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DISTRICT HEALTH BOARD
Te Toka Tumai

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26 November 2020

[redacted]

I refer to your Official Information Request dated 11 November 2020 requesting the following information:

I write to request under the Official Information Act 1982 copies of all current policy documents relating to the administration of cognitive tests to hospital inpatients.

We have searched through our active policies and could not find a current policy that fit your request. The services who regularly administer these tests were also contacted, however, they confirmed that there are no current policies which relate to the administration of cognitive tests to hospital inpatients. Instead, the decision to administer a cognitive test is a clinical one. However, please find attached the following policies which mention cognitive testing and give some indication of when administering a test may be indicated:

- Behaviours of Concern (BOC) – Patient Observation
- Delirium in the Hospital Setting
- Diminished Capacity
- Spacers and Nebulisers
- Adolescent Decision Making – Gynaecology and Psychology Services
- Vulnerable Adult and Elder Abuse
- Acute Myeloid Leukaemia (ML) in an Older Person
- Renal Transplant Adult Recipient: Patient Selection
- Dysphagia in Children Post Traumatic Brain Injury (TBI)
- Falls in Adults – Allied Health
- Neurological Assessments of Adults by Physiotherapists
- Orthopaedic – Elective Spinal – Paed
- Behavioural Disturbance – Acute Management

You are entitled to seek a review of the response by the Ombudsman under section 28(3) of the Official Information Act. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

Please note that this response, or an edited version of this response, may be published on the Auckland District Health Boards website.

Yours faithfully

Ailsa Claire, OBE
Chief Executive of Te Toka Tumai (Auckland District Health Board)

Behaviours of Concern (BOC) – Patient Observation

Unique Identifier	CP01/BRD/025 – v04.00
Document Type	Policy
Risk of non-compliance	may result in significant harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board Multiple directorates (excluding Mental Health) Multiple departments (excluding Mental Health) All patients (adults and children) (excluding those in Mental Health) All staff members, including security staff members (excluding those in Mental Health)
Keywords	watch
Author	Nurse Director, Community & Long-Term Conditions
Authorisation • Owner • Delegate / Issuer	 Chief Nursing Officer Nurse Director
Edited by	Document Control
First issued	November 2002
This version issued	08 November 2019 - reviewed
Review frequency	3 yearly

Contents

1. Purpose of policy

This policy sets out the expectations and accountability for assessment, decision-making and provision of safe care and risk minimisation, for patients who are exhibiting behaviours of concern (BOC) and who require a higher level of observation within Auckland District Health Board (Auckland DHB).

2. Policy statements

Any patient exhibiting a BOC must have a comprehensive assessment undertaken by an experienced registered nurse (RN) providing care for the patient and the charge nurse (CN)/delegate/Clinical Nurse Manager. A decision is made by these two experienced RNs to determine the required level of observation needed.

An individual CR4643 Behaviours of Concern (BOC) Assessment and Care Plan ("BOC careplan") must be documented and implemented, which incorporates the rationale for the higher level of observation, the specific goals of care and intended outcomes, and the requirements for referral and timeframes for ongoing review.

Any decision to request the use of additional resources to provide a higher level of observation must take into consideration the following:

- Acuity of patients in ward/area
- Other requirements for higher levels of observation
- Number of rostered staff members on that shift
- Skill mix of staff members on that shift
- Number of students and clinical workload sharing staff members on that shift
- Number of patients and level of occupancy
- Admission and discharge activity.

A decision that requires the use of additional staff members over and above the normal roster numbers, and over the TrendCare positive variance of 40 minutes per rostered staff member, must be approved in hours by the nurse director (or delegate) of the area, and out of hours by the Clinical Nurse Manager.

Available resources must be effectively allocated and/or reallocated to ensure the required level of observation is maintained.

Accountability: The RN allocated to provide care for a patient with BOC is accountable for the care and supervision of that patient. The RN must work within scope of Nursing Council of New Zealand (NCNZ) supervision and delegation guidelines at all times with care, supervision and delegation of enrolled nurse (EN) or healthcare assistant (HCA) allocated to provide constant observation.

If a patient requires a patient attender to complete a CAT A 1:1, CAT B or CAT C, then the right person with the right skills must be allocated to that patient. Ward staff members should be allocated to provide this in the first instance. Bureau staff members can be utilised to backfill the

vacant ward position if they do not have the level of knowledge and skill to provide the necessary observation for that patient.

Due consideration to culture, gender, language, BOC (e.g. violence) or mental health diagnosis should also be factored into this decision, as it may be more appropriate to allocate the bureau staff members to the CAT A 1:1.

If a security patient attender is required, a Behaviours of Concern Pathway must be implemented. If a security guard is required for a short period following a Code Orange, the CR4644 Patient Attender BOC Observation Chart (PABOC observation chart) must be used to document the patient's behaviour.

Standard breaks are to be negotiated, as per contract requirements, with the responsible RN, where clinically safe to do so. Where unable to relieve for breaks, the RN must liaise with CN/delegate/Clinical Nurse Manager to enable these.

Once implemented, the need for a higher level of observation must be reviewed, evaluated and documented in the PABOC observation chart every shift by the allocated RN; and every 24 hours a comprehensive review must be completed by the CN or delegate.

The CN/delegate of the ward/area is accountable for:

- Ensuring that staff members are aware of this policy.
- Ensuring that a process for assessment and decision making is in place for patients with BOC who have been identified as requiring a higher level of observation.

Auckland DHB aims for zero use of physical restraints where possible. If restraint is required, it must be limited to essential situations only and implemented in line with the Restraint Minimisation and Safe Practice policy (see associated documents section).

3. Definitions

Behaviours of concern occur for many reasons. By understanding the causes or triggers for these behaviours, staff members are able to develop strategies and interventions to alleviate distressing symptoms and enhance the quality of life for the individual concerned.

Behaviours of concern are those patterns of behaviour that:

- Are disruptive to a patient's normal routine or activities thereby reducing or affecting their quality of life
- Place the person, fellow patients and/or carers at risk
- Impair the ability to care for that person, and therefore reduce the quality of life
- Are distressing for the patient, other patients or staff members
- Require repeated staff member's interventions,
- Require multiple pharmacological interventions.

Common types of behaviours of concern (list not conclusive):

- Cognitive impairment, e.g. dementia, delirium
- Suicidal ideation
- Aggressive, combative and violent behaviour
- Verbal disruption and verbal abuse
- Wandering/pacing/agitation
- Repetitive and/or ritualistic behaviour
- Impulsive or disinhibited behaviour
- Intrusiveness into other people's space and belongings
- Resistance towards receiving care
- Tampering with or pulling at essential lines/catheters.

4. Clinical assessment

Patients with challenging behaviours require clinical expertise and support in order to manage safely. The focus is on the patient and family and their care, to ensure optimal outcomes including the management of behaviours of concern through prevention or deceleration by early intervention. This is applicable whether the underlying cause is delirium or dementia, drug or alcohol related issues, post-traumatic amnesia, or unacceptable behaviour due to some other cause. It is essential that an assessment be made of the patient in order to determine the cause of their behaviour and that an appropriate plan of care is implemented in order to manage the patient's behaviour to minimise risk to both patient and staff members.

Patient assessment should ensure a holistic and multidisciplinary team (MDT) approach and include consideration of the following in the BOC careplan:

- Set of vital signs to exclude physiological instability
- Review patient status over the previous 24 hours – early warning score (EWS)
- Medical history
- Mental health history (including known behavioural triggers, and cognitive assessment)
- Psychological and social history
- Medication history
- History of drug and/or alcohol intake
- Assessment for delirium and/or dementia
- Assessment for signs of infection (UTI; chest infection).

Based on the patient's history and assessment a decision must be made to determine the level of observation that is required.

This decision must be made in consultation with the following:

- RN responsible for the patient in consultation with the CN (or delegate)/Clinical Nurse Manager Liaison psychiatry team (where required)
- Medical staff members of treating unit (where required)
- Family/whānau or legal guardian
- Allied Health team members (where appropriate)

- Specialist nursing advice (where appropriate e.g. gerontology, continence clinical nurse specialist (CNS).

4.1 Definitions of levels of patient observation

Term	Definition
CAT A	Constant 1:1 observation (within arm's length all times). The patient is within arm's reach at all times and the patient's hands and neck area in full view. This includes while the patient uses the bathroom and toilet facilities and whilst sleeping.
CAT B	Constant visual observation (same room and in sight). The patient is within sight at all times including the hands and neck area.
CAT C	Time-specific observations (e.g. 15-minute checks). The patient is observed every 10-20 minutes.
Routine	Intentional rounding.

4.2 Referral

Where appropriate, there should be consultation with, and referral to, specialist nurses and other members of the Allied Health team/s to assist in the development of an effective care plan. For example, consider referral to gerontology CNS, continence CNS; liaison psychiatry; drug and alcohol specialist; occupational therapist; physiotherapist.

5. Supervision and delegation by registered nurse

The patient attender (RN/HCA/EN/student nurse or other staff member) must always work under the direction and supervision of an RN, and is always accountable to the RN who has been allocated responsibility for the patient on that shift.

The patient attender must have a handover from an RN at the start of the shift and from the outgoing observer if one has been in place and document on the CR4644 PABOC observation chart.

The patient attender must notify the RN allocated to that patient immediately of any change of condition or concern with the patient.

The patient attender must not leave the patient without permission of the RN supervising them and without there being a relieving person to take over the observation of the patient.

The patient attender must remain alert and attentive to the patient at all times.

The RN must ensure that the patient attender knows who they are, how to contact them and what to do in an emergency. The RN should provide all the clinical nursing care and seek assistance from the observer with routine support cares where appropriate and when required.

The RN must ensure that the patient attender is relieved for all breaks.

6. Paediatric patients

Paediatric considerations include the developmental and cognitive level of the child.

6.1.1 Screening for family violence

Step	Action
1.	Check for Oranga Tamariki alerts.
2.	Utilise the policy Watch – An Inpatient Child or Baby at Risk from Abuse or Neglect (see associated documents section).
3.	Referral to Te Puaruruhau as appropriate.

7. Patient management

The table below describes the types of observation.

Type	Management	Outcome
Routine: intentional rounding	Accurate, purposeful observation of all patients is an essential nursing care. It contributes to accurate diagnosis of any changes to the patient's condition and is necessary in monitoring response to treatment and interventions. Patients should be routinely asked about, and have their needs attended to, hourly in relation to: pain, toileting, mobility, and the suitability and safety of the immediate environment. Patients should be asked at the end of each hourly round "Is there anything else I can do for you?"	CR5808 Intentional Rounding checklist documented Patient Status at bedside completed and updated every shift as part of bedside handover. Documented care plan for level of observation and specific needs.
Cat C: Time-specific observations (e.g. 15-minute checks)	For those patients identified as requiring more frequent observation, e.g. 15-minute checks the checks should be made throughout the entire 24-hour period, and are the shared responsibility of all of the team. The CN/coordinator on each shift should assign an RN/EN/HCA (or other staff member) each hour to be responsible for the checks and to document on the 15/60 patient	Signed documentation of the time-specific observation checks on the BOC careplan. The RN allocated to the patient must document every shift the effectiveness of the level of time specific observations plan, and any changes made to the plan in the BOC careplan.

Type	Management	Outcome
	checklist in the PABOC observation chart. At the completion of each hour's check, the RN/EN/HCA or other should meet with the next hour's check person to verify the status of the patient/s. All nursing staff members are responsible for ensuring they complete the times/checks they are allocated. Accountability for ensuring that the required checks occur on time remains with the staff member allocated to the patient.	Referral to other members of healthcare team
CAT B: constant visual observation	Constant visual observation means that the patient must remain within constant visual sight of a staff member at all times, including while using the bathroom and toilet. The allocated RN in collaboration with the CN/coordinator/delegate must clinically review the patient every shift to evaluate the effectiveness and ongoing need for constant visual observation. Patients in need of constant visual observation must be handed over by the designated staff member to an identified reliever during breaks and shift changes. Accountability for ensuring that constant visual observation is maintained rests with the RN allocated to the patient for that shift.	The RN allocated to the patient must document every shift the effectiveness of the constant visual observation plan and any changes made to the plan. Referral to other members of healthcare team.
CAT A: constant 1:1 observation	Constant 1:1 observation means that a specific patient must be within arm's length and immediate supervision by a delegated staff member at all times, including while	The RN allocated to the patient must document every shift the effectiveness of the plan and any changes made to the plan.

Type	Management	Outcome
	using the bathroom and toilet. This precaution may be necessary for certain patients who are at risk of harming themselves or others. The CN/coordinator along with the allocated RN must clinically review the patient every shift to review the effectiveness and ongoing need for 1:1 observation. Patients in need of constant visual observation must be handed over by the designated staff member to an identified reliever during breaks and shift changes. Accountability for ensuring that constant visual observation is maintained rests with the RN allocated to the patient for that shift.	Referral to other members of healthcare team

8. Alternative strategies for managing patient observation

Where appropriate, and in consultation with the multidisciplinary team, a diversional therapy plan could be developed and incorporated into the daily management plan.

Where possible the management plan must include input from family/whānau and other carers, so as to be able to make the environment more familiar for the patient, e.g. family photos, own belongings and dress in own clothes.

Alternative strategies that should be considered in order to make the best use of available resources could include:

- Allocation/reallocation of staff members to enable a staff member to provide the necessary level of patient observation within existing staff resources on roster.
- The use of family members on an observation roster or activities plan where appropriate.
- Where possible, and appropriate, locating several patients requiring observation in closer proximity (cohorting), to allow more effective use of staff members.
- Where possible, and appropriate, locating patients requiring observation closer to the nurses' station.
- Where constant 1:1 observation is required, a reallocation of the workload within the team to allow for a staff member to provide1:1 observation (as would occur with an acutely ill/deteriorating patient).

9. Supporting evidence

- National Institute for Health and Clinical Excellence (Great Britain). (2007*). Acutely ill patients in hospital: recognition of and response to acute illness in adults in hospital.* National Institute for Clinical Excellence.
- Alfred Health. (2009). *Behaviours of Concern Resource for Clinical Staff: A multi-faceted approach to care = effective management and improved patient and staff safety*. Alfred Health.
- Nursing Council of New Zealand. (2012). *Guideline: Delegation of care by a registered nurse to a health care assistant*. Wellington: Nursing Council of New Zealand.
- Nursing Council of New Zealand. (2012). *Guideline Responsibilities for direction and delegation of care to enrolled nurses.* Wellington: Nursing Council of New Zealand.
- Nursing Council of New Zealand. (2005). *Guidelines for cultural safety, the Treaty of Waitangi, and Maori health in nursing education and practice*. Wellington: Nursing Council of New Zealand.
- Meade, C. M., Bursell, A. L., & Ketelsen, L. (2006). Effects of nursing rounds: on patients' call light use, satisfaction, and safety. *AJN The American Journal of Nursing, 106*(9), 58-70.

10. Associated documents

- Alcohol Withdrawal in an Adult
- Code Orange Policy
- New Zealand Early Warning Score Chart intranet page
- Falls Prevention in Adults
- Falls Prevention in Adults - Allied Health
- Medication Administration
- Observation - Increased - in Mental Health and Addictions
- Family Violence – Intimate Partner Violence Intervention
- Restraint Minimisation and Safe Practice
- Watch – An Inpatient Child or Baby at Risk from Abuse or Neglect

Clinical forms

- CR4643 Behaviours of Concern (BOC) Assessment and Care Plan
- CR4644 Patient Attender BOC Observation Chart
- CR4779: Behaviour of Concern Pathway (BOCP) Continuation Notes
- CR5808: Intentional Rounding

11. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

12. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.

Document Classification

Document Title	**Delirium in the Hospital Setting**
Document Type	Guideline
Key words	Delirium
Author(s) – role only	SMO Liaison Psychiatry and SMO Palliative Care
Owner (see table) - role only	Chief Medical Officer on behalf of the Level 1 Clinical Partnership
Function(s) (see table)	Clinical Service Delivery
Scope (see table)	ADHB wide
Target Audience	All ADHB clinicians
Date first published	September 2010
Date this version published	November 2015
Review frequency	3 yearly
Unique Identifier	CP01/BRD/054

CONTENTS

1. Introduction

Delirium is common in hospital settings but is often unrecognised. It is associated with significant morbidity & mortality if left untreated. Management of delirium most appropriately involves thorough medical assessment & treatments.

Liaison Psychiatry can assist in making the diagnosis & in managing any associated behavioural disturbance.

Palliative Care can assist in making the diagnosis and managing delirium in patients with a life-limiting or life-threatening illness. Link here for the Liverpool Care Pathway algorithm for Terminal Restlessness at end of life.

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2. Features of delirium

- Acute change in mental state/usual function
- Fluctuating presentation (often worse at night)
- Impaired attention, registration & recall
- Disorientation (especially to time & place)
- Reversed or fragmented sleep/wake cycle
- Disorganised thinking & speech
- Behavioural changes (agitation vs. more withdrawn/sleepy)
- Perceptual disturbance (auditory & visual hallucinations)
- Abnormal thinking (paranoid ideation)
- Emotional changes (tearfulness, anger, apathy)

NB. Not all of these features need to be present in order to make a diagnosis of delirium.

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3. Groups at high risk of delirium

- Older age
- Dementia
- CNS disease
- Severe illness
- Post-op
- Previous history of delirium
- Sensory impairments
- Cases of poly-pharmacy
- Palliative Care settings - delirium is common in people with life-limiting illness, particularly near the end of life. In these groups, the Palliative Care Team can help in the diagnosis and management of delirium

NB. Prevalence of delirium on medical wards ranges from 10-31%, up to 50% of people having surgery develop delirium.

