benzodiazepines and slower metabolism of long-acting agents.

**Delirium related to alcohol withdrawal**
The Northern NSW Local Health District (NNSW LHD) currently uses The Clinical Institute Withdrawal Assessment for Alcohol - revised version (CIWA-AR), which has been shown to be a valid, reliable and a sensitive instrument for assessing the clinical course of simple alcohol withdrawal.
A long-acting benzodiazepine (diazepam) is the treatment of choice for alcohol withdrawal.

Contraindications to diazepam include respiratory failure, significant liver impairment, possible head injury or cerebrovascular accident. In these situations, specialist consultation is essential.

Refer to the CIWA-AR chart for dosing guidelines.

**Dementia**

Antipsychotics should not be used for behavioural problems of dementia unless non-pharmacological options have failed, and patient is a threat to himself/herself or others. Antipsychotics are associated with an increased risk of cerebrovascular accident (stroke) and mortality in persons with dementia.

To control hallucinations, delusions or seriously disturbed behaviour, use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risperidone 0.5mg – 2mg orally daily in 1 or 2 doses, or</td>
<td>Risperidone 0.25mg – 1mg orally daily in 1 or 2 doses, or</td>
</tr>
<tr>
<td>Olanzapine 2.5mg – 10mg orally daily in 1 or 2 doses.</td>
<td>Olanzapine 1.25mg – 5mg orally daily in 1 or 2 doses.</td>
</tr>
</tbody>
</table>

To relieve symptoms of severe anxiety and agitation, use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxazepam 15mg orally up to four times per day.</td>
<td>Oxazepam 7.5mg orally up to four times per day.</td>
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</tbody>
</table>

**Behavioural Emergency**

In acute medical settings the cause of acute agitation is frequently unknown and may be a combination of mental illness, intoxication and medical illness. The immediate objective is to achieve rapid tranquillisation. The clinical endpoint for parenteral sedation is rousable sleep. This is to secure the safety of all concerned and enable any necessary tests or procedures to be undertaken. Once safety is accomplished, the next priorities are medical examination and investigation to reach a diagnosis and institute appropriate medical management. Acute medical settings are considered to be settings in which cardiorespiratory resuscitation resources are immediately available and staff are highly trained and experienced in their use. Therefore, any adverse cardiorespiratory consequences of drugs can be readily managed.

The intravenous route is preferred for achieving rapid tranquilisation, because it allows titration of the dose and provides a more immediate effect. If a patient cannot be physically restrained to the point where an intravenous line can be established without risk of harm to staff members, then initial intramuscular medication is appropriate.
If intravenous medication is considered appropriate, use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
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</thead>
<tbody>
<tr>
<td><strong>Diazepam</strong> 5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 30 mg. If adequate control is not achieved after 30 mg has been given, seek specialist advice as the patient may be unable to be sedated with benzodiazepines. It may be necessary to give diazepam in larger boluses (10 to 20 mg) under specialist advice, <strong>or</strong> Midazolam 2.5 to 5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 30 mg. If adequate control is not achieved after 30 mg has been given, seek specialist advice as the patient may be unable to be sedated with benzodiazepines. It may be necessary to give midazolam in larger boluses (10 to 20 mg) under specialist advice.</td>
<td><strong>Diazepam</strong> 2.5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 15 mg. If adequate control is not achieved after 15 mg has been given, seek specialist advice as the patient may be unable to be sedated with benzodiazepines. It may be necessary to give diazepam in larger boluses (5 to 10 mg) under specialist advice, <strong>or</strong> Midazolam 1.25 to 2.5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 15 mg. If adequate control is not achieved after 15 mg has been given, seek specialist advice as the patient may be unable to be sedated with benzodiazepines. It may be necessary to give midazolam in larger boluses (5 to 10 mg) under specialist advice.</td>
</tr>
</tbody>
</table>

Droperidol or olanzapine can be used in combination with diazepam or midazolam, or as a single drug in patients who are tolerant of benzodiazepines or if there is a failure of benzodiazepines. **USE WITH HIGH LEVEL OF CAUTION IN THE ELDERLY.**