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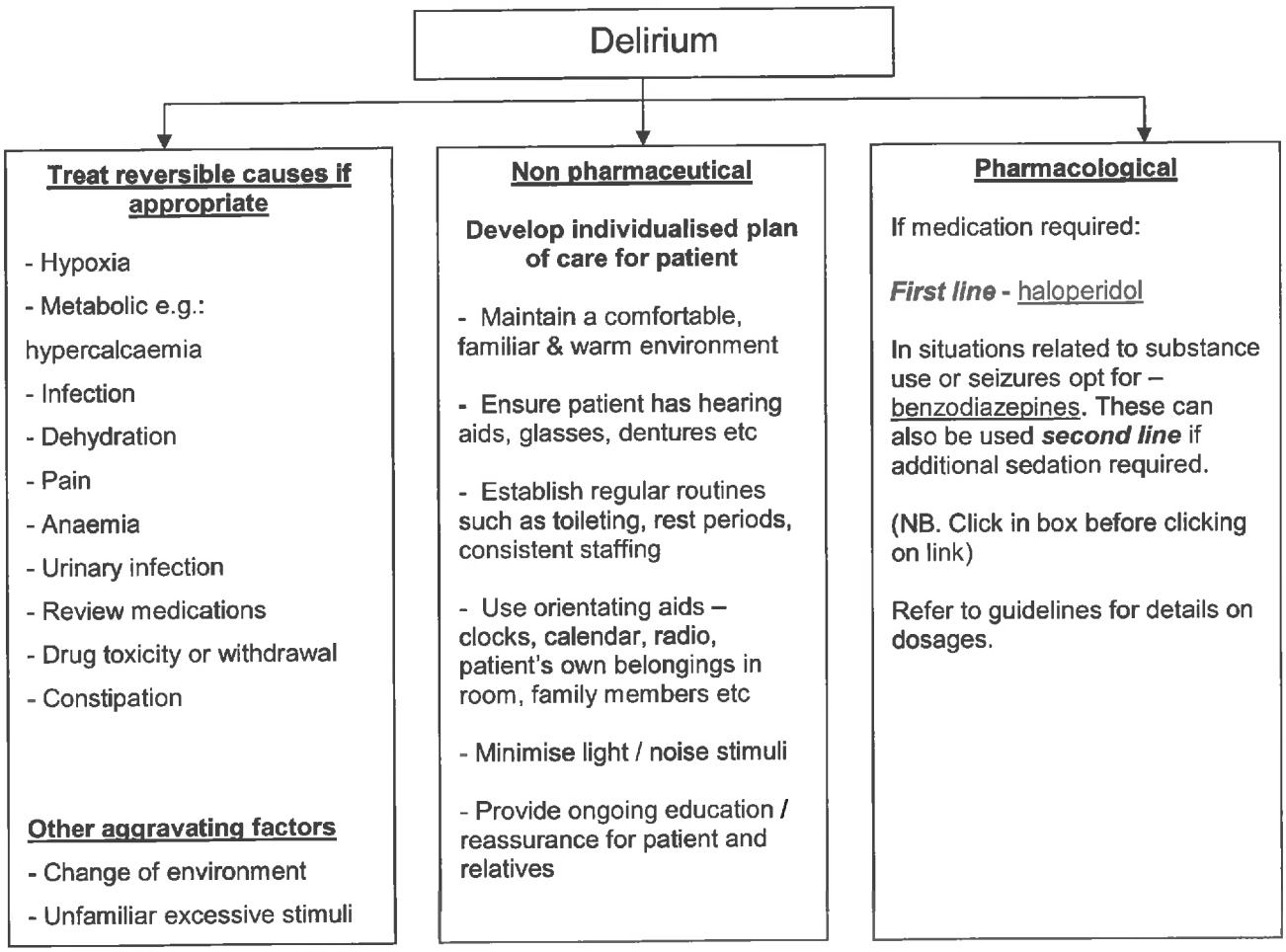
4. Flow chart for management of delirium



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5. Assessment of delirium

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Consider "Capacity" issues

In situations where a patient refuses appropriate assessment and treatment of their delirium and they are considered to lack capacity to make such decisions then medical care needs to be provided against the patient's will. Involving family/significant others is important in these situations. Please refer to the ADHB Incompetent Patient Guideline.

Assessment of underlying causes

Medical judgement must be used in determining the most appropriate investigations on an individual basis.

Thorough physical examination & work-up for underlying causes, including review of alcohol/illicit drug & medication history is essential.

Investigations should include: Basic screen: FBC, CRP, U/E, creatinine, liver enzymes, glucose, calcium, TFT's, ECG, CXR, and urinalysis.

Further investigations to consider: blood cultures, Mg, PO4, B12, folate, CT/MRI brain, CSF, EEG, HIV, syphilis serology, HSV, urine toxicology

Often multiple aetiologies, but occasionally *no clear cause can be identified.*

Collateral history

History to obtained from significant others & GP to assist in clarifying diagnosis

Cognitive function

The use of Mini Mental State Examination (MMSE) for assessing cognition may be indicated.

Risks

An assessment of the safety of the patient & others should be made. The patient may need a "watch" (e.g. if at risk of falls/agitated/self harm or aggression towards others, see ADHB policy Restraint Minimisation and Safe Practice). Clinicians should be aware of the increased morbidity & mortality associated with delirium.

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6. Treatment of delirium

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- Treatment should be carried out on the medical or surgical ward
- Underlying causes should be treated (e.g. constipation, dehydration, sensory deficits & pain)

Environmental strategies

- Remain calm & avoid confrontations
- Avoid restraint where possible
- Assist with reorientation (consistency of staff where possible, clocks, familiar photos, familiar visitors)
- Minimise level of stimulation
- Encourage mobility
- Ensure safety by removing any potentially dangerous objects
- Assist in restoring normal sleep patterns

Pharmacological options

- Review and rationalise medications that could have the potential to contribute to a delirium

- **HALOPERIDOL**
    - Less sedative, high potency DA blockade, minimal anticholinergic effects, no active metabolites
    - Helps reduce level of arousal, perceptual disturbance, persecutory ideas
    - Adults 0.5mg -1mg every 2-4 hrs as needed, Elderly 0.25-0.5mg every 4 hrs as needed – higher doses may need to be considered in severely agitated patients
    - Use PO/IV, but be aware that haloperidol 5mg IV=10mg PO
    - Consider SC route in patients who can not tolerate PO or IV
    - Aim to discontinue haloperidol once the delirium has resolved
    - Avoid in Parkinson's disease
    - Monitor for potential side effects such as parkinsonism and akathisia

- **BENZODIAZEPINES (BDZs)**
    - Use if delirium associated with alcohol withdrawal (refer to ADHB Alcohol Withdrawal Guidelines for diazepam tapering regime)
    - Use if additional sedation required (especially at night) e.g. use potent, short acting BDZs e.g. lorazepam 0.5-1mg initially (elderly 0.25-0.5mg)
    - Be aware of cognitive side effects

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7. When to involve Liaison Psychiatry

- When a second opinion is required to clarify the diagnosis of delirium
- When additional help is required in managing behavioural, emotional or perceptual disturbance &/or risk
- When the use of Mental Health Act may be considered in cases requiring considerable restraint to assess & treat against their will
- When the use of an atypical antipsychotic may be considered if haloperidol is not tolerated

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8. When to involve Palliative Care

- When a second opinion is required to clarify the diagnosis of delirium in a patient with a life limiting or life threatening illness
- When the delirium is continuing in a patient with a poor prognosis
- When the family wishes to take a delirious patient home at end of life
- When there is family / whanau distress at delirium in a palliative patient

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9. Supporting evidence

- American Psychiatric Association Practice Guidelines for the Treatment of Patients with Delirium (1999). American Journal of Psychiatry, 1999 May; 156:5(supp), p. 1-20.
- The Delirium Rating Scale: It's Use in Consultation-Liaison Research. Paula T. Trzepacz. Psychosomatics 40:3, May-June 1999
- NICE Guidelines: Delirium: diagnosis, prevention and management 2009

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10. Associated ADHB documents

- Restraint Minimisation and Safe Practice
- Alcohol Withdrawal - Adults
- Incompetent patient guideline

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11. Disclaimer

This guideline has been prepared in order to assist the practitioner in the management of delirium in the general hospital setting. The guideline does not attempt to cover all circumstances that might be encountered in this patient group.

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Diminished Capacity

Unique Identifier	CP01/BRD/095 – v02.00
Document Type	Guideline
Risk of non-compliance	may result in significant harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board All directorates All departments, services and units All patients All clinicians
Keywords	Capacity, incompetent, incompetence, consent, mental state, assess, assessment, right 7(4)
Author	General Counsel
Authorisation • Owner • Delegate / Issuer	 Chief Medical Officer Director - Adult Community and Long Term Conditions
Edited by	Document Control
First issued	30 March 2017
This version issued	30 June 2020 - updated
Review frequency	3 yearly

Contents

1. Purpose of guideline

The purpose of this guideline is to facilitate the safe and effective care of a patient lacking, or suspected of lacking, the requisite capacity to provide informed consent within Auckland District Health Board (Auckland DHB).

2. Guideline management principles and goals

- Except as provided below, health and disability services may only be provided with the informed consent of the patient, as per the Code of Health and Disability Services Consumers' Rights 1996 ("Code of Rights", "the Code") [Right 7(1)] (see legislation).
- A patient is presumed competent to make an informed choice and give informed consent unless there are reasonable grounds for believing otherwise [Right 7(2)].
- A patient with diminished capacity retains the right to make informed decisions to the degree appropriate [Right 7(3)].
- A patient is entitled to receive the information that a reasonable person, in their position, would expect to receive in order to give informed consent [Right 6].
- A patient who lacks the capacity to make a treatment decision may be provided treatment which is considered in their best interests, provided reasonable steps have been taken to ascertain the views of the patient or the views of suitable others who are interested in the welfare of the patient [Right 7(4)]. What is in the best interests of the patient is ultimately a decision for the patient's treating clinician after taking into account the views of the patient and their whānau or next of kin. Please see section 7 of this guideline to understand the limitations of next of kins.
- In an emergency, it may not be practical to follow the flowchart below and comply with Right 7(4). Treatment can be provided immediately to prevent serious harm (provided there is no advance directive refusing treatment). It is a defence for a provider to show that they took reasonable actions in the circumstances to comply with the Code.
- The time and energy necessary for the consent process will be relative to the complexity and significance of the procedure. For example, minor procedures may not require consultation if no family member is present.
- The basis for providing services without consent should be documented.

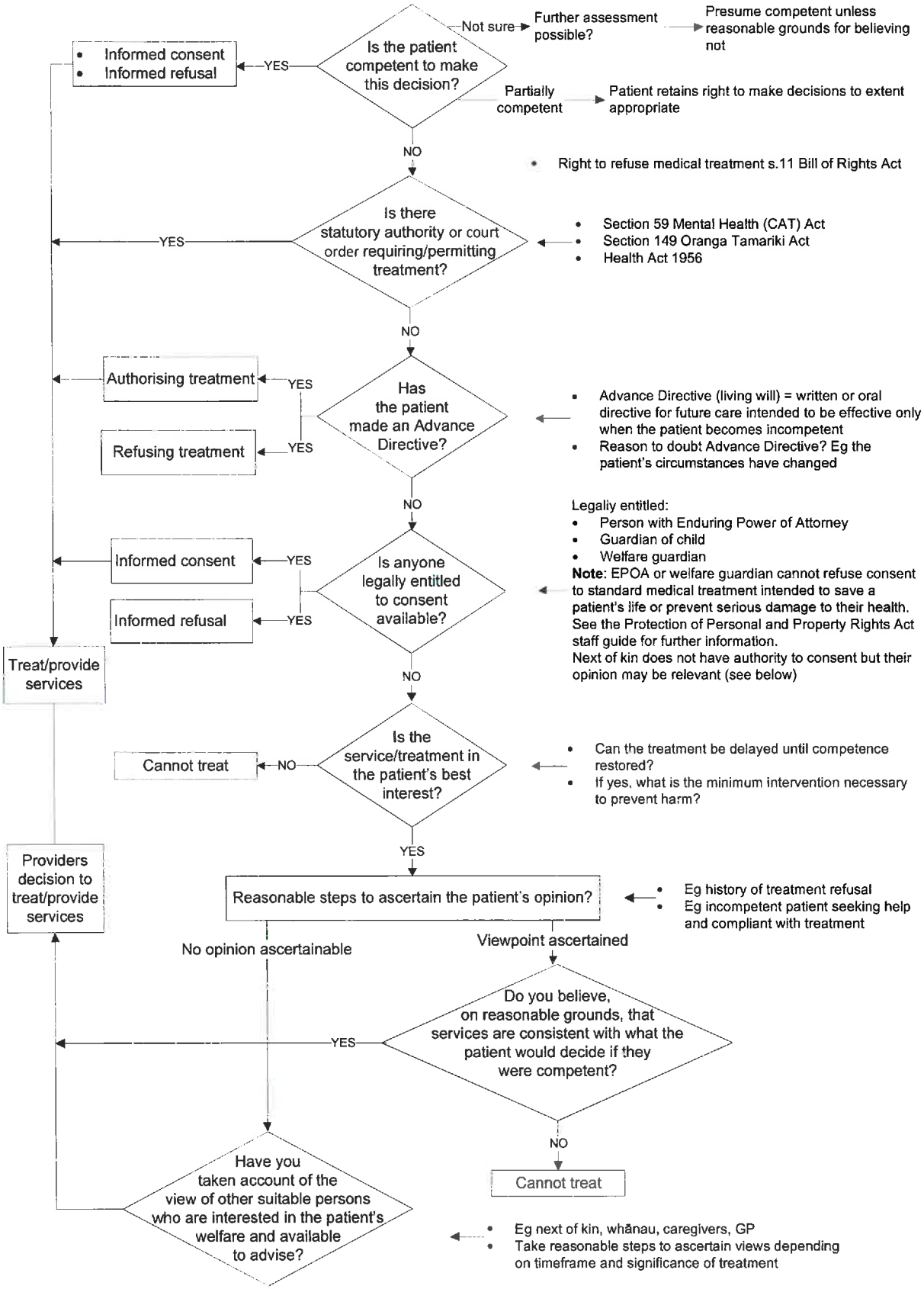
3. Consent when services offered

The flowchart in the section below outlines the consent process for patients with diminished capacity. It is based largely on Right 7(4) of The Code of Rights. It applies to provision of all health and disability services, which is defined broadly to include treatment, rehabilitation, services to promote or protect health, and goods services or facilities provided for purposes related to the care or support of people with disabilities.

Staff members should refer to applicable Auckland DHB policies, notably Informed Consent, alongside this guideline The flowchart below also applies to children, however, relevant policies should be consulted, e.g. 'Legal Issues Relating to Children' (see associated documents).

The flowchart below is a guide only and is not a substitute for legal advice. If specific advice is required, please contact Legal Services.

4. Flowchart: consent when services offered



5. Assessing capacity

Determining a patient's capacity to make an informed decision is largely a clinical decision. The extent of assessment required should correlate with the complexity and significance of the proposed treatment.

If unsure about a patient's capacity seek advice from Liaison Psychiatry.

Focal questions:

- Does the patient understand the nature of their condition and the likely import of that, treated and untreated?
- Does the patient understand the available treatment options and what they entail?
- Is the patient aware of the relevant risks and benefits of treatment options?
- Can the patient demonstrate an ability to choose in a reasoned way, including being able to change preferences if the facts change?
- Is their choice consistently held over a significant period of time?
- Is the decision free of coercion or incorrect reasoning due to mental disorder? Has a Health Social Work assessment/investigation been completed, have family/whānau been engaged by the Health Social Worker to determine any level of coercion?
- Are they able to communicate their decision? Note communication does not necessarily need to be verbal or written. In certain circumstances it may be appropriate for the patient to communicate their decision through body language (i.e. nodding).

This can be summarised as a checklist:
S: Situation: Does the patient know and remember the facts of the situation?
O: Options: Is the patient aware of the options available to them?
C: Consequences: Is the patient aware of the consequences of each option?
C: Consistency: Is the patient consistent in their choice or opinion?
U: Undue influence: Is the patient under any undue influence to make a particular choice?* Has a Health Social Work assessment been completed to help inform this question? Have family/whānau opinions been sought?

In assessing capacity, staff members should consider carrying out a mental state examination including a standardised assessment of cognitive functions.

Ensure:

- The patient has been told the purpose of the assessment and has been provided with the "Capacity Assessment Information Sheet" which follows. This should be adapted as clinically appropriate.
- The patient can hear and understand what is being said – consider using an interpreter if necessary.
- The patient is not unreasonably distracted during the assessment, either by extraneous activity or noise, or by pain or discomfort arising from their condition or treatment.
- Cultural considerations are addressed, for example, family members are present to assist the patient. Is the Health Social Worker present to facilitate and help manage the family/whānau interaction and participation?

Document the assessment of capacity. If in doubt or the proposed treatment has significant consequences, you may wish to seek a second opinion or expert advice.

6. Capacity assessment information sheet

(Note: printable version is available via the Managing patients with diminished capacity page on HIPPO)

- Someone involved with your care has concerns about how you are managing with making some decisions and that your memory and thinking abilities might not be as good as in the past.
- I have been asked to see you to assess your ability to understand information and make decisions about going home, managing your money, your medical treatment, other_____ (delete as required).
- I would like to ask you some questions about yourself, and to check you understand the information to make the decisions you need to make. I would like to know what your choices and views are about these matters.
- Assessment often also involves some tests of your memory and thinking, and usually talking to people who know you.
- A report will be written after the assessment is completed. If you are considered no longer able to make decisions, this report can be used to make Enduring Powers of Attorney active, or if you do not have an Enduring Power of Attorney the report can be used to help the Family Court decide whether orders should be made to appoint someone to make decisions on your behalf in the future.
- In some circumstances the Court may make a specific decision on your behalf.
- You are welcome to have a support person present during the interview and if an interpreter would be helpful this will be arranged.
- If you have any queries please contact:

Name:_____

Phone:_____

Email:_____

7. Next of kin

"Next of Kin" ('NoK') is the term given to the family member or members with whom staff members liaise as the primary support person(s) for the patient. NoK is not a legal term but is used to assist staff providing care for the patient, particularly where the patient is incapacitated. Wherever possible, the patient should choose who they wish to nominate as NoK in the circumstances. Preferably there should be one nominated NoK however staff members should still communicate with other friends and family where appropriate.

NoK cannot legally consent or refuse consent to treatment for the patient. The only people with authority to do this are a nominated attorney under an Enduring Power of Attorney, a welfare guardian and the guardian of a child (or person acting in place of a guardian of a child where the guardian is overseas/cannot be located/cannot consent). If there is no-one legally entitled to consent, and the patient's views cannot be ascertained, healthcare providers should take into account the views of "other suitable persons" who are interested in the patient's welfare and are available to advise before they decide to provide services (see flowchart). "Other suitable persons" may include the NoK and other family members and caregivers. They should be provided with the capacity assessment information sheet as appropriate. In some circumstances it may be appropriate for a capacity assessment to be undertaken in the absence of certain family members, for example, where there are concerns that abuse may be occurring. Your Health Social Worker is responsible for leading a multi-disciplinary team assessment of these concerns, so ensure a timely referral in matters involving possible abuse and/or neglect.

8. Further action

Complying with this process may be complicated by any of the following:

- Strong disagreement with family/whānau/caregivers about provision of services
- The patient is non-compliant with treatment
- Uncertainty about the patient's "best interests"
- An Enduring Power of Attorney or welfare guardian or guardian of a child is refusing standard medical treatment necessary to prevent serious harm.

The following may be necessary:

- Take immediate steps to prevent serious and imminent harm – can use reasonable force to prevent removal of patient from hospital where removal itself is causing harm; can provide treatment where person refusing has no legal right to do so.
- Consider alternatives, e.g. delaying treatment, alternative treatment, different provider.
- Liaise with Health Social Worker or Practice Supervisor Social Work to facilitate a conversation with the person/family/whānau, with a view to assessing and de-escalating the presenting risk.
- Obtain a second opinion.
- Ensure those with decision-making authority are fully informed of options and consequences.
- Seek legal advice. In rare cases, it may be necessary to seek a Court order authorising treatment.

Can force or restraint be used to carry out treatment for an incompetent patient?

If necessary to prevent serious and imminent harm to the incompetent patient's health (i.e. it is a clinical emergency and there is no time to obtain a court order), yes. Force should be used only as a last resort, taking account of the patient's level of understanding, alternatives (e.g. delaying treatment) and the consequences of all options. Use the minimum restraint/care necessary to allow treatment.

If the person is found to lack capacity and has no Enduring Power of Attorney, then the need for orders under the Protection of Personal and Property Rights Act 1988 (PPPR Act) needs to be considered prior to discharge from hospital/Auckland DHB services.

For a patient lacking capacity, and no legal decision-makers, advice on complex treatment and management decisions may be sought from the Clinical Ethics Advisory Group of Auckland DHB who can be contacted via their page on Hippo.

9. Legislation

- New Zealand Bill of Rights Act 1990
- Health Act 1956
- Health and Disability Commissioner (Code of Health and Disability Services Consumers' Rights) Regulations 1996
- Mental Health (Compulsory Assessment and Treatment) Act 1992.
- Oranga Tamariki Act 1989
- Protection of Personal and Property Rights Act 1988

10. Associated documents

- Caring for Patients with Diminished Competence
- Informed Consent
- Legal Issues Relating to Children
- Capacity Assessment Information Sheet

11. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

12. Corrections and amendments

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SPACERS & NEBULISERS

Overview

This Document

This document covers the following topics relating to the delivery of medications via spacers and nebulisers in hospital.

SPACERS & NEBULISERS

Associated Documents

Associated Documents The table below indicates other documents and sources associated with this recommended best practice.

Type	Document Titles
ADHB Policies & Guidelines	• Medications - Administration • Latex Safety - RBP • Pulse Oximetry Monitoring
Starship Clinical Guidelines	• Care of Children with Cystic Fibrosis, July, 2007 Starship CF guidelines
Other Guidelines	• Clinical Guidelines for the care of children with Cystic Fibrosis, Royal Brompton & Harefield NHS Trust, 2001 • Paediatric Society of New Zealand. (2005). Management of Asthma in Children Aged 1 – 15 years. http://www.paediatrics.org.nz/files/guidelines/Asthmaendorsed.pdf
Information Pamphlet	• http://asthmafoundation.org.nz/wp-content/uploads/2012/03/Understanding-inhaler-v3.pdf Asthma & Respiratory Foundation of New Zealand, 2005 • http://asthmafoundation.org.nz/wp-content/uploads/2012/03/Resource-Children-and-Asthma.pdf Asthma & Respiratory Foundation, New Zealand, 2005
References	• Asher, I. A., Leversha, A. M. (1996) Update on Spacer Devices in Childhood Asthma. **New Zealand Medical Journal** 109:76-78 • Leversha, A. M. (1995) Optimal Use and Care of your Spacer. **Breathe Easy** Sept. Page 5 • Booker R (2007) Correct use of Nebulisers **Nursing Standard** 22(8) 39-41 • Togger, Debra A.; Brenner, Phyllis S. (2001) Metered Dose Inhalers American Journal of Nursing 101(10), 26-32 • O'Callaghan, C & Barry, P. (1997). The science of nebulised drug delivery. Thorax, 52, S31-S44.
Clinical Pathway	• Starship & Pro-care. Asthma Clinical Pathway for Children and Young People. Dec '96.

SPACERS & NEBULISERS

Spacer Information

Introduction

Administration of medication through a large and small volume spacer.

Choosing the Correct Spacer

The following information provides details of how to choose the correct type of spacer and or mask/ mouthpiece for the child to ensure the safe and efficient delivery of asthma medications.

Options:

- Children 5 years and younger will be issued a small volume spacer which includes a Breath-A-Tech spacer and space chamber
- Children 5 years and over may require large volume spacer which include volumatic and space chamber. This will need to be matched with their particular meter dose inhaler (MDI).
- Delivery of medication by a spacer with a mouthpiece is the most effective mode of delivery for children 3 years and older. The child must be able to seal their mouth around the mouthpiece and be able to breath through their mouth for the entire treatment.
- Delivery of medication by a mask attached to the spacer is used for children under 3 years of age and for any child who has difficulty sealing their mouth around a mouthpiece.
- In an acute situation older children with respiratory distress may require a mask.

Other Considerations

Options:

- Children / Young persons of all ages can use a spacer. From the age of 6–7 years children may consider alternative dry powder devices for administration of asthma medications.
- Children on high dose inhaled steroids (800ug or more) or who are sensitive to their dose, such as developing oral thrush must use a spacer.

SPACERS & NEBULISERS

Medication Administration via Spacer or Nebuliser

Objective

To ensure the safe and efficient delivery of medications via a spacer or nebuliser in hospital.

Responsibility

All Starship registered nursing staff. Orientating and non ADHB staff may require supervision

Frequency

When medications are prescribed for administration via spacer or nebuliser.

Process Overview

The table describes the stages in the medication administration process.

Stage	Description
Assessments	• Clinical & respiratory status of child is assessed & monitored • The child is assessed for the appropriate mode of delivery
Preparation	• Child & family will be prepared for the administration of medications via spacer or nebuliser • Equipment is assembled & medication is prepared. Maximum release of medication will be delivered effectively
Reassure & Monitor	• Respiratory & clinical status is reassured & monitored
Infection Control	• Minimal risk of nosocomial infection occurring in the child
Education	• Child & family will be confident & managing at home
Antibiotics for Community	• Children & adolescents receiving nebulised antibiotics in the community are safe and effectively managed. • Equipment Maintenance and/or Replacement

SPACERS & NEBULISERS

Assess & Monitor Clinical & Respiratory Status – RBP

Recommended Best Practice

Follow the steps below **to assess and monitor the clinical and respiratory status of the child.**

Step	Action
1.	Assess the child's level of: • Consciousness • Activity.
2.	Assess the child's: • Respiratory effort • Efficacy • Effects
3.	Document and interpret baseline recordings including: • Heart rate • Respiratory rate • Respiratory pattern • Oxygen saturation • Asthma severity score as per Asthma Clinical Pathway Guidelines.

SPACERS & NEBULISERS

Assess for the Appropriate Mode of Delivery – RBP

Recommended Best Practice

Follow the steps below **to assess the child for the appropriate mode of delivery.**

Step	Action
1.	After assessment and consultation with the medical staff the correct medication and mode of delivery is prescribed.
2.	Assess the child's age and cognitive development level ensuring that the correct device is used according to the assessment. (refer to choosing the correct spacer on page 3).
3.	Assess the child's ability to use a mouth piece effectively or alternatively uses a mask with a good seal during medication administration.
4.	If medication is to be delivered by nebuliser: • A Paediatric Nebuliser Mask will be used when: – A child is under 3 years of age who has difficulty sealing their mouth around a mouthpiece or – A child over 3 years of age is experiencing an acute attack of asthma and is not able to tolerate a mouthpiece. • An Adult Nebuliser Mask is used when the child is unable to tolerate a mouth piece and the child's face is too large for the paediatric sized mask. • Delivery by T-piece and bagging circuit to intubated children. • Delivery to child with tracheostomy via paediatric tracheostomy mask.

SPACERS & NEBULISERS

Prepare Child & Family for Medication Admin – RBP

Recommended Best Practice

Follow the steps below **to prepare the child and family for the administration of medications via spacer or nebulizer.**

Step	Action
1.	Explain to the child and caregiver, using age appropriate language to explain the delivery of medication to the child
2.	Provide age appropriate play and distraction for the child utilizing caregiver and Play Specialist.
3.	Allow the child the opportunity to handle and familiarise themselves with the device

SPACERS & NEBULISERS

Assemble Equipment & Prepare Medication – RBP

Spacer Recommended Best Practice

Follow the steps below to **assemble the equipment and prepare medication.**

Using a Spacer – Maximum release of medication will be delivered effectively using a spacer.

Step	Action
1.	Shake the prescribed metered dose inhaler (MDI) well, holding upright.
2.	Insert the prescribed MDI into a primed or used spacer. **Note**: If using a new spacer, prime by instilling 10 puffs of prescribed medication or wash the spacer with dishwashing liquid & warm water and allow to dry to decrease the static charge.
3.	Ensure a good seal around the nose and mouth with mask, or lips with mouthpiece
4.	Activate 1 puff just before inhalation into a steady spacer.
5.	Watch the child do 5 - 6 tidal (normal) breaths, watch to see the valve move; this will indicate to you that the child is receiving the medication.
6.	Remove the spacer from the child's face.
7.	If further puffs are required repeat steps 1-6 above
8.	Following administration of steroid based medication via spacer plus mask, wipe the child's face with a moist flannel to remove any residual medication
9.	Following administration of steroid based medication, child rinses mouth to reduce risk of developing thrush

Continued on next page

SPACERS & NEBULISERS

Assemble Equipment & Prepare Medication – RBP, Continued

Nebuliser Recommended Best Practice

Using a Nebuliser – Maximum release of medication will be delivered effectively using a nebuliser.

Step	Action
1.	Assemble the following: • Nebuliser bowl • Oxygen tubing • Mouth piece or mask appropriate to size of child
2.	If antibiotics are to be nebulised the patient needs to be placed into separate room away from others and must use an antibiotic filter while nebulising. Antibiotics can be nebulised via the wall oxygen at 6 – 8 litres.
3.	Prepare the medication: Bronchodilator (as prescribed in the medication chart) can be drawn up in a syringe or alternatively placed directly into the nebuliser bowl.
4.	Add 0.9% sodium chloride to the syringe or place directly into nebuliser bowl to make a total volume of 4 mls.
5.	Connect oxygen tubing to nebuliser bowl and flow meter.
6.	All bronchodilators are to be driven by oxygen at a rate of 8L/min
7.	Nebulise until bowl is dry or "spluttering" and no more than 10 – 15 mins
8.	Tap side of bowl occasionally to release medication into the reservoir

SPACERS & NEBULISERS

Reassure & Monitor Clinical & Respiratory Status – RBP

Recommended Best Practice

Follow the steps below to reassure and monitor the respiratory and clinical status.

Step	Action
1.	Re-assess the child within 20 minutes as per Asthma Clinical Guidelines to determine effectiveness of treatment.
2.	Assess clinical respiratory status
3.	Any alteration in clinical status is discussed with: • Senior Medical staff **and** • Nurse in charge

SPACERS & NEBULISERS

Infection Control

Recommended Best Practice

Follow the steps below **to minimize the risk of nosocomial infection occurring in the child.**

Step	Action
1.	Spacer is washed weekly. This is for both hygiene purposes and to minimise static charge in the spacer
2.	Take the spacer apart: • Wash in warm water with small amount of dishwashing detergent without scrubbing • Remove from water • Do not rinse spacer • Leave to drip dry on bench overnight • Do not rub dry.
3.	If the child is using Vicrom or Tilade ensure that the spacer is washed every day, as the valve will not move freely due to the viscosity of the medication.
4.	Reassemble spacer ensuring the valve is lying flat and able to move freely.
5.	Store in an airtight and dry container.
6.	Advise the family not to re-prime the spacer with 10 puffs of medication after washing, as the above method of washing controls static charge.
7.	Spacer to be single patient use only.
8.	Place patient label on spacer and nebuliser bowl.
9.	Dispose of equipment on discharge from ward or CED.
10.	In the community a new spacer to be given every 6 months. Reminder to prime new spacer with 10 puffs of medication or wash with liquid detergent and left to drip dry (do not rinse)

SPACERS & NEBULISERS

Education for Child & Family

Child & Family will be Confident & Managing at Home

The Nurse will:

- Provide education as per the Asthma Clinical Guideline
- Observe the child and family administering the medication to ensure competence with device.
- Teach family members how to wash and care for the device
- Issue and discuss relevant asthma information handouts
- Ensure the family have all necessary device and medications or a prescription
- Ensure child and family have a current asthma action plan and can verbalise understanding of it.
- Refer for further education and follow-up as needed
  - Asthma Auckland
  - Community Child Health and Disability Service

Note: Contact details on the Paediatric Homecare Referral Guide

SPACERS & NEBULISERS

Nebulised Antibiotics for Community – RBP

Purpose

To ensure the safe and affective management of children and adolescents receiving nebulised antibiotics in community.

Equipment

The nurse ensures the following equipment is available:

- Medium output compressor e.g. Pari Turbo, Proneb, Econoneb, Pulmoaid. Supplied by Invacare via the Homecare Nursing teams. If patient has Cystic Fibrosis the compressor will be supplied by the Cystic Fibrosis Association.
- Active Venturi (breathe enhanced) nebuliser bowl e.g. Pari LC Sprint nebuliser bowl
- Expiratory Filter Valve Set (includes exhalation filter housing, Y-piece, filter pads and mouthpiece)
- Mouthpiece without expiratory valve or mask if child is under 3 years of age. Use Pari Mask and Pari elbow bend to attach mask to bowl (the Pari elbow bend has exhalation space)
- Pari Tubing to connect bowl to compressor
- 5ml syringe & needle
- 10ml vial 0.9% sodium chloride
- Sharps Box
- Antibiotic vial (eg Tobramycin, Gentamycin, Colistin)

Continued on next page

SPACERS & NEBULISERS

Nebulised Antibiotics for Community – RBP, Continued

Nebuliser Set-up – RBP

The nurse will follow the steps below to supervise the setting up the nebuliser equipment.

Step	Action
1.	Wash and dry hands
2.	Attach tubing to compressor & nebulising bowl (or wall oxygen if in hospital)
3.	Put together the: • Expiratory valve set • Filter pad • Pari Sprint nebuliser bowl • The mouthpiece or mask
4.	• Draw up the antibiotic with syringe and needle • Dilute with 0.9% sodium chloride as directed on prescription to a total volume of 4mls
5.	Place antibiotic and Normal Saline into nebuliser bowl
6.	Discard remaining antibiotic in vial

Continued on next page

SPACERS & NEBULISERS

Nebulised Antibiotics for Community – RBP, Continued

Administer Antibiotic – RBP

The nurse will follow the steps below to administer and supervise the nebulised antibiotic.

Step	Action
1.	Nurse and child / adolescent to wash and dry hands
2.	Child / adolescent to sit in upright position
3.	• Mouthpiece to be placed in mouth with lips to seal. • Mask to be placed firmly on child's face (ensure no leaks around mask)
4.	• Compressor to be switched on at power outlet or wall oxygen turned to 6 – 8 litres.
5.	Fine mist is inhaled by child
6.	Time to nebulise should be no more than 10 – 15minutes
7.	Tap side of bowl towards end of nebulising time to ensure all of antibiotic is used
8.	• Distraction techniques with: – Videos – games – books etc or • Involve Play Specialists with young children as necessary

Continued on next page

SPACERS & NEBULISERS

Nebulised Antibiotics for Community – RBP, Continued

Equipment Maintenance and/or Replacement

The nurse will ensure the equipment is maintained:

- Nebuliser bowl
- Expiratory filter valve set
- Mouthpiece (or mask)

Equipment is dismantled and:

- Washed in hot, soapy water
- Rinsed
- Left to dry after each use
- Set aside in covered container in warm place.

Note: Do Not use if wet. Filter pad or tubing should not be washed

Continued on next page

SPACERS & NEBULISERS

Nebulised Antibiotics for Community – RBP, Continued

Frequency	Equipment / Action	Comment
End of every session	• Wash and dry equipment as above To dry tubing: remove nebulising bowl & keep tubing on compressor. turn compressor on and blow air through the tubing to dry	The tubing may have fine droplets of condensation
Once every week	<u>Place nebuliser equipment into boiling water and boil for 10 minutes:</u> • Nebulising bowl • Filter set • Mouthpiece / mask NB: do not boil filter pad or tubing	To remove any antibiotic residue from the fine jet of the nebuliser bowl.
	• Use 2 filter pads per week: – 1 for mornings – 1 for evenings • End of week discard and replace with 2 new pads.	• The 24hour "dry off period" is needed to ensure each filter pad is dry before use. • Do not use the filter pad if wet.
	• Two syringes and needles used per week	
Every 2 months	• Tubing changed or more frequently if cracks noted.	Pari Connection tubing advised
6 monthly	• If used continuously Nebuliser bowl and filter attachment to be changed 6monthly.	For intermittent use (ie 3mthly), all equipment to be washed, boiled and left to dry – placed in covered container and can be used for future treatments
Yearly	• Compressor to be serviced • Filters on compressor to be changed	Filters changed more frequently if discoloured

Adolescent Decision Making - Gynaecology and Psychology Services

Unique Identifier	NMP200/SSG/011 – v06.00
Document Type	Clinical Guideline
Risk of non-compliance	may result in significant harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board Women's Health Gynaecology Adolescents who have been diagnosed with DSD, Differences in sexual and reproductive development. All clinicians in Gynaecology
Keywords	N/A
Author	Clinical Psychologist - National Women's Health
Authorisation • Owner • Delegate / Issuer	 Service Clinical Director - Secondary Gynaecology Services Service Clinical Director - Secondary Gynaecology Services
Edited by	Clinical Policy Facilitator
First issued	July 2002
This version issued	03 September 2019 - updated
Review frequency	3 yearly

Contents

1. Purpose of guideline

Introduction
The assessment of young women referred to psychology services prior to general gynaecological treatment and surgery.