Patients who appear very resistant to the sedative effect of benzodiazepines may only need a small dose of droperidol or olanzapine to be effectively sedated. Use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
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</thead>
<tbody>
<tr>
<td><strong>Droperidol</strong> 2.5 to 5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 20 mg. If adequate control is not achieved after 20 mg has been given, seek specialist advice, <strong>or</strong> <strong>Olanzapine</strong> 5 mg IV, repeated every 5 minutes, titrated to clinical response, up to a maximum of 20 mg. If adequate control is not achieved after 20 mg has been given, seek specialist advice.</td>
<td><strong>Droperidol</strong> 1.25 to 2.5 mg IV, repeated every 3 to 4 minutes, titrated to clinical response, up to a maximum of 10 mg. If adequate control is not achieved after 10 mg has been given, seek specialist advice, <strong>or</strong> <strong>Olanzapine</strong> 2.5 mg IV, repeated every 5 minutes, titrated to clinical response, up to a maximum of 10 mg. If adequate control is not achieved after 10 mg has been given, seek specialist advice.</td>
</tr>
</tbody>
</table>
A number of hospitals have withdrawn droperidol from their formularies and the drug has been deleted from some clinical guidelines following the US Food and Drug Administration (FDA) Black Box warning concerning potential for cardiac complications. However, there is no convincing evidence for a causal relationship between therapeutic droperidol administration in the present context and life-threatening cardiac events. Droperidol is preferred over haloperidol for behavioural emergencies because it is more sedating, has a quicker onset of action, a shorter half-life and is less cardiotoxic than haloperidol.

If droperidol is unavailable, haloperidol may be substituted using the same dose as for droperidol, but haloperidol is less effective than the recommended drugs.

For intramuscular administration, use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midazolam 5 to 10 mg IM.</td>
<td>Midazolam 2.5 to 5 mg IM.</td>
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</tbody>
</table>

Diazepam is not recommended for intramuscular injection as absorption is poor and erratic.

In patients who are tolerant of benzodiazepines or if there is a failure of midazolam, use:

<table>
<thead>
<tr>
<th>Adult patients</th>
<th>Frail/Elderly patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Droperidol 5 to 10 mg IM, or Olanzapine 10 mg IM.</td>
<td>Droperidol 2.5 to 5 mg IM, or Olanzapine 5 mg IM.</td>
</tr>
</tbody>
</table>

4.0 Required Knowledge and Assessment to Perform this Procedure
Nil

5.0 Monitoring and Evaluation
An audit will be conducted periodically to ensure compliance with this procedure.

6.0 Definitions
Dementia: a progressive, organic mental disorder characterised by chronic personality disintegration, confusion, disorientation, stupor, deterioration of intellectual capacity and function, and impairment of control of memory, judgement and impulses.
**Delirium:** an acute organic mental disorder characterised by confusion, disorientation, restlessness, clouding of the consciousness, incoherence, fear, anxiety, excitement, and often illusions, hallucinations, usually of visual origin, and at times delusions. The condition is caused by disturbances in cerebral functions that may result from a wide range of metabolic disorders, nutritional deficiencies, and endocrine imbalances; ingestion of toxic substances such as gases, alcohol, metals and drugs.

**Cognition:** the mental process characterised by knowing, thinking, learning and judging.

**Extrapyramidal Side Effects (EPSE):** Extrapyramidal symptoms (EPS) are various movement disorders such as acute dystonic reactions, pseudoparkinsonism, tardive dyskinesia or akathisia suffered as a result of taking dopamine antagonists, usually antipsychotic (neuroleptic, psychotropic) drugs, which are often used to control psychosis, behaviour or mood. It can also be a symptom of a metabolic disease. Extrapyramidal syndrome (EPS) is due to the blockade of dopamine receptors in the basal ganglia, leading to Parkinson-like symptoms such as slow movement (bradykinesia), stiffness, and tremor.

**Psychotropic:** A psychoactive drug, psychopharmaceutical, or psychotropic is a chemical substance that crosses the blood–brain barrier and acts primarily upon the central nervous system where it affects brain function, resulting in alterations in perception, mood, consciousness, cognition, and behavior. Categories of psychoactive drugs include: anaesthetics, analgesics, anticonvulsant and anti-parkinsonian drugs and the psychiatric drugs such as hypnotics, anxiolytics, tranquilizers, sedatives, or antidepressants.

### 7.0 References
1. Therapeutic Guidelines (eTG complete), July 2013.

### 8.0 Appendices
Appendix 1 Pharmacological Treatment of Agitated and Elderly Inpatients
Patient presents agitated/ behaviourally disturbed

Diagnostic Issues
Establish cause eg: dementia, delirium, depression, head injury, psychosis, and ETOH / drug withdrawal

Comprehensive Assessment & History attended
- Conduct physical examination
- Baseline level of consciousness
- Screen baseline cognition
- Behaviour history
- Determine triggers
- Review all medications

Behavioural / non-pharmacological strategies have failed

Yes Pharmacological intervention required if at risk to self or others

Treat acute cause

Refer to Geriatric team if possible

Behavioural issues / agitation resolve using conservative intervention.
Continue usual care/ monitor progress