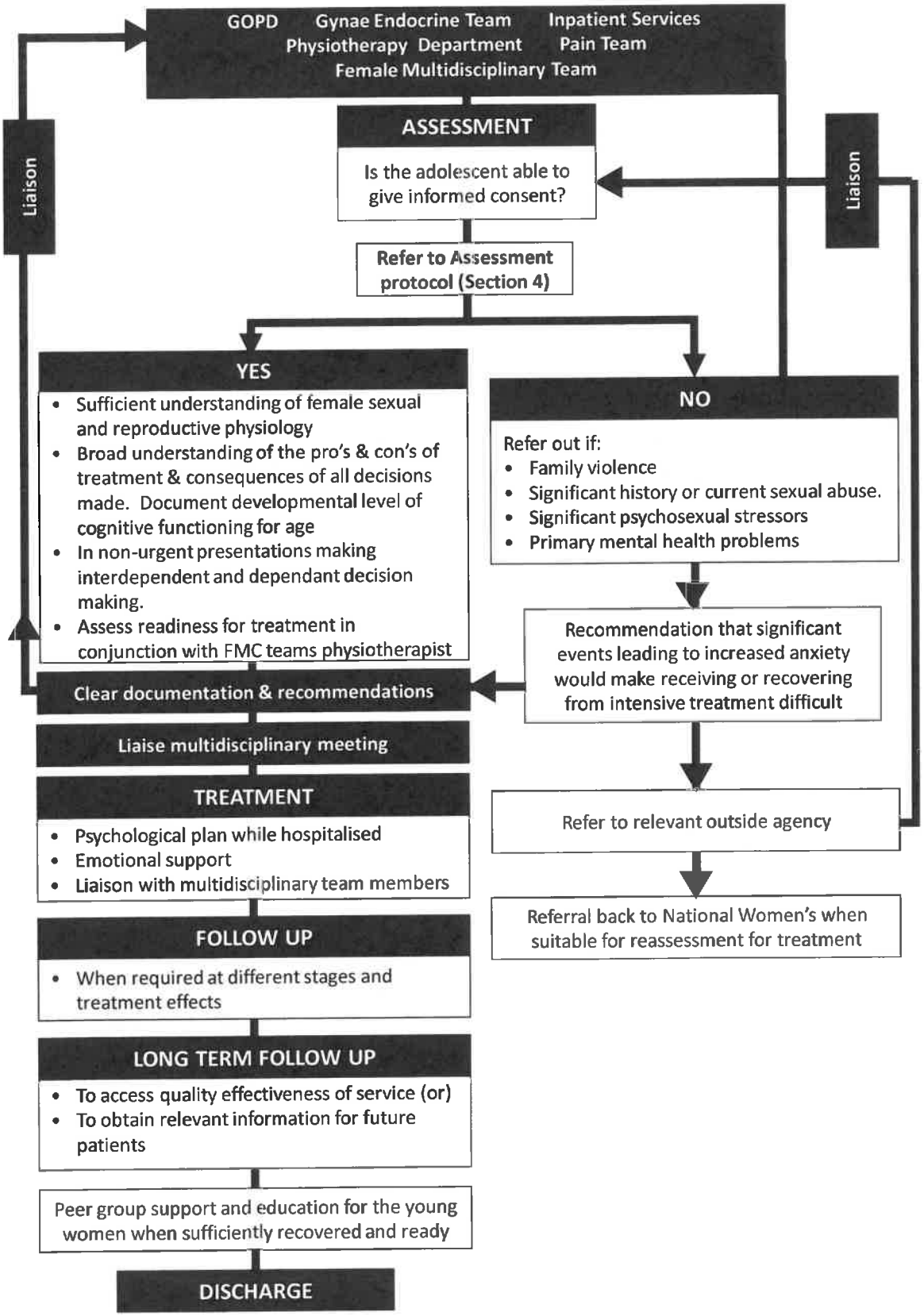
- To assess young woman's readiness for decision making, treatment requirements and understanding of treatment consequences.
- To ensure young woman with reproductive and sexual difference (DSD) have adequate preparation for treatment decisions that fit with their gender and future sexual preferences.
- To provide information for multi-disciplinary team and client that assists in treatment decisions.

Scope
Assessment tools for use by clinical psychologist.

2. Background

- Guardians (prima facie a child's parents) have the right of control over the upbringing of a child (Guardianship Act 1968). This includes the right to refuse treatment on behalf of the child. Under that Act, a child is defined as someone under 20 years.
- Children 16 years and older are presumed competent to decide whether to undergo treatment. Children under 16 retain the right to make informed choices to the extent appropriate to their level of competence.
- Informed consent from parent/guardian is not required in an emergency, for a termination of pregnancy (s.25A, Guardianship Act 1968), or for an urgent blood transfusion (Section 126B, Health Act 1956) (see *Informed Consent* Policy).

3. Assessment tool



4. Assessment protocol for Psychology Services

Assess general understanding of condition/female physiology, anatomy

Assess understanding of treatment and procedure

Why this decision? / What motivates?

- Ideas about sexuality/intimacy that may influence decision
- Assess gender identify/sexual orientation/preferences

Understanding of consequences of:

- Dilators/Surgery
- Advantages/disadvantages/long term consequences

Psychoeducation

- Genogram
- Family response/ideas about condition

Decision making/independence/interdependence
- Assessment of cognitive, emotional, sexual development and independent decision making

Peer influences & School achievement

Conclusion of Assessment/Intervention

- Evidence is researched and reputable research which is used to assimilate information into the decision.
- Able to articulate why a particular decision is made.
- Documented woman's strengths that will assist post-operative recovery adjustment future sexual functioning.
- Document possible restraints to recovery and future sexual functioning

Recommendations to woman assessed and multidisciplinary team members

5. Legislation

- Guardianship Act 1968

6. Associated documents

- Informed Consent
- Letter to patient - Female Multidisciplinary Clinic: Clinical Psychology Service

7. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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Vulnerable Adult and Elder Abuse

Unique Identifier	PP01/PCR/104 - v01.00
Document Type	Policy
Risk of non-compliance	may result in significant harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board All directorates All departments Elder and vulnerable adults (as defined by the Crimes Amendment Act (No3)) who are identified as being at risk of harm associated with violence, abuse or neglect/self-neglect All clinicians and access holders or representatives n/a
Keywords	n/a
Author	Professional Leader - Social Work
Authorisation • Owner • Delegate / Issuer	 Chief Health Professions Officer Chief Health Professions Officer
Edited by	Document Control
First issued	19 December 2019
This version issued	19 December 2019 - issued
Review frequency	3 yearly

Contents

1. Purpose of policy

1.1 Purpose

- Promote the rights and well-being of all older adults who are experiencing elder abuse and/or neglect and other adults who meet the definition of a vulnerable adult.
- Provide guidelines for the identification of elder abuse and/or neglect of the older person and other adults who meet the definition of a vulnerable adult.
- Provide guidelines for the resolution of identified (or suspected) situations of elder abuse, or abuse and/or neglect of other adults who meet the definition of vulnerable adult.
- Acknowledge that this is a social issue with significant health implications.

1.2 Obligations

- Elder abuse and neglect, or self-neglect, is not acceptable, and all health professionals have an obligation to act to respond to concerns as described in the Ministry of Health Family Violence Intervention Guidelines Elder Abuse and Neglect (see supporting evidence).
- Health care professionals (HCP) have a duty of care to ensure vulnerable adults are not discharged to a situation of abuse. Staff should exercise caution when discharging vulnerable adults to potentially abusive or neglectful situations. Where staff have particular concerns about these obligations, and their capacity to fulfil them, a conversation with a senior colleague or consultation with Taki Mauri, the Auckland District Health Board (Auckland DHB) vulnerable adult and elder abuse multiagency advisory group,is recommended. This conversation and the agreed actions must be recorded in the clinical record. Legal Services are also an important source of information and support in more complex situations.
- Changes to the Crimes Act (see legislation) have amplified the legal obligation inherent in this duty of care for those caring for vulnerable adults. The new law makes it an offence for a person with actual care or charge to fail to take reasonable steps to protect a vulnerable adult from injury, or fail to provide a vulnerable adult with the necessaries of life. Criminal liability will only arise if the failure to protect is a major departure from the standard of care expected of a reasonable person.
- Elder Abuse for the purposes of this document is defined in accordance with the Ministry of Health Family Violence Intervention Guidelines Elder Abuse and Neglect (see supporting evidence).

2. Scope

All Auckland DHB employees and representatives who have dealings with people who are older adults and/or vulnerable adults are required to follow this policy for all cases of alleged or suspected abuse or neglect of patients/clients that they are aware of, whether or not the person is the subject of their direct care.

Note:

- This policy applies to situations involving older adults, and other vulnerable adults as defined below, where concerns exist regarding harm from abuse, neglect or self-neglect.
- This policy applies in situations that are outside the scope of the Family Violence - Intimate Partner Violence Intervention policy (see associated documents) although a number of the

expectations and process are similar in nature. These include a strong focus on assessment of risk, planning to support increased safety, and protocols regarding the sharing of information.

- This policy is only applicable to persons aged 18 years and older. For concerns about children under the age of 18 years, refer to Child Abuse, Neglect, Care and Protection policy (see associated documents).

3. Definitions

Term	Definition
Vulnerable adult	"..a person unable, by reason of detention, age, sickness, mental impairment, or any other cause, to withdraw himself or herself from the care or charge of another person" (s2 Crimes Act 1961 (see legislation)).
Elder abuse	A single, or repeated, act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person.
Abuse of vulnerable adults	Occurs when a person in a position of trust inflicts physical, psychological, sexual, financial/material or social harm on a vulnerable adult.
Older person	A person aged 65 years or older, although flexibility regarding the age of the person experiencing abuse or neglect is important, and persons aged 55-65 may experience life transitions and illness or disability that result in dependency on others.

4. Types of abuse

It is noted that there is a clinical impression of increased risk of abuse being linked to carer stress and the burden of care. A level of vigilance is required to assess this stress along with attention to carer relief and support.

Types of abuse	Description
Physical	The infliction of physical pain, injury or force. This includes medication abuse and inappropriate restraint or confinement that causes pain or bodily harm.
Psychological/emotional	Behaviour which causes anguish, stress or fear (including verbal abuse, intimidation, harassment, damage to property, threats of physical or sexual abuse and the removal of decision-making powers).
Sexual	Any forced, coerced or exploitive sexual behaviour or threats, including sexual acts imposed on a person unable to give consent or to understand.

Types of abuse	Description
Material/financial	The illegal or improper exploitation and/or use of funds or other resources which are the property of the vulnerable adult, including financial abuse by a person holding enduring powers of attorney (EPA).
Institutional	Institutional abuse occurs when an institution actively or passively allows, or accepts, any form of abuse or neglect to occur. This may arise from the action or inaction of an individual as an employee, or it may be embodied in organisational systems which fail to provide adequately for the safety and well-being of the individual patient/client.

5. Types of neglect

Neglect occurs when a vulnerable adult experiences harmful physical, psychological, financial/material and/or social effects as a result of another person failing to perform behaviours, functions or tasks which are a reasonable obligation of their relationship to the older person and are warranted by the vulnerable adult's unmet needs and includes abandonment.

The table below explains the forms in which this neglect may take.

Type of neglect	Description
Active	Conscious and intentional actions by a carer denying/failing to provide basic necessities consequently resulting in harmful physical, psychological, financial/material and/or social effects.
Passive	Refusal or failure by carer, because of inadequate knowledge, infirmity or disputing the value of the prescribed services to provide basic necessities consequently resulting in harmful physical, psychological, financial/material and/or social effects.
Self-neglect	Self-neglect occurs when a vulnerable adult experiences harmful physical, psychological, financial/material and/or social effects as a result of failing to accept or provide themselves with the basic necessities, resulting in harmful physical, psychological, financial/material and/or social effectsIn some situations it will be necessary to assess whether a situation is one of neglect by others, self-neglect or a combination of both.

6. Competency

Competent adults are entitled to make choices that have a negative impact on their health and wellbeing, or that may seem to be the 'wrong' choice when measured against the values and standards of others. Where there is any doubt as to a person's capacity to understand the situation they are in or foresee the consequences of their choices, then a cognitive and capacity assessment is likely to be necessary. An assessment can be arranged by speaking with the relevant medical team.

7. Enduring Power of Attorney (EPA) or Welfare Guardian

When the alleged perpetrator of the harm also holds EPA or is the Welfare Guardian for the older or vulnerable person, advice will need to be sought from Auckland DHB legal services.

8. Assessing and reporting abuse or neglect – best practice assumptions

- The safety of the older or vulnerable adult is to be given paramount consideration in all decisions.
- Any action taken should not cause more harm than the abuse or neglect, nor undermine the rights of the older or vulnerable adult or their carers.
- The safety of those working with vulnerable adults in relation to abuse or neglect should be protected; one of the ways to do this is to ensure that you do not work alone.
- Actions that are supportive and empowering assist older and vulnerable adults experiencing abuse or neglect to make choices and take control over their lives.
- Each older or vulnerable adult has distinctive family/whānau, cultural and other values that should be respected and appropriately addressed.
- Appropriate cultural consultation will occur so that the most skilled and appropriate cultural support and guidance is provided to those who are involved in responding to older and vulnerable adults. Ensure issues associated with health literacy, English proficiency and hearing are taken into account when engaging in assessment activity.
- Where required, a qualified interpreter will be used when interviewing older or vulnerable adults.
- A collaborative and multiagency approach enables solutions to be found that are meaningful to the older or vulnerable adult and provide support for those working in the area.
- Each situation is considered individually, taking into account the specific context in which it is occurring.
- Every health professional charged with undertaking assessment and intervention in relation to possible abuse or harm of a vulnerable or older adult will act on the premise of 'do no more harm'.
- Health social workers are likely to take a lead role in the assessment, intervention planning, and monitoring of situations involving possible harm to an older person or vulnerable adult. While it is everybody's responsibility to act, some professions will be better equipped to respond to the more complex situations, and in these situations a referral to a health social worker is encouraged.
- All assessment and intervention planning will occur in the context of the multidisciplinary team (MDT). It is critical that all relevant factors are considered when assessing concerns.

8.1 Limited confidentiality and information sharing

An assurance of confidentiality cannot be given to consumers. There are many instances where the organisation is required, or authorised, to disclose confidential information (such as where legal proceedings are anticipated or on foot). Guaranteeing confidentiality, and subsequently breaking that promise, can lead to a breakdown in trust. Therefore, it is recommended to state that "We will do our best to keep this confidential, but there are occasions when we are legally required, or permitted, to disclose information." All information sharing will be undertaken with

due regard to the Privacy Act 1993, the Health Information Privacy Code 1994 and the Family Violence Act 2018 (see legislation).

8.2 Documentation

Document concerns regarding possible abuse or neglect in the patient's clinical record, using the Elder or Vulnerable Adult Assessment and Intervention Documentation (CR0145). All information is to be recorded objectively, and should clearly identify which aspects you saw or heard and which were reported to you or suspected by you. Use the person's own words as much as possible. Where this information is known, records should be kept of the following:

- The alleged abusers name and relationship to the person;
- The stated or suspected cause of the injuries, and when they allegedly occurred;
- Unsolicited statements made by the patient, or others, explaining injuries that are at odds with your clinical assessment/physical observation of injuries;
- Behaviours and reactions to treatment;
- Assessments that highlight inconsistencies in statements or the condition of the patient;
- Statements from others who have observed the patient during or just before the admission;
- Direct observations by Auckland DHB clinical staff regarding a possible abuse situation between a vulnerable adult patient and another person;
- Any actions taken, referral information offered, and follow-up care arranged;
- The date and time of your contact with the person, when you wrote your notes and a clear signature and staff designation.

8.3 Safety

- In the community setting, do not visit alone where you believe there may be violence occurring or where you suspect a dangerous person may be present.
- Ensure you have a safety plan when you visit. Advise a colleague, preferably a senior colleague, about your plan. Refer to the Auckland DHB Lone Worker Protection policy (see associated documents).
- Do not discuss concerns or actions with a carer or family/whānau member if you are uncomfortable or concerned that doing so may place you or others in danger.
- Maintain awareness of warning signs of aggression, including threatening comments, attempts to block your exit and increasing agitation or irritation.
- If you feel you or another person is in immediate danger, phone 111.
- Document concerns with particularity and notify incidents.
- In emergencies, where the patient/client/service user is at risk of serious harm as a result of possible abuse and/or neglect, urgent assessment and management may be required. In rare circumstances this may involve the Police, and emergency protection measures. Any action of this type must be discussed and agreed with the service area's Adult Safeguarding Champion, an identified health professional who has expertise in working with vulnerable adults, and a senior member of staff from the service area responsible for the consumer at the time the issues are identified.

8.4 Discharge planning

8.4.1 Definition of discharge of a vulnerable adult

For the purposes of this policy, it is important that all discharges from our services, whether from an inpatient ward, community service or residential facility, give consideration to this policy before discharge, transfer of care, or case closure. For simplicity, this will be referred to as discharge from here on.

8.4.2 Assessment

Every clinical context must have a process in place to guide discharge in circumstances where concern exists regarding a patient's safety and wellbeing. For the policy to be relevant, the person of concern must meet the legal definition of an elder or vulnerable adult.

- Any indicators of abuse or neglect during any patient/client's episode of care must be fully assessed and a plan developed to mitigate the impact of this abuse on the patient before discharge.
- Where there is suspicion of abuse, neglect or self-neglect a Health Social Work Assessment must be completed. The issues that emerge from this assessment will determine what needs to occur to ensure a safe discharge.
- If the issues raised place the patient at significant risk or are life threatening, then your Multidisciplinary Team (MDT) must delay discharge or case closure until appropriate actions have been taken to mitigate the assessed risks. From time to time, an admission to hospital may be required to facilitate a comprehensive assessment of concerns.
- Consultation with and escalation to senior staff to help navigate any challenges associated with delayed discharge, or admissions with social complexity, are encouraged.
- Consider and make appropriate referrals with the requisite information to external contracted services.

8.5 Criteria for discharge

In situations where there are indicators of abuse (red flags) or when significant safety issues are present, the following will occur before the patient is discharged:

- Ensure best practice by engaging in your MDT consultation and exploring your collective duty of care. Record the outcome in the clinical record. This may likely include referrals to older peoples' services.
- Consult with your health social worker and/or an Adult Safeguarding Champion and give consideration as to your legal obligations. Seek senior or legal guidance if there is any ambiguity around staff obligations and responsibilities.
- Determine and confirm the patient's views and level of cognition or capacity regarding decision-making. Document your assessment in the clinical record.
- Ensure all assessment includes what factors are present with the patient's whānau, family, social network and wider community to support the patient's ongoing safety and wellbeing.
- Temporary residential care may be considered through the interim care programme or other programmes. Seek senior input from specialist services for older people, needs assessment and service co-ordination (NASC) or legal advice.
- Ensure all clinical documentation records:
  - The concerns
  - MDT decisions

- All outstanding activity, including the name, role and allocated tasks associated with completion of agreed activity.

- Complete and scan a copy of the Elder or Vulnerable Adult Assessment and Intervention Documentation (CR0145) to the Taki Mauri group to consider whether an alert should be placed on the clinical record. Send the original through the mail to Taki Mauri.
- In situations involving discharge from an acute bed, refer to Adult Community Services Social Work and, for older people, the geriatrician if not already involved. Include the following information in your handover or referral document:
  - Identified indicators and type of abuse, neglect, concerns.
  - Names and roles of patients involved in the alleged harm.
  - Actions already undertaken by ward clinicians.
  - Patient's and their family's view of the alleged indicators of harm.
  - Patient's assessed capacity to make informed decisions.
  - Details of any Police involvement.
  - Indication of any legal issues, concerns or consultation
- Discharge summaries and closure summaries will include relevant content associated with all investigations, assessments and their outcomes.

9. Procedure

9.1 Assessment

Step	Action
1.	If there are indicators of abuse, refer to flowchart below.
2.	If the person does not agree to an assessment, consult with your multidisciplinary team (MDT), and engage a health social worker to assist you. Consider consultation with the Taki Mauri multiagency group.
3.	If there are doubts as to legal responsibility, ensure consultation with a member of Auckland DHB legal services.
4.	If the person meets the criteria of being a vulnerable adult, consideration must be given to reporting the concern to the Police.
5.	Complete the Notification of Concern to the Taki Mauri forum.
6.	Where the assessment is to occur in the community, you are encouraged to co-work. Consider partnering with a social worker, GP and/or appropriate community agencies, e.g. Age Concern, IDEA Services, advocates from the Health and Disability Commissioner or the Police, in order to ensure the safety of both the patient/client and worker.
7.	Consider whether direct action to remove the client from an abusive situation needs to occur.
8.	Appropriate to your service, the health practitioner conducts an initial assessment of the concerns related to the patient/client's safety in the context of their family/whānau/caregiving arrangements. The assessment of the level and extent of the harm will inform the actions you take.

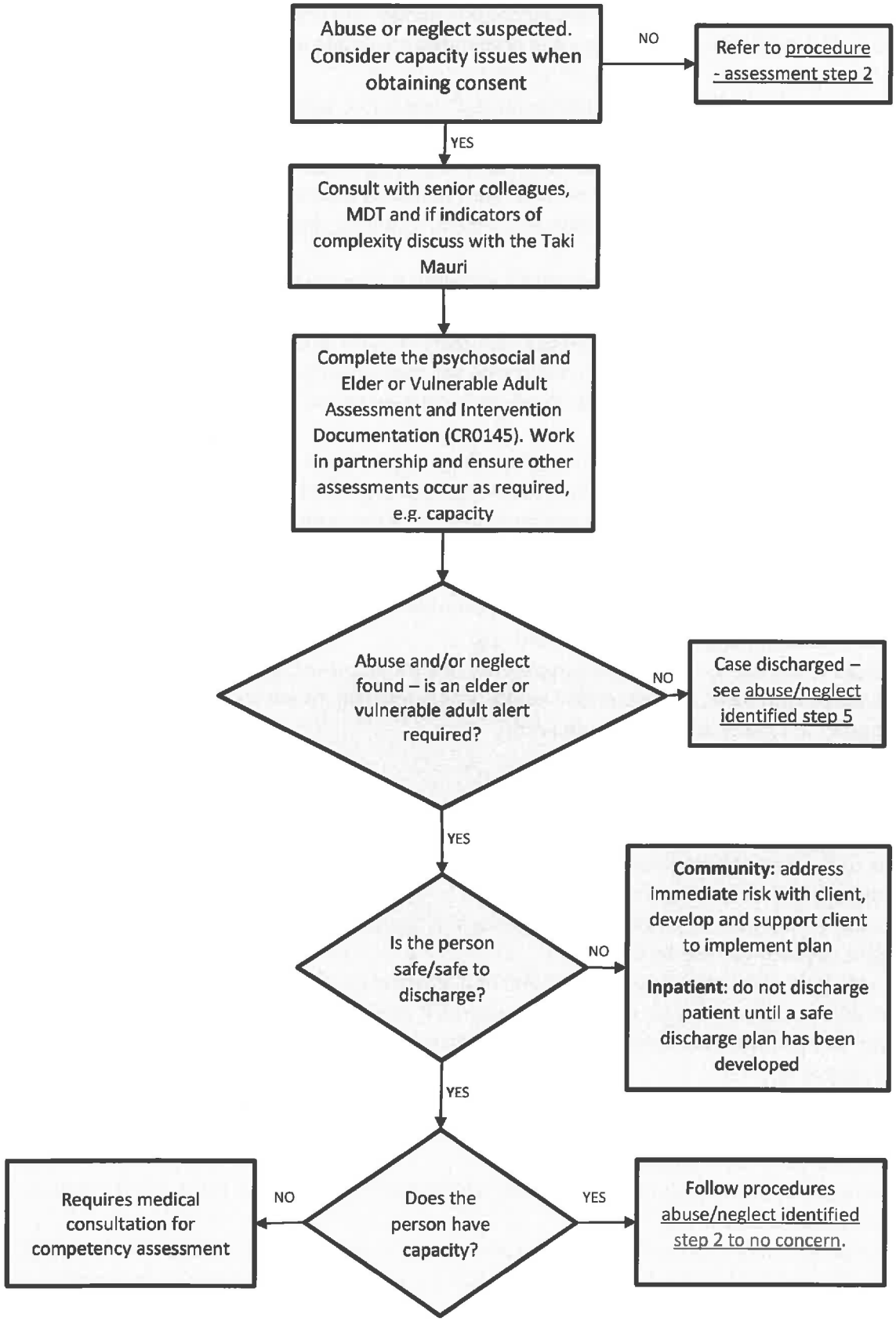
9.2 If abuse and/or neglect is identified

Step	Action
1.	Where indicated, notification to the Police regarding ill-treatment or neglect of an older/vulnerable adult must occur.
2.	If the person is competent, the health professional works with the client, family/caregiver, MDT, and community agencies as appropriate to develop a safety plan.
3.	If the person is not competent, engage with the EPA, family/whānau, and/or Auckland DHB legal services to follow the legal process (Protection of Personal and Property Rights Act 1988 - see legislation) in conjunction with the MDT to ensure client safety.
4.	All staff are encouraged to seek guidance for any or all steps in this process from Taki Mauri. This group can be called together at short notice if required.
5.	Consider the appropriateness of an elder and vulnerable adult alert. Apply sound clinical reasoning if a decision is made not to place an alert. The Elder or Vulnerable Adult Assessment and Intervention Documentation (CR0145) below will inform the alert.
6.	Send Elder or Vulnerable Adult Assessment and Intervention Documentation (CR0145) to the Taki Mauri email address.
7.	Some situations may warrant the development of a management plan – signalled via a clinical alert. Situations may include a vulnerable adult who requires special care to ensure their safety and/or the safety of other patients or staff when they require health care.

9.3 If there is no finding of concern

Step	Action
1.	If the situation has been referred to you (in the situation of your being a health social worker), report back to the referrer, document the findings in the clinical record, discharge the client, and provide the outcome to Taki Mauri.

10. Assessing and reporting flowchart



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11. Training and education

- All clinical staff working with younger vulnerable people and older people (65 and over) are required to demonstrate competence in responding to people at risk of experiencing abuse and/or neglect.
- All clinical staff working with a predominance of vulnerable adults (for instance hose working in mental health services) are required to understand relevant policies and guidelines in responding to people at risk of experiencing abuse and/or neglect.
- Each service will require and support their staff to attend appropriate training regarding working with older persons and vulnerable adults, including recognition and response to indictors of abuse.
- All staff working in an Adult service will be mandatorily required to complete the Ko Awatea 'Vulnerable Adult' online course.
- Each service area that services significant numbers of older and/or vulnerable adults will identify an Adult Safeguarding Champion who will take responsibility for:
  - Providing support and guidance to others in relation to the assessment and management of these cases.
  - Undertaking the work themselves when this is appropriate.
  - Providing an annual report to Taki Mauri on the standard template.
- The Adult Safeguarding Champion will be mandatorily required to undertake advanced 'train the trainer' education, which will include the Ministry of Health 6-step process used to investigate elder and vulnerable adult abuse and neglect.
- Other staff working with older person and vulnerable adult abuse will be required to complete the vulnerable adult and elder abuse training.
- Services will actively monitor the competency of staff members, and the volume of work associated with older and vulnerable adults' safety and risk, to ensure adequate support and resources are made available as required.

12. Taki Mauri: Auckland DHB elder and vulnerable adults multiagency group

The role of the Taki Mauri multiagency group is to develop Terms of Reference, which will enable it to undertake the following functions:

- Provide clinical advice, support and guidance at a regular forum and ensure capacity to provide urgent advice on a case-by-case basis.
- Provide guidance in the development and implementation of training programmes for staff that address issues of older person and vulnerable adult abuse and neglect, with a primary focus on identification, assessment and proactive multidisciplinary and multiagency case management.
- Provide guidance, including the development of audit and annual report templates to support the critical review of Auckland DHB's capacity, competence and commitment to services for older and vulnerable adults.
- Review, analyse and respond to the audits, and annual reports with a focus on continuous quality improvement.
- Develop and maintain staff awareness, commitment and expertise in relation to abuse and neglect services for older and vulnerable adults by providing annual updates, quarterly

reporting to the Auckland DHB Violence and Abuse Prevention Governance Group and ongoing educational forums.
- Ensure active representation of appropriate disciplines and agencies at the group
- Support culturally responsive services for all patients/clients/family/whānau.
- Support the development of the Adult Safeguarding Champions to an advanced level of competence in this field of practice.
- Represent Taki Mauri on the Auckland DHB Family Violence Steering Group.
- Create and be responsible for a sub-group of multidisciplinary Auckland DHB staff who will routinely review Elder or Vulnerable Adult Abuse and Neglect Risk Identification forms (CR0145) and determine whether a clinical alert is appropriate. The group will complete the Alert Notification form CR0008 in instances where an alert is appropriate and send the two pieces of documentation to Clinical Records.

13. Supporting evidence

Ministry of Health. (2007). Family violence intervention guidelines: Elder abuse and neglect. Retrieved from https://www.health.govt.nz/system/files/documents/publications/family-violence-guideliens-elder-abuse-neglect.pdf

14. Legislation

- Crimes Act 1961
- Family Violence Act 2018
- Health and Disability Services Standards 2008
- Health Information Privacy Code 1994
- Mental Health (Compulsory Assessment and Treatment) Act 1992
- Privacy Act 1993
- Protection of Personal and Property Rights Act 1988
- The Crimes Amendment Act (No 3) 2011

15. Associated documents

- Bicultural Policy
- Child Abuse, Neglect, Care and Protection
- Clinical Record Management
- Family Violence - Intimate Partner Violence Intervention
- Lone Worker Protection
- Tikanga Best Practice

16. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

17. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.

Acute Myeloid Leukaemia (AML) in an Older Person

Document Type	Protocol
Function	Clinical Practice, Patient Care
Directorate(s)	Cancer and Blood Services
Department(s) affected	Haematology
Applicable for which patients, clients or residents?	Older adult haematology patients
Applicable for which staff members?	Clinicians working in adult haematology
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Contents

1. Purpose of guideline

The purpose of this guideline is to facilitate the safe and effective care of an older patient with acute myeloid leukaemia (AML) within Auckland District Health Board (Auckland DHB).

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2. Introduction

Acute myeloid leukaemia (AML) is a clonal disorder characterized by arrest of differentiation in the myeloid lineage, coupled with an accumulation of immature progenitors in the bone marrow, resulting in haematopoietic failure.

AML is the most common acute leukaemia in adults, affecting roughly three out of 100,000 people in the UK (Cancer Research UK). AML patients are predominantly elderly (for the purposes of this guideline, elderly is defined as age 60 years and older) with a median age at diagnosis of 67 years (National Cancer Institute 1975-2007).

While the prognosis for younger patients has improved in recent decades, older patients continue to have a median overall survival (OS) in the order of months with few long term survivors (Dombret et al. Seminars in Oncology 2008; 35: 430-438). Advancements in supportive care and regimen intensification have resulted in improvements in clinical outcomes for younger AML patients, but analogous improvements in older patients have not been realised. While outcomes are compromised by increased comorbidities and susceptibility to toxicity from therapy, it is now recognized that elderly AML represents a biologically distinct disease that is more aggressive and less responsive to therapy.

Older age is an independent adverse prognostic factor, associated with a decreased complete response (CR) rate, disease free survival (DFS) rate, relapse free survival (RFS) and OS, with higher rates of treatment related mortality (TRM), resistant disease and relapse compared to equivalently treated younger patients (Harousseau Blood Reviews 1998; 12: 145-153, Milligan et al. British Journal of Haematology 2006; 135: 450-474, Dohner et al. Blood 2010; 115: 453-474).

It is often very difficult to work out how best to treat the elderly patient with AML because of the high potential treatment toxicity and limited responses. Older age is only one of several adverse prognostic features, such as cytogenetics, performance status and comorbidities. Options for treatment include induction chemotherapy, low intensity chemotherapy or supportive care alone. Considerable patient discussion is often required, discussion with colleagues is encouraged and presentation at the acute leukaemia multi-disciplinary meeting is very strongly recommended.

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3. Clinical presentation

Signs/symptoms of cytopenias:

- Fatigue/SOB
- Recurrent infection
- Bruising/bleeding

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4. Initial investigations

Blood tests

- FBC, blood film
- Vitamin B12, folate
- Coagulation screen - PR, APTT, Fibrinogen, D-dimers
- Na, K, urea, creatinine,
- Uric Acid
- Glucose
- Ca, PO4
- Liver function tests including protein profile
- LDH
- Hepatitis A, B and C serology
- HIV serology
- Blood group (cross match)/Antibody screen
- Tissue Typing – in patients ≤ 65 years old and in whom aggressive therapy is likely

Bone marrow biopsy

- Aspirate and trephine x 1
- Send samples for cell markers and conventional cytogenetics
- Take a sample for PCR and FISH
  - The AML molecular panel should only be processed if the patient has normal cytogenetics and the patient is fit enough for chemotherapy
  - FISH studies should be performed only if they are deemed necessary by the laboratory registrar/consultant

Other investigations

- Baseline observations, including body temperature
- ECG
- Echocardiogram
- Chest x-ray

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5. Clinical assessment

Some elderly patients will tolerate and benefit from intensive remission-induction approaches, while others are best managed with less aggressive strategies (Pollyea et al. British Journal of Haematology 2011; 152: 524-542). It is therefore important to weigh up both the patient factors and the AML-related factors which might influence the chances of a good outcome with induction chemotherapy versus low intensity chemotherapy versus supportive care alone. This can then lead to an appropriate discussion of treatment options with the patient and their family/whānau.

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6. Performance status of a patient

a. ECOG performance scale

Performance status	Definition
0	Fully active; no performance restrictions
1	Strenuous physical activity restricted; fully ambulatory and able to carry out light work
2	Capable of all self-care but unable to carry out any work activities. Up and about >50 percent of waking hours
3	Capable of only limited self-care; confined to bed or chair >50 percent of waking hours
4	Completely disabled; cannot carry out any self-care; totally confined to bed or chair

A retrospective study of data from 5 SWOG AML trials, that included 968 patients, found that the mortality rate within 30 days of initiation of induction therapy is dependent upon both the patient's age and ECOG performance status (PS) at diagnosis (see table below). The 30 day mortality rates were 2 - 3% for patients under the age of 55 years regardless of the PS. Patients aged over 55 years with a PS of 3 and those aged over 65 with a PS of 2 or 3 had much higher mortality rates that ranged from 29 - 82%. (Appelbaum et al. Blood 2006;107(9):3481).

Table 5. Mortality within 30 days of initiation of induction

	Younger than 56 y	56-65 y	66-75 y	Older than 75 y
No. patients	364	242	270	79
Early deaths* by performance status, no./no. total patients (%)				
0	3/129 (2)	8/72 (11)	9/73 (12)	2/14 (14)
1	6/180 (3)	6/112 (5)	20/126 (16)	7/40 (18)
2	1/46 (2)	6/34 (18)	16/52 (31)	7/14 (50)
3	0/9 (0)	7/24 (29)	9/19 (47)	9/11 (82)

Patients with known prestudy performance status are included.
*Within 30 days of registration to the trial.

Löwenberg et al. prospectively examined 813 older patients with newly diagnosed AML/high grade myelodysplasia who received induction chemotherapy with DA (see DA (NEJM 2009) protocol below). Patients with PS of zero to 2 had a 30 day mortality rate of 11%. Patients with PS zero had a significantly higher rate of CR (69%) than those patients with PS 1 or 2 (54%). No patients with PS >2 entered the trial. (Löwenberg et al. N Engl J Med 2009;361:1235-48).

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b. Comorbidity index

Comorbid conditions are poor prognostic factors in older patients with AML. Patients with age-related chronic cardiac, pulmonary, hepatic or renal disorders or diabetes suffer greater acute toxicity from chemotherapy. The haematopoietic cell transplantation specific comorbidity index (HCT-CI) was designed to predict outcomes in younger adults undergoing haematopoietic cell transplantation, and not older patients with AML. However it has been examined in retrospective studies of older patients with AML to see if it can help to predict outcome.

Giles et al reported a retrospective study of 177 AML patients, over 60 years of age, receiving idarubicin and cytarabine induction chemotherapy at the MD Anderson Cancer Centre. The HCT-CI scores were zero, 1 to 2, and greater than 2 and corresponding early death rates were 3, 11, and 29% respectively (see table below). (Giles et al. Br J Haematol 2007;136(4):624).

HCT-CI score	Percentage of patients	Death within 28 days (%)	Median survival (weeks)
0	22	3	45
1-2	30	11	31
>2	48	29	19

The following worksheet can be used to calculate the HCT-CI as reported by Sorror et al., *Blood, 2005 Oct 15; 106(8): 2912-2919.*

i. If the recipient has a documented history of any of the conditions listed in the "definition/compartments" column, check the corresponding "yes" box;

ii. If any box within a category is checked "yes", then the number in the "score" column should be counted;

iii. The total of all the boxes with a score represents the final score of the index.