Agitated frail / elderly patient
Risperidone 0.25mg – 0.5mg (Max) orally daily in 1 or 2 doses OR
Haloperidol 0.25mgs - 0.5mg (Max) orally daily in 1 or 2 doses OR
Olanzapine 1.25mg – 2.5mg (Max) orally or via wafer daily in 1 or 2 doses OR
Quetiapine 12.5mgs - 25mgs (Max) orally in 1 or 2 doses in Parkinson’s / Lewy Body Dementia

If oral administration is impossible or severe agitation
Haloperidol 0.125mg- 0.25mg IM OR Olanzapine 1.25mg IM OR
Midazolam 2.5 –10mgs (Max) IM or Subcutaneoulsy

To relieve symptoms of anxiety and to augment management of agitation
Oxazepam 7.5mgs orally up to max of four times daily

Monitor response and sedation level, observations include:
Sa02, Respiration rate, BP, Pulse, Temperature, Extrapyramidal side effects, mental state
Every 15minutes for 30 minutes then every 30 minutes for 4 hours or longer if necessary
Post sedation bladder care, pressure area care, hydration fluid intake and output
Document and record medications administered and effectiveness
### 9.0 NNSW LHD Clinical Procedure Cover Sheet

<table>
<thead>
<tr>
<th>COVER SHEET</th>
<th>NNSW Local Health District CLINICAL Policy Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Of Document</td>
<td>Pharmacological Treatment of Agitated Adult and Elderly Inpatients</td>
</tr>
<tr>
<td>Type of Document</td>
<td>Procedure</td>
</tr>
<tr>
<td>Document Number</td>
<td>NC-NNSW-PRO-7473-15</td>
</tr>
<tr>
<td>Superseded Document</td>
<td>N/A</td>
</tr>
<tr>
<td>Sites/Services where compliance with this procedure is mandatory.</td>
<td>For all sites and services caring for the older person. Compliance is not required for inpatient Mental Health units as they have their own policy.</td>
</tr>
</tbody>
</table>
| Related Ministry of Health PDs, LHD Documents or Australian Standards: | • PD2013_049 [Recognition and Management of Patients who are Clinically Deteriorating](#)  
• [NSW Health Risk Matrix](#)  
• Policy Directive is PD2013_043: [Medication Handling in NSW Public Health Facilities](#) |
| Risk Management | Any incidents relating to this procedure are to be reported in the Incident Information Management System (IIMS). Any failure or gap in this procedure should be reported to the Management Authority listed on the document and the Clinical Risk Manager. If a significant risk is perceived or identified with the implementation of the actions specified in this guideline, following the approval of the document, a risk assessment form as per PD2015_043 [Risk Management - Enterprise-Wide Risk Management Policy and Framework - NSW Health](#) should be undertaken and escalated through to Clinical Operations and Clinical Governance with mitigating strategies identified.  
The risk can be reported to the Area Risk Coordinator and to the appropriate governance committee for information and follow up. |
<p>| Current Risk Rating | K – Moderate / Likely |
| Targeted Risk Rating | R – Minor / Possible |</p>
<table>
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<tr>
<th>Date Created</th>
<th>23 October 2014</th>
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<tbody>
<tr>
<td>Date of Publication</td>
<td>20 April 2017</td>
</tr>
<tr>
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<td>20 April 2022</td>
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<tr>
<td>Aboriginal Health Advisory Committee Registration Number</td>
<td>CG/2015/16</td>
</tr>
<tr>
<td>Author</td>
<td>Anne Moehead Nurse Practitioner Psychogeriatrics in consult with Michael Holloway, Director of Pharmacy (Tweed/Byron Health Service Group)</td>
</tr>
<tr>
<td>Clinical Authority</td>
<td>NNSW LHD Drug &amp; Therapeutics Committee</td>
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<tr>
<td>Management Authority</td>
<td>NNSW LHD Health Care Quality Committee</td>
</tr>
<tr>
<td>Executive Sponsor</td>
<td>Executive Director Nursing and Midwifery</td>
</tr>
<tr>
<td>Key Words</td>
<td>Medication, psychotropic, agitation, elderly, pharmacology, pharmacological, dementia, delirium</td>
</tr>
<tr>
<td>Summary</td>
<td>The following procedure has been formulated to help direct pharmacological interventions in the management of commonly occurring situations of behavioural disturbance in the adult and elderly inpatient.</td>
</tr>
<tr>
<td>Date Approved for Electronic Distribution by NNSW LHD Chief Executive</td>
<td>20 April 2017</td>
</tr>
<tr>
<td>Signature NNSW LHD Chief Executive</td>
<td>Wayne Jones</td>
</tr>
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</table>