Co-morbidity	Definition/compartments	Yes	Score
1. Arrhythmia	-Atrial fibrillation* -Atrial flutter* -Sick sinus syndrome* -Ventricular arrhythmia*	☐	1
2. Cardiovascular	-Coronary artery disease* -Congestive heart failure* -Myocardial infarction* -Ejection fraction ≤50%§	☐	1
3 Inflammatory bowel disease	-Crohn's disease* -Ulcerative colitis*	☐	1
4 Diabetes	-Treated with insulin or oral hypoglycemic drugs§	→	1
5 Cerebro-vascular	-Transient ischemic attacks* -Cerebro-vascular ischemic or hemorrhagic stroke*	☐	1
6. Depression/anxiety	-Requiring psychological consultation and/or specific treatments§	→	1
7 Hepatic - mild	-Chronic hepatitis§ -Bilirubin >ULN- 1.5 X ULN§ -AST/ALT >ULN- 2.5 X ULN§	☐	1
8 Obesity	-Body mass index >35 (adults)§ -Body mass index-for-age ≥95% percentile (children)§	☐	1
9 Infection	-Requiring anti-microbial treatment before, during, and after the start of conditioning§	→	1
10. Rheumatologic	-Requiring Treatment*	→	2
11. Peptic ulcer	-Confirmed by endoscopy and requiring treatment*	→	2
12. Renal	-Serum creatinine >2mg/dl (or >177µmol/L)§ -On dialysis§ -Prior renal transplantation*	☐	2
13. Pulmonary - Moderate	-DLco corrected for hemoglobin 66-80% of predicted§ -FEV1 66-80% of predicted§ -Dyspnea on slight activity§	☐	2
14. Pulmonary - Severe	-DLco corrected for hemoglobin ≤ 65% of predicted§ -FEV1 ≤ 65% of predicted§ -Dyspnea at rest or requiring oxygen therapy§	☐	3
15. Heart valve disease	-Except asymptomatic mitral valve prolapse§	→	3
16. Prior solid malignancy	-Treated with surgery, chemotherapy, and/or radiotherapy, excluding non-melanoma skin cancer*	→	3
17.Hepatic - moderate/severe	-Liver cirrhosis§ -Bilirubin > 1.5 X ULN§ -AST/ALT > 2.5 X ULN§	☐	3
		Total Score	

*Diagnosed at any time in the patient's past history
§Detected at the time of pretransplant assessment - ULN indicates upper limit of normal; DLco, diffusion capacity of carbon monoxide; FEV1, forced expiratory volume in one second; AST, aspirate aminotransferase; and ALT, alanine aminotransferase

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c. Geriatric assessment

Klepin et al reported their single centre experience of 74 AML patients, aged ≥60 with an ECOG of 0-3, who were deemed fit by the treating physician to receive intensive induction chemotherapy (Klepin et al Blood 2013;121(21):4287-4294). The median age of the patients was 70 years, with 78% having an ECOG ≤1 and one quarter having preceding MDS. After consenting to treatment, all patients underwent a geriatric assessment including 100 point Modified Mini-Mental State (3MS) and Short Physical Performance Battery (SPPB). SPPB comprised a 4 minute walk, repeated chair stands and a balance test. Each activity was marked from 0 (unable to complete test) to 4 (highest performance level) with a total summed score of 0 to 12. A score <9 indicated impairment. (Bandinelli et al. Aging Clin Exp Res 2006;18:359-366). Adjusting for age, gender, ECOG, cytogenetic risk group, MDS, and haemoglobin, impaired cognitive function and low physical performance were associated with worse OS.

The results are as follows:

	Impaired	Not impaired	P value
Cognitive function (median overall survival in months)	5.2	15.6	0.002
Physical performance (median overall survival in months)	6.0	16.8	0.018

Local advice from the Auckland DHB Older Persons Health department:

- Remember the importance of good social support for the patient
- Consider 3 domains in the assessment of the older patient
  - Cognition
    - MOCA: Montreal Cognitive Assessment (see supporting evidence section)
    - IQCODE: Informant Questionnaire on Cognitive Decline in the Elderly (essentially a collateral history) (see supporting evidence section)
  - Frailty
    - EFS: Edmonton Frailty Scale (see table below)
  - Activities of daily living (ADL)
    - Barthels Index of ADL (see associated Auckland DHB documents section) or the Katz ADL: Katz Index of Independence in Activities of Daily Living (see table this section and also supporting evidence section)

Table 1. The Edmonton Frail Scale

The Edmonton Frail Scale:				Score: ___/17
Frailty domain	Item	0 point	1 point	2 points
Cognition	Please imagine that this pre-drawn circle is a clock. I would like you to place the numbers in the correct positions then place the hands to indicate a time of 'ten after eleven'	No errors	Minor spacing errors	Other errors
General health status	In the past year, how many times have you been admitted to a hospital?	0	1–2	≥2
	In general, how would you describe your health?	'Excellent', 'Very good', 'Good'	'Fair'	'Poor'
Functional independence	With how many of the following activities do you require help? (meal preparation, shopping, transportation, telephone, housekeeping, laundry, managing money, taking medications)	0–1	2–4	5–8
Social support	When you need help, can you count on someone who is willing and able to meet your needs?	Always	Sometimes	Never
Medication use	Do you use five or more different prescription medications on a regular basis?	No	Yes	
	At times, do you forget to take your prescription medications?	No	Yes	
Nutrition	Have you recently lost weight such that your clothing has become looser?	No	Yes	
Mood	Do you often feel sad or depressed?	No	Yes	
Continence	Do you have a problem with losing control of urine when you don't want to?	No	Yes	
Functional performance	I would like you to sit in this chair with your back and arms resting. Then, when I say 'GO', please stand up and walk at a safe and comfortable pace to the mark on the floor (approximately 3 m away), return to the chair and sit down	0–10 s	11–20 s	One of >20 s patient unwilling, or requires assistance
Totals	Final score is the sum of column totals			

Katz Index of Independence in Activities of Daily Living

ACTIVITIES POINTS (1 OR 0)	INDEPENDENCE: (1 POINT) NO supervision, direction or personal assistance	DEPENDENCE: (0 POINTS) WITH supervision, direction, personal assistance or total care
BATHING POINTS:_____	**(1 POINT)** Bathes self completely or needs help in bathing only a single part of the body such as the back, genital area or disabled extremity.	**(0 POINTS)** Needs help with bathing more than one part of the body, getting in or out of the tub or shower. Requires total bathing.
DRESSING POINTS:_____	**(1 POINT)** Gets clothes from closets and drawers and puts on clothes and outer garments complete with fasteners. May have help tying shoes.	**(0 POINTS)** Needs help with dressing self or needs to be completely dressed.
TOILETING POINTS:_____	**(1 POINT)** Goes to toilet, gets on and off, arranges clothes, cleans genital area without help.	**(0 POINTS)** Needs help transferring to the toilet, cleaning self or uses bedpan or commode.
TRANSFERRING POINTS:_____	**(1 POINT)** Moves in and out of bed or chair unassisted. Mechanical transferring aides are acceptable.	**(0 POINTS)** Needs help in moving from bed to chair or requires a complete transfer.
CONTINENCE POINTS:_____	**(1 POINT)** Exercises complete self control over urination and defecation.	**(0 POINTS)** Is partially or totally incontinent of bowel or bladder.
FEEDING POINTS:_____	**(1 POINT)** Gets food from plate into mouth without help. Preparation of food may be done by another person.	**(0 POINTS)** Needs partial or total help with feeding or requires parenteral feeding.

TOTAL POINTS = _____ 6 = High (*patient independent*) 0 = Low (*patient very dependent*)

Slightly adapted from Katz, S., Down, T.D., Cash, H.R., & Grotz, R.C. (1970) Progress in the development of the index of ADL. *The Gerontologist, 10*(1), 20-30.

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7. Assessment of AML prognosis

Some useful prognostic scores are described below:

UK MRC prognostic factors in elderly AML (Wheatley et al.)

Analysis of 2483 patients with AML aged ≥60 years, who were entered into the MRC AML11 and LRF AML14 trials, found that cytogenetic group, age, white blood count, performance status and type of AML (de novo, secondary) were all highly significantly related to prognosis in multivariate analysis. The regression coefficients were used to define good, standard and poor risk groups (see below). (Wheatley et al. Br J Haematol 2009;145:598–605).

Table III. Simplified risk score.

Parameter	Score
Cytogenetic group	1 = favourable/intermediate, 5 = adverse, 2 = unknown
WBC group	1 = <10·0, 2 = 10·0–49·9, 3 = 50–99·9, 4 = 100+ ($\times 10^9$/l)
Performance status	Performance status score: 0, 1, 2, 3, 4
Age group	1 = 60–64, 2 = 65–69, 3 = 70–74, 4 = 75+ (years)
AML type	1 = *de novo*, 3 = secondary
Total	Score (Cytogenetic group) + Score (WBC group) + Score (Performance status) + Score (Age group) + Score (AML type)
Risk Group	4–6 = Good, 7–8 = Standard, 9+ = Poor

The 1 year overall survival for patients by risk group is described in the table below.

AML14 trial treatment arm	1 Year Overall Survival		
	Good Risk	Standard Risk	Poor Risk
Intensive DA	60%	48%	30%
Low Dose Cytarabine (Ara-C)	36%	42%	14%

AML Score (Krug et al.)

The German AML Cooperative Group have developed a web-based application for predicting the chance of achieving a complete remission, and the risk of early death within 60 days after starting intensive induction therapy, in patients 60 years or older with previously untreated AML (Krug et al. Lancet 2010;376(9757):2000). The application uses a complicated formula that incorporates data on body temperature, haemoglobin, platelet count, LDH, age, type of AML (de novo or secondary), fibrinogen level, molecular and cytogenetic features. Once you have registered on the website, the web based calculation is quick and easy to use.

Intermediate Risk AML (Rollig et al.)

Data from the prospective German AML96 trial, which enrolled 909 older adults (range 61 to 87 years) for intensive therapy, was used to construct a predictive model for OS. Karyotype, age, NPM1 mutation status, white blood cell count, LDH, and CD34 expression were associated with OS. A weighted risk score was able to stratify patients with intermediate risk karyotype into a "good" intermediate risk group versus "adverse" intermediate risk group with estimated OS at three years of 30% and 11%, respectively (Rollig et al. Blood 2010;116(6):971-978).

Table 5. Assignment of risk points to prognostic factors in the additive risk model for patients with intermediate-risk cytogenetics

Parameter/subgroup	Score, points
CD34 expression	
Less than or equal to 10%	0
More than 10%	2
WBC	
Less than or equal to 20/μL	0
More than 20/μL	2
Age, y	
Less than or equal to 65	0
More than 65	3
LDH	
Less than or equal to 700 U/L	0
More than 700 U/L	4
***NPM1* status**	
Wild-type	0
Mutated	−2

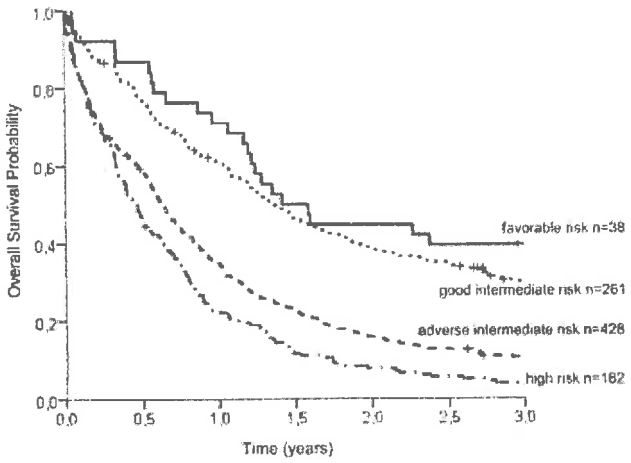

Figure 2. OS probability of the 4 risk groups identified by the additive risk model. Whereas the favorable-risk group (3-year OS, 39.5%) and the high-risk group (3-year OS, 3.3%) are defined solely by cytogenetic aberrations, the intermediate-risk group can be subdivided into good intermediate (≤ 3 adverse risk points; 3-year OS, 30.0%) and adverse intermediate (> 3 adverse risk points; 3-year OS, 10.6%). According to log-rank tests, the differences between survival curves are highly significant ($P < .001$), except between favorable and good intermediate risk ($P = .138$).

German-Austrian AML HD98-B Trial Prognostic Score (Fröhling et al.)

Patients with AML, aged ≥60 years, were treated with induction chemotherapy on the prospective HD98-B trial. (Fröhling et al. Blood 2006; 108:3280-3288) Analysis of the results identified 3 cytogenetic prognostic subgroups:

- Low-risk = t(15;17) and inv(16)
- Standard-risk = t(8;21), t(11q23), normal karyotype, +8 within a noncomplex karyotype, and +11 within a noncomplex karyotype
- High-risk = all other aberrations

When this was combined with the age of the patient, a prognostic score for CR and OS was developed:

Table 7. Outcome of 361 patients older than 60 with AML according to cytogenetic risk group and age

AMLSG score	No. of patients	CR, %	Median OS, mo	3-y OS (95% CI)
Younger than 70 y				
Not high risk	161	62	17.5	0.26 (0.20-0.33)
High risk	82	21	7.2	0.06 (0.02-0.13)
70 y or older				
Not high risk	72	39	6.3	0.06 (0.02-0.13)
High risk	46	15	3.1	0.02 (0.00-0.10)

Cytogenetic risk stratification according to the system proposed in this study.

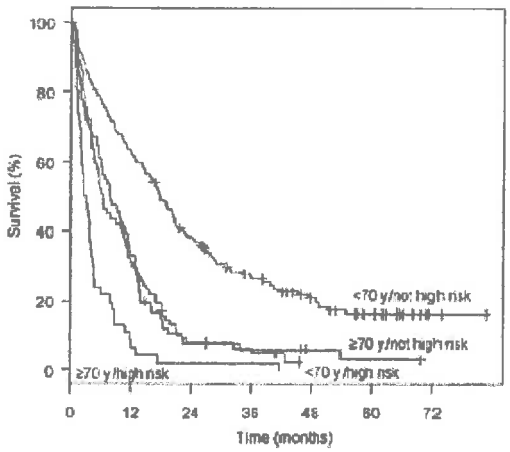

Figure 3. OS based on cytogenetic stratification system and age. OS of 361 patients older than 60 years with AML according to cytogenetic risk group, as assessed using the stratification system generated in this study, and age. Stratification of patients according to the 2 strongest prognostic factors for OS that were evident on multivariate analysis showed that younger patients without high-risk cytogenetics had the best outcome, followed by younger patients with high-risk cytogenetics, older patients without high-risk cytogenetics, and older patients with high-risk cytogenetics.

MDACC Elderly AML Score (Age ≥70 years) *(Kantarjian et al.)*

466 patients aged ≥70 years with AML were treated at the MDACC with cytarabine-based induction chemotherapy betwen 1990 and 2008 (Kantarjian et al. Blood 2010;116(22):4422-4429). Patients with CBF leukaemia (n=16) had a CR rate of 63% and median survival of 15 months, and 2 year OS of 18%, and were excluded from further analysis.

With the remaining 430 patients, multivariate analysis to look for prognostic factors for 8 week mortality identified the following to be independently adverse: age ≥80 years, complex karyotype (≥3 abnormalities), ECOG ≥2 and creatinine >1.3 mg/dL. Results are in the table below:

Table 5. Predicted outcome (8-week mortality) from multivariate analysis by number of adverse prognostic factors

No. of adverse factors	No. of patients (%)	8-wk mortality, %	CR, %	Survival		
				Median, mo	2-y, %	3-y, %
0	122 (28)	16	57	11.3	30	22
1	170 (40)	31	52	5.3	15	7
2	100 (23)	55	29	1.5	7	6
≥ 3	38 (9)	71	16	0.5	0	0

Adverse factors for 8-week mortality were age ≥ 80 years (OR, 2.13; $P = .016$), performance status ≥ 2 ECOG score (OR, 3.25; $P < .001$), complex karyotype (≥ 3 abnormalities; OR, 2.07; $P = .001$), and creatinine level > 1.3 mg/dL (OR, 1.96; $P = .005$)

CR indicates complete response; ECOG, Eastern Cooperative Oncology Group; abn, abnormality; and OR, odds ratio.

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8. Treatment

It is often very difficult to work out how best to treat the elderly patient with AML because of the high potential treatment toxicity and limited responses. Considerable patient discussion is often required, discussion with colleagues is encouraged and presentation at the acute leukaemia multi-disciplinary meeting is very strongly recommended.

Objective clinical assessment of the patient's performance status and AML prognosis should be calculated before discussing treatment options with the patient. It is recommended that at least the following are calculated and recorded:

- ECOG performance score
- Comorbidity index (HCT-CI)
- UK MRC risk score
- Krug AML score

Klepin et al. (Klepin et al. J Clin Oncol 2014; 32: 2541-2552) have recently published their risk stratification and treatment considerations for elderly patients with AML – see table below:

Table 3. Proposed Risk Stratification and Treatment Considerations for AML Induction Based on Patient Characteristics

Patient Risk Category	Characteristic	Treatment Considerations*		
		General	Favorable Tumor Biology†	Intermediate or Unfavorable Tumor Biology‡
Frail	ECOG PS ≥ 3; major comorbidity (HCT-CI ≥ 2); impairment in ADLs	High treatment-related mortality (particularly for those age > 75 years); clinical trials targeting frail patients are needed	Consider lower-intensity therapy (HMAs, low-dose cytarabine), patients with poor PS (particularly age 60-75 years) but without end-stage comorbidity may consider intensive treatment if risks and benefits are consistent with goals of care	Consider best supportive care, including palliative care consultation if available, versus lower-intensity therapy (HMAs, low-dose cytarabine)
Vulnerable	ECOG PS 0-2; absence of major comorbidity (HCT-CI ≤ 2); impairment in IADLs; impaired physical performance (SPPB < 9); impaired cognition (3MS < 77); high symptom burden (fatigue, pain)	Outcomes for this subgroup are inadequately defined in clinical trials; in nonrandomized studies, this group has been at risk for shorter survival compared with fit patients; clinical trials are needed to validate definitions of vulnerability and test treatment and supportive care strategies to improve outcomes in this group	Consider intensive therapy	Consider intensive therapy if risks and benefits are consistent with goals of care versus lower-intensity therapies (HMAs, low-dose cytarabine); consider enhanced supportive care targeting vulnerabilities (eg, early physical therapy for impaired mobility)
Fit	ECOG PS 0-1; HCT-CI < 1; absence of risk factors for frail and vulnerable patients	Best evidence suggests fit older adults derive benefit from aggressive therapy; future clinical trials should compare investigational therapies with standard intensive treatment in fit older adults	Intensive therapy should be offered	Consider intensive treatment with possible RIC allogeneic HSCT if risks and benefits are consistent with goals of care versus lower-intensity therapies (HMAs, low-dose cytarabine)

Abbreviations: 3MS, modified Mini-Mental State Exam; ADL, activity of daily living; AML, acute myeloid leukemia; ECOG, Eastern Cooperative Oncology Group; HCT-CI, hematopoietic cell transplantation comorbidity index; HMA, hypomethylating agent; HSCT, hematopoietic stem-cell transplantation; IADL, instrumental activity of daily living; PS, performance status; RIC, reduced-intensity conditioning; SPPB, Short Physical Performance Battery.

*Clinical trials preferred.

†Favorable tumor biology: inv(16), t(16;16), t(8;21), or t(15;17).

‡Intermediate-risk tumor biology: normal cytogenetics, +8 alone, t(9;11), or other nondefined. Unfavorable: complex (≥ three clonal abnormalities), −5, Eq−, −7, 7q−, or abnormalities of 11q, inv(3), t(3;3), or t(6;9). In normal cytogenetic category, *NPM1* mutation in absence of *FLT3-ITD* or isolated biallelic *CEBPA* mutation confers better risk versus presence of *FLT3-ITD*, which confers worse risk.

In general, fit patients who are >60 years old should be considered for induction chemotherapy. Patients should be offered entry into a clinical trial if one is available, or if not then they should receive induction with either the more intense AML17 protocol (only if very fit and usually <65 years old) or DA (NEJM 2009) protocol. Unfit elderly patients should be considered for low intensity chemotherapy, such as the AML LI1 clinical trial, or low dose AraC

or supportive care alone. AML related factors such as cytogenetics and molecular markers should also be taken into consideration, as these will help guide the likelihood of achieving a CR with chemotherapy.

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a. Induction chemotherapy

UK MRC AML17 protocol

Cycle #1
Daunorubicin 60 mg/m^2 IV days 1, 3 and 5 with Cytarabine (Ara-C) 100 mg/m^2 IV BD days 1 to 10
Cycle #2
Daunorubicin 50 mg/m^2 IV days 1, 3 and 5 with Cytarabine (Ara-C) 100 mg/m^2 IV BD days 1 to 8
Cycle #3 Cytarabine (Ara-C) 1.5 g/m^2 IV BD days 1, 3 and 5
Cycle #4 Cytarabine (Ara-C) 1.5 g/m^2 IV BD days 1, 3 and 5

N.B. As per AML17 protocol, the dose of Cytarabine (Ara-C) for cycles #3 and #4 is reduced from 3 g/m^2 to 1.5 g/m^2 in patients whose age is ≥60 years.

DA (NEJM 2009) protocol

Löwenberg et al. examined 813 older patients with newly diagnosed AML/high grade myelodysplasia (age range 60-83 yrs). Patients were randomised to daunorubicin at either 45 mg/m^2 or 90mg/m^2. In patients aged 60-65 years old there was an advantage to 90 mg/m^2 daunorubicin (CR 73%, 2 year EFS 29%, 2 year OS 38%) but there was no benefit to the higher dose in patients aged > 65 years who had a CR of about 60% and 2 yr EFS 25%. Patients with unfavourable cytogenetics had a 2 year EFS of 12-25%. Patients with monosomal karyotype had an almost zero 2 year EFS. Patients with core-binding factor AML also had an improved rate of CR (93% vs 74%) and 2 year OS (71% vs 51%) with 90 mg/m^2 vs 45 mg/m^2 daunorubicin. There was no difference in toxicity between the 2 doses of daunorubicin (Löwenberg et al N Engl J Med 2009;361:1235-48).

Cycle #1 Daunorubicin 45 mg/m^2 IV days 1 to 3 with Cytarabine (Ara-C) 200 mg/m^2 IV days 1 to 7
Cycle #2 Cytarabine (Ara-C) 1 g/m^2 IV BD days 1 to 6

N.B. Consider using 90 mg/m^2 daunorubicin in patients aged ≤65 years and patients with core binding factor AML.

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b. Low intensity chemotherapy

UK MRC AML LI-1 trial

The UK MRC AML LI-1 clinical trial is primarily designed for patients over 60 years for whom induction chemotherapy is not considered suitable. The trial is part of a continuous programme of development aimed at improving the outcomes of treatment in this patient population. Patients will be randomised between LD Cytarabine (Ara-C) and novel treatments.

Cytarabine (Ara-C) 20 mg SC BD days 1-10 (Total 20 doses) with novel agent

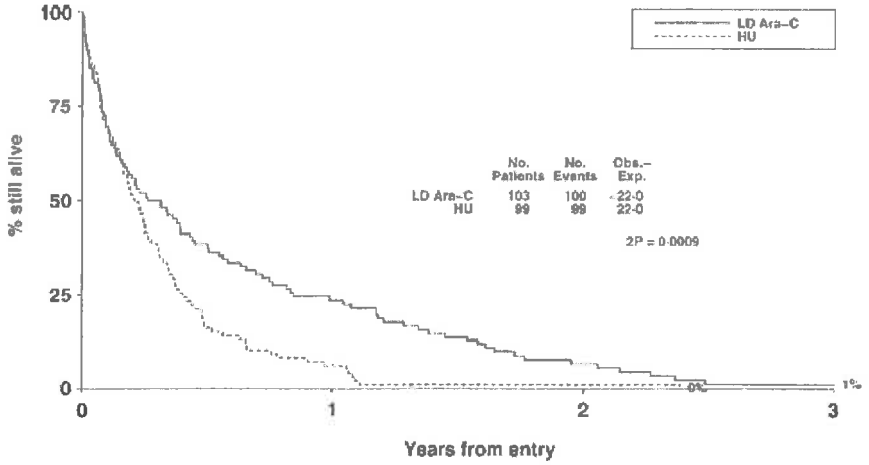
LD Cytarabine (Ara-C)

The NCRI/LRF AML14 trial compared low dose Cytarabine (Ara-C) (LD Cytarabine (Ara-C)) with hydroxyurea. The trial was closed early because LD Cytarabine (Ara-C) was significantly superior. 18% of patients achieved a CR, with most patients needing 2 to 3 cycles of LD Cytarabine (Ara-C) to achieve a remission. In patients who achieved a CR, the median OS was 20 months as compared to 4.5 months in patients who did not achieve a CR.

Cytarabine (Ara-C) 20 mg SC BD days 1-10 (Total 20 doses)

No patients with adverse risk cytogenetics achieved a CR, and so LD Cytarabine (Ara-C) is not recommended for this patient group. (Burnett et al. Cancer 2007;109:1114–24).

Figure 1 AML14 non-intensive trial: Overall survival: low dose cytarabine (LD Cytarabine (Ara-C)) versus hydroxyurea (HU). (Burnett et al. Cancer 2007;109:1114–24).



AML14 Non-Intensive
Overall Survival

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c. Azacitidine

Azacitidine is a DNA methyltransferase inhibitor that has been shown to improve survival and prolong time to AML transformation in patients with higher risk myelodysplastic syndrome when compared to conventional care (Fenaux et al Lancet Oncol 2009; 10: 223-32). Patients were included if they had an IPSS score of intermediate-2 or high risk, and they had FAB defined RAEB, RAEB-T (AML with ≤30% blasts) and CMML with at least 10% BM blasts and WCC <13x10^9/L. The majority of patients were ECOG 0-1 (92%). In this phase III trial, conventional care regimen was selected by the physician for each individual patient before randomization, and included supportive care (59% patients), LD Cytarabine (Ara-C) (27% patients) and induction chemotherapy (14% patients).

Results are shown in the table below:

	Azacitidine	Conventional Care	P value
Median survival (months)	24.5	15.0	0.0001
2 year overall survival	50.8%	26.2%	<0.0001
Time to AML transformation (months)	17.8	11.5	<0.0001

There is controversy whether low blast count AML (21-30% blasts) behaves more like untreated AML or advanced myelodysplasia. Within the phase III trial, sub-analysis was done to look at the outcomes for the 113 patients with low blast count AML (Silverman et al. J Clin Oncol 2010; 28(4): 562-569). Patients treated with supportive care alone had a median survival of 13.4 months, which was significantly better than the anticipated median survival of <6 months. When compared to best supportive care, low blast count AML patients treated with azacitidine had a significantly improved median survival of 19.1 months, with a 2 year OS of 50% (P = 0.03). Unfortunately, the number of patients with low blast count AML was too small to allow a direct comparison between azacitidine and LD Cytarabine (Ara-C).

Azacitidine 75 mg/m^2/day SC once daily days 1-5 and 8-9 (Start on a Monday) for 7 doses

Azacitidine is currently approved by Pharmac, with Special Authority criteria, for patients with:

i. IPSS intermediate-2 or high risk myelodysplastic syndrome;

ii. CMML (10%-29% marrow blasts without myeloproliferative disorder);

iii. AML with 20-30% blasts and multilineage dysplasia.

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9. Supportive care

Blood product support

- Red cell transfusions for symptomatic anaemia
- Platelet transfusions for bleeding due to thrombocytopenia

Tranexamic acid 1 g TDS can be given to patients with severe thrombocytopenia to help prevent bleeding. (Tranexamic acid should not be used in patients with haematuria, due to the increased risk of ureteric clots.)

Neutropenic regimen antibiotics should be given for sepsis.

Patients receiving induction chemotherapy should receive prophylactic posaconazole and aciclovir. Patients receiving low intensity chemotherapy should receive prophylactic fluconazole and aciclovir. Patients not receiving chemotherapy do not routinely need prophylactic antiviral or antifungal treatment.

Hydroxyurea may be used to help control a rising blast count.

Consider referral to palliative care and hospice.

Consider referral to Leukaemia Blood Cancer for additional support.

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10.Supporting evidence

- Aml-score
- Appelbaum et al. Blood 2006;107(9):3481
- Bandinelli et al. Aging Clin Exp Res 2006;18:359-366
- Barthels Index of ADL
- Burnett et al. Cancer 2007;109:1114–24
- Cancer Research UK
- Dohner et al. Blood 2010; 115: 453-474
- Dombret et al. Seminars in Oncology 2008; 35: 430-438
- EFS: Edmonton Frailty Scale
- Fenaux et al Lancet Oncol 2009; 10: 223-32
- Fröhling et al. Blood 2006; 108:3280-3288
- Giles et al. Br J Haematol 2007;136(4):624
- Harousseau Blood Reviews 1998; 12: 145-153
- IQCODE: Informant Questionnaire on Cognitive Decline in the Elderly (essentially a collateral history)
- Kantarjian et al. Blood 2010;116(22):4422-4429
- Klepin et al Blood 2013;121(21):4287-4294
- Klepin et al. J Clin Oncol 2014; 32: 2541-2552
- Krug et al. Lancet 2010;376(9757):2000)
- Löwenberg et al. N Engl J Med 2009;361:1235-48
- Milligan et al. British Journal of Haematology 2006; 135: 450-474
- MoCA Montreal Cognitive Assessment
- National Cancer Institute 1975-2007
- Pollyea et al. British Journal of Haematology 2011; 152: 524-542
- Rolfson et al. Age Ageing 2006;35(5):526-529
- Rollig et al. Blood 2010;116(6):971-978
- Silverman et al. J Clin Oncol 2010; 28(4): 562-569
- Sorror et al., *Blood, 2005 Oct 15; 106(8): 2912-2919*
- Wheatley et al. Br J Haematol 2009;145:598–605

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11.Associated Auckland DHB documents

- Barthels Index of ADL – Stroke Service
- Intravenous Fluid Prescription - Adult
- Medications - Administration
- Medications - Allergies & Adverse Drug Reactions (ADRs) Identification, Documentation & Reporting
- Medications - Cytotoxic & Hazardous - Administration
- Medications - Intravenous & Infusions Administration
- Medications - Prescribing

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12.Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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13.Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or the Clinical Policy Advisor without delay.

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Renal Transplant Adult Recipient: Patient Selection

Document Type	Guideline
Function	Clinical Service Delivery
Directorate	Surgical Services
Department(s) affected	Intra-Abdominal Transplants
Patients affected (if applicable)	Renal transplantation patients
Staff members affected	All ADHB clinicians in renal transplantation
Key words (not part of title)	n/a
Author – role only	Clinical Director Renal Medicine
Owner (see ownership structure)	Owner: Service Clinical Director – Transplant Issuer: Service Clinical Director - Renal
Edited by	Clinical Policy Advisor
Date first published	September 2012
Date this version published	January 2017 – reviewed
Review Frequency	3 yearly
Unique Identifier	PP2031/RBP/045

Contents

1. Purpose of guideline

The recipient evaluation is undertaken to ensure that on presentation for operation the recipient is fully educated, informed and physically fit for transplantation within Auckland District Health Board (ADHB).

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2. Philosophy of renal transplantation of the Auckland Regional Transplant Group (ARTG)

All patients with chronic progressive renal failure should be considered as potential kidney transplant recipients. Exceptions include those who are obviously ineligible for major medical, psychological or other reasons. Patients under the care of a nephrologist served by the ARTG should be referred for assessment for renal transplantation once his or her adjusted creatinine clearance reaches 20ml/min. Where there is other major severe organ failure the possibility of combined organ transplantation may need to be considered (for example heart/kidney). It is the group's policy that suitable patients who meet the patient selection criteria should be offered listing for pre-emptive transplantation once their GFR is < 15ml/min adjusted to body surface area (averaged 24 hour urea and creatinine clearance, or alternative satisfactory isotope method).

Following referral to the ARTG the transplant coordinator should ensure that all necessary investigations and assessments have been completed. They should arrange for an assessment by a renal transplant surgeon, nephrologist and coordinator in preparation for presentation to the ARTG selection meeting.

Patients, particularly those with an identified live donor, should be considered for transplantation prior to the institution of dialysis. For this to occur, the need for dialysis must be imminent and/or the nature of the underlying disease process sufficiently well-defined to ensure the continued deterioration of renal function will ensue. As a guideline, a GFR < 15ml/min adjusted for body surface area (measured as above) would be sufficient to allow pre-emptive transplantation.

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3. Evaluation of potential renal transplant recipient

- Clinical evaluation/examination by a nephrologist
- Full medical history to be available including detailed problem list and previous transplant history

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4. Refer to renal transplant recipient coordinator

a) Blood tests

- Full blood count
- ABO blood group
- Electrolytes
- Liver function tests
- Plasma glucose
- Lipids
- Serology for CMV, Hepatitis B and Hepatitis C, HIV, EBV
- Serum protein electrophoresis/immunoglobulins

If patient has any history of thrombosis, a thrombophilia screen is organised. If the patient has SLE then anti-phospholipid antibodies and lupus anti-coagulant are measured.

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b) Urine tests

- MSU for cells and culture

Renal (transplant) biopsy (nephrectomy) histopathology results if available.

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c) Stool tests

All patients from high prevalence areas (tropical areas) should have stool samples for e.g. Strongyloides. Positive results require treatment and clearance before acceptance for transplantation.

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d) Urological tests

- Patients with a history of genitourinary abnormalities will require a complete evaluation. Referral to an urologist should occur
- Type 1 diabetes – residual urine volume measurement
- Males > 50 years only: Prostate specific antigen and referral to Urology if indicated. (Or if family history of prostate cancer in 2 or more first degree relatives). Repeat 2 yearly

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e) Pulmonary studies

- Chest x-ray
- Respiratory function tests, if indicated

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f) Cardiac studies

Following ECG and cardiac history assessment, patients are subdivided into two risk groups:

i. Low risk must satisfy all these criteria

- Male less than 45, female less than 55
- Non-diabetic
- No history or symptoms of coronary artery disease or congestive heart failure
- Normal ECG
- Normal cardiac examination
- Patients in the low risk category can be accepted for renal transplantation without any further investigation (i.e. echocardiogram not needed)

ii. Intermediate and high risk

- Prior history of ischaemic heart disease (IHD)
- All males > or = to 45, or females > or = 55
- Premature ischaemic heart disease (age < 60) in a first degree relative
- Current or recent cigarette smoking (> 5 years duration)
- Diabetes
- Known severe left ventricular hypertrophy
- History of congestive heart failure or impaired LV function
- Prolonged history of renal disease or on dialysis > 2 years (including re-transplants)
- Patients in these categories are to be referred for echocardiogram and a provocative cardiac stress test. Subsequent management would depend on the outcome of these studies:
    - 3 vessel disease (> 70%) or left main stem equivalent require revascularisation before acceptance onto list
    - Asymptomatic patients with 1 or 2 vessel disease (or 3 vessel disease < 70%) require optimal medical management (and discussion with a cardiologist) and could be accepted onto the list
- Patients with known IHD, previous cardiac surgery, or significant valvular disease should be referred directly to Cardiology for an opinion
- Where cardiac screening is satisfactory at listing then repeat testing is needed **only** in:
    - Diabetes > 50 years (repeat screening at 24 months)
    - Change in ECG (yearly ECG required)
    - New onset or worsening S x S

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g) Dental referral

All potential recipients require a report from a dentist regarding transplant-related dental issues (see associated ADHB documents section for dental referral letter)

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h) Women's health issues

Breast

- All women to have a breast examination
- Women over 45 to have a mammography, in line with the national screening recommendations
- Women who have been sexually active
- Prior to listing for transplantation, cervical smears should be performed one to three yearly in line with the national recommendation. This is usually done by the GP
- Women who have had a total hysterectomy for non-malignant reasons do not require a cervical smear

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i) Psychological assessment

All potential live donor recipients require a psychiatric assessment prior to final listing.

In other cases, this should initially be undertaken by the referring nephrologist in association with the transplant coordinator and social worker. Issues to be identified include substance abuse, major psychiatric disorders, history of major non-compliance and cognitive dysfunction. Psychiatric referral will occur based on this assessment.

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j) GI disease

Patients with active bowel disease need treatment prior to acceptance on to the transplant list.

Upper GI endoscopy should be undertaken in patients with active signs or symptoms of peptic ulcer disease.

Those with a history of cholecystitis should have an ultrasound to identify the presence of cholelithiasis and be considered for cholecystectomy.

Diabetics should be screened by ultrasound for cholelithiasis and offered a pre-transplant cholecystectomy if gallstones are found.

Patients with a history of diverticulitis should have screening studies (barium enema or colonoscopy) with consideration for elective partial colectomy prior to transplant.

Patients with a history of ulcerative colitis of more than 10 years or a family history of polyposis or more than one first degree relative with carcinoma of the colon should also have a colonoscopy.

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k) Severe secondary (tertiary) hyperparathyroidism

Parathyroidectomy should be undertaken for renal transplant candidates who have failed medical management (Parathyroid hormone level > 100 pmol/l) and/or have severe persistent complications of hyperparathyroidism (refractory hypercalcaemia, refractory hyperphosphataemia, severe intractable pruritis and calciphylaxis).

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l) Tuberculosis

Patients at high risk of tuberculosis (immigrants from Pacific, African and Asian countries) should be screened clinically (chest x-ray) with Quantiferon Gold.

Patients with active Tb must have this treated prior to listing.

Patients with latent Tb require a 9 month course of isoniazid and pyridoxine; this should be instituted prior to transplantation, but is not a barrier to listing (see associated ADHB documents section).

All such patients should be notified to Public Health officials.

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m) Vascular disease

Where there is a history of claudication or other evidence of peripheral vascular disease, lower limb vascular imaging should be performed and the patient referred to a vascular surgeon.

Previous multiple (two or more) transplants – require appropriate vascular imaging.

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n) Malignancy

Patients with malignancy are not eligible for transplantation until they are demonstrated to be disease free for an appropriate time period. There are guidelines to assist in this determination published by the American and European Transplant Associations, CARI etc.

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o) Body mass index (BMI)

The BMI must be less than 40

p) NZ co-morbidity score

The referring DHB need to ensure that the NZ Co-Morbidity score has been calculated and is available at review and presentation.

5. Transplant surgeon referral

All patients should be reviewed by a renal transplant surgeon prior to presentation.

Presentation and activation for transplantation by the nephrologist and the transplant surgeon should be made at the combined renal transplant meeting.

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6. Transplant waiting list

Once activated on transplant waiting list:

- HLA typing, Anti – HLA antibody determination – LUMINEX screening and specificities. Coordinators inform tissue typing laboratory of previous transplants (including non-renal)
- Tissue typing laboratory to be notified by the renal transplant recipient coordinator (RTRC) of patients accepted for transplant
- Completed CR3777 Evaluation form (see associated ADHB documents section) to be placed in contact folder on transplant ward (71)
- Evaluation form to include full formally reported results of the transplant assessment and contact numbers
- The recipient should be made aware that the contact persons will be told that the recipient is required for a renal transplant if contacted
- All activated patients must be represented every two years by the ARTG to confirm their ongoing suitability as transplant candidates. In some cases annual review will occur (e.g. all diabetics)
- A full formal review is required after 4 years
- All activated patients must provide monthly serum for deceased donor cross matching
- Where events occur rendering a patient temporarily unsuitable for transplantation, such events must be notified by the supervising nephrologist to the ARTG, to enable the patient to be suspended. The patients should be informed this has occurred. Once the condition has resolved further notification will lead to reactivation
- The patients continue to accrue waiting time points while suspended

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7. Supporting evidence

A Report of the Amsterdam Forum on the Care of the Live Kidney Donor: Data and Medical Guidelines. *Transplantation* 2005; 79: S53-S66

A Report of the Lisbon Conference on the Care of the Kidney Transplant Recipient. *Transplantation* 2007; 83: S1-S22

KDIGO clinical practice guideline for the care of kidney transplant recipients. *Am J Transplant* 2009; 9: 1. Full text available http://tts.org/clinical_practice_guidelines/pdf/TxpGL_publVersion.pdf.

TSANZ – Organ transplantation from deceased donors: Consensus statement on eligibility criteria and allocation protocols. Full text available http://www.tsanz.com.au/downloads/201123June-TSANZConsensusStatementVs1.1.pdf

Adaptation of KDIGO Guideline for the care of Kidney Transplant Recipients – Caring for Australasians with Renal Impairment (CARI) guideline. *Nephrology* 2012; 17: 204-214. Full text available http://www.cari.org.au/trans_kdigo_adaptation_care.php

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8. Associated ADHB documents

Renal Transplant Adult Live Donor
Renal Transplant Adult Recipient: ABO Incompatible Live Donor
Renal Transplant Adult Recipient: Admission
Renal Transplant Adult Recipient: Anaesthesia & Surgery
Renal Transplant Adult Recipient: Post-Op Care in DCCM
Renal Transplant Adult Recipient: Post-Op Care on Ward
Renal Transplant Adult Recipient: Post-Discharge Care

Supporting documents

Renal Transplant Adult Recipient: Dental Referral Letter
Renal Transplant Adult Recipient: Evaluation Form (CR3777)

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9. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this ADHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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10. Corrections and amendments

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Dysphagia in Children Post Traumatic Brain Injury (TBI)

Unique Identifier	PP2080/SLT-Paed/003 – v02.00
Document Type	Clinical Guideline
Risk of non-compliance	may result in a small degree of harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board Child Health Any paediatric department with children with an acquired traumatic brain injury Paediatric patients with acquired brain injury Speech language therapists Swallowing, aspiration, paediatric
Keywords	n/a
Author	Speech Language Therapist - Paediatric
Authorisation • Owner • Delegate / Issuer	 Professional Leader – Speech Language Therapy Professional Leader – Speech Language Therapy
Edited by	Clinical Policy Facilitator
First issued	01 March 2014
This version issued	29 November 2018 - reviewed
Review frequency	3 yearly

Contents

1. Purpose of guideline

The purpose of this guideline is to facilitate the safe and effective care of a patient by allowing for early identification and routine assessment of children at risk of swallowing problems following an acquired traumatic brain injury within Auckland District Health Board (Auckland DHB).

2. Guideline management principles and goals

The principles of this guideline are:

- To identify a child at risk of dysphagia following TBI
- To make targeted, timely referrals to the SLT team for assessment of swallowing
- To develop a sensitive and specific care pathway to ensure a child at risk of dysphagia is not missed

3. Definitions

The following terms are used within this guideline:

SLT	Speech-language therapist Speech-language therapy
TBI	Traumatic brain injury
RLACS	Ranchos Los Amigos Cognitive Scale
GCS	Glasgow Coma Scale
Dysphagia	Swallowing difficulty

4. Risk factor for dysphagia following TBI

- Moderate (GCS 9-12) – severe (<9)TBI
- Ventilation requirement >1.5 days

5. Procedure

a. A paediatric patient with a moderate – severe TBI who required ventilation for more than 1.5 days should be referred to the paediatric SLT team prior to commencing oral intake;

b. The SLT should complete a clinical feeding evaluation once the following criteria have been met:
   - Stable respiratory system
   - Ability to maintain an alert, responsive state for >10 minutes
   - Ability to tolerate an upright position for >10 minutes
   - Cognitive score >4 on RLACS
   - GCS >11

c. A paediatric patient with a mild TBI and/or ventilation requirement of <1.5 days should be commenced on oral intake as appropriate. A referral to SLT should be made if any of the following signs of difficulty are noted during eating and/or drinking:
    - Coughing/choking
    - Changes to breath sounds and/or vocal quality
    - Prolonged mealtimes
    - Food falling out of mouth

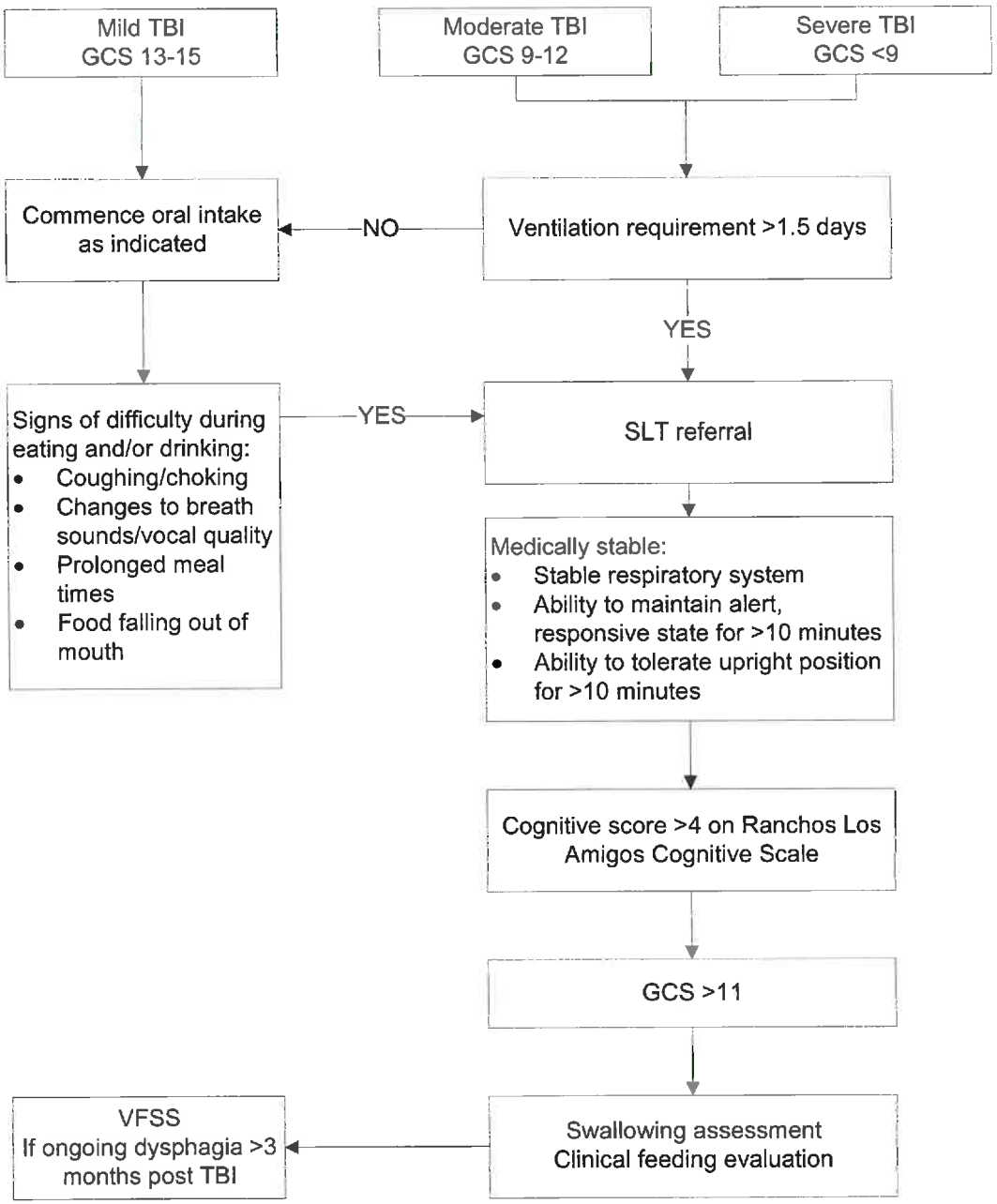
The SLT should explain the assessment process to the child/family and gain informed consent from the primary caregiver (if present).

The SLT should complete a bedside evaluation of the patient's swallowing using a range of different food and drink as deemed appropriate.

Following the clinical assessment the SLT should document the findings in the clinical notes and liaise with the appropriate staff regarding the recommendations eg neurosurgical team, nursing staff, dietitian.

The SLT/nursing staff should update the whiteboard and inform the kitchen of the required diet as per the SLT recommendations.

6. Speech-language therapy care pathway



7. Supporting evidence

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8. Associated documents

- Documentation – Allied Health
- Hand Hygiene
- Informed Consent

9. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

10. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.

Falls in Adults – Allied Health

Unique Identifier	PP2080/INT-Adult/006
Document Type	Clinical Guideline
Risk of non-compliance	may result in significant harm to the patient/DHB
Function	Clinical Practice, Patient Care
User Group(s) • Organisation(s) • Directorate(s) • Department(s) • Used for which patients? • Used by which staff? • Excluded	Auckland DHB only Auckland District Health Board All directorates (excluding Child Health) All Adult Inpatient departments, services and units All Adult Inpatients Physiotherapists and Occupational Therapists (excluding Child Health) Child Health
Keywords	N/A
Author	Physiotherapist Allied Health
Authorisation • Owner • Delegate / Issuer	 Chief Health Professions Officer Service Clinical Director - Allied Health
Edited by	Document Control
First issued	Yet to be determined
This version issued	11 May 2020 – updated
Review frequency	3 yearly

Contents

1. Introduction

1.1 Scope

For patients that present to Auckland City Hospital with falls and/or who have a history of recurrent falls and/or patients assessed as being at risk of falls.

1.2 Objective

This guideline is to:

- Ensure consistent, high quality inter-disciplinary management.
- Ensure patients are appropriately assessed.
- Implement individualised targeted intervention and onward referral.

1.3 Definition: 'Fall'

A fall is defined as 'an event which results in a person coming to rest inadvertently on the ground or floor or other lower level (WHO, 2018).

1.4 Responsibility

- New Zealand Registered Physiotherapist (NZRPT)
- New Zealand Registered Occupational Therapist (NZROT)
- Occupational Therapy and Physiotherapy students under supervision

2. Guideline

2.1 Assessment

A comprehensive evaluation will be carried out to improve safety both in the hospital environment and after discharge.

Assessment process will include:

- Identification of falls history.
- History of recent fall circumstances.
- Current mobility levels and transfers including: gait, balance, and lower limb joint range of motion. This should include the appropriate outcome measure and/or objective assessment for gait and balance.
- Basic neurological function including muscle strength, sensation and proprioception.
- Footwear.
- Seating.
- Persons perceived functional ability and fear related to falling. The Modified Falls Self Efficacy Scale CR6649 and the Short Falls Efficacy Scale (International) CR6683 are available (see Associated documents).
- Identify cognitive/behavioural problems over a 24-hour period, consider using the Better Brain Care Pathway (see Associated documents).
- Number and type of medications.
- Acute or chronic medical problems, e.g. syncope, delirium.
- Vision.
- Urinary incontinence/frequency/urgency.

- Previous and current occupational performance inclusive of self-cares, productivity and functional mobility.
- Identification of home environmental hazard/risk, consider using the "ACC Love Your Independence" booklet and associated checklist.
- As appropriate the whānau/family/carers' perception of the patient's functional ability.

2.2 Intervention

People with recurrent falls or assessed as being at an increased risk of falling should be considered for an individualised multifactorial programme. Multifactorial interventions include a combination of the following as appropriate for each patient from their individual assessment:

- Provide consistent explanations about individual risk factors for falling including the level of assistance recommended to mobilise.
- Supply appropriate colour mobility wristband.
- Education on how to use the call bell if appropriate and to wait for assistance after ringing the call bell.
- Explain hospital specific falls risk factors and systematically identify and address inpatient environment falls hazards.
- Education about use and risk of bed rails.
- Discussion around what changes the person is willing to make to reduce their risk of falling.
- Falls prevention education, including verbal and/or written information for the patient and/or whānau/family/carers (available in languages other than English if required). Consider using the ACC 'Love Your Independence' publication.
- Gait training and advice on the use of appropriate aids.
- Exercise programmes with individually prescribed strength and balance training.
- Review of ability to get off the floor and appropriate training around this, including the need for a personal alarm and how to source one.
- Advice/provision of suitable footwear.
- Recommendation on how to safely perform activities appropriate to their roles and/or previous level of occupational performance.
- Home hazard assessment and modification recommendations in order to reduce falls which may be due to home hazards and encouraging whānau/family/carers to implement recommendations. Consider using the ACC 'Home Hazard Checklist'.
- Provision and training of adaptive equipment identified to safely access their environment and complete their daily occupational performance.
- Community referral options for exercise and balance training and occupational therapy services as required.
- Liaison with medical team for referral on to the community for medication review and to address visual impairments including referral to ophthalmology and the Blind Foundation.
- As appropriate whānau/family/carers should be involved with all aspects of the above to encourage patient understanding and compliance.

3. Supporting evidence

- American Geriatrics Society, British Geriatrics Society, and American Academy of Orthopaedic Surgeons Panel on Falls Prevention. (2001). *Guideline for the prevention of falls in older persons. Journal of the American Geriatrics Society, 49*(5), 664-672.
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- WHO. (2018). Falls Fact Sheet No. 344. Downloaded from http://www.who.int/mediacentre/factsheets/fs344/en/, 16 January 2018

4. Associated documents

Allied Health Policy (Physiotherapy)

- Mobility Assessment - Adult
- Neurological Assessments of Adults by Physiotherapists

Allied Health Policy (Occupational Therapy)

- Equipment Issue - Non-Resident Patients
- Home Visit Assessment -Allied Health

Allied Health Policy (Interdisciplinary Practice)

- Documentation

Board Policies

- Falls in Adults
- Restraint Minimisation & Safe Practice for Patients
- Tikanga Best Practice

Board Pathways

- Better Brain Care Pathway
- Behaviours of Concern Pathway

Clinical Forms (available on Allied Health Operations website)

- CR6562 Berg Balance Scale
- CR6649 Modified Falls Self Efficacy Scale
- CR8836 Occupational Therapy Initial Interview
- DD3240 Occupational Therapy Quick Form
- CR6683 Short Falls Efficacy Scale (International)
- CR6560 Timed Up & Go
- CR6682 Tinetti Balance Assessment Tool

Other Forms

- ACC 'Standing up to falls' & associated checklist

5. Disclaimer

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6. Corrections and amendments

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Neurological Assessments of Adults by Physiotherapists

Overview

Document Type	Guideline
Function(s)	Clinical Practice, Patient Care
Directorates	Allied Health
Department(s) affected	Physiotherapy
Patients affected	Adult physiotherapy patients
Staff members affected	Physiotherapists
Key words	n/a
Author – role only	Physiotherapy Practice Supervisor
Owner (see ownership structure)	Owner: Professional Leader – Physiotherapy Issuer: Professional Leader – Physiotherapy
Edited by	Clinical Policy Advisor
Date first published	July 2007
Date this version published	January 2017 – reviewed
Review frequency	3 yearly
Unique Identifier	PP2080/PT-Adult/012 – v04.00

Objective

- To provide a guideline for neurological assessments
- Prepare for treatment

Responsibility

New Zealand Registered Physiotherapist

Scope

- Physiotherapy assessment of patients with neurological conditions
- This assessment is intended as a guideline only. Relevant parts of the assessment may be selected as appropriate

Continued on next page

Neurological Assessments of Adults by Physiotherapists

Overview, Continued

Associated Documents

The table below indicates other documents and sources associated with this guideline

Type	Document Titles
ADHB policies and guidelines	• Neurosurgical - Adult - Physiotherapy • Respiratory Assessment - Paed - Physiotherapy • Documentation – Allied Health
Forms	• Neurological Physiotherapy Assessment CR6602 • Physiotherapy Neurological Assessment – Rehab Plus CR6634
Neurological Assessment Website	www.neuroexam.com
Physiotherapy	• NZSP Standards of Physiotherapy Practice (4th Ed, Nov 2008) • NZSP Outcome Measures and treatment Justification Document (April 2008)

Cautions

Informed consent is obtained from the patient or their family.

Neurological Assessments of Adults by Physiotherapists

Definitions

Definitions

The following terms are used within this guideline.

Term	Definition
CT	Computerised Tomography
CXR	Chest x-ray
EMG	Electromyography
FIM	Functional independence measure
RR	Respiratory rate
GCS	Glasgow coma scale
MRI	Magnetic resonance imaging
OT	Occupational therapist
PT	• Physiotherapy • Physiotherapist
PTA	Post traumatic amnesia
HR	Heart rate
SLT	Speech language therapist
SpO_2	Oxygen saturation

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment

Recommended Best Practice

Follow the stages below to effectively carry out a physiotherapy neurological assessment.

Stage	Description
Subjective from patient and notes (Edwards 2002)	History of current event – mode of onset, date of onset Investigations e.g. CT, MRI, X-rays, EMG, angiography (SAH), blood tests, nerve conduction studies Note other assessment findings e.g. Westmead PTA score (for TBI), medical/nursing (e.g. continence)/SLT (e.g. consistency of diet)/OT assessments, Mini Mental Score Past medical history – particularly previous neurological events, respiratory conditions, musculoskeletal conditions, cardiac conditions, chronic illnesses Pain – at rest/on movement, aggravating/easing, severity Medications – particularly cardiac medication, respiratory medication, hypotensives/hypertensives, anticoagulants/antithrombotics, parkinsonian drugs, antispasmodics, analgesia Previous level of mobility/function dominant side, past physiotherapy treatment and response Social history – family/whānau situation, home environment, occupation, culture, leisure interests, previous social supports (if any) i.e. district nurse, home help

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Subjective from patient and notes (cont)	**Patient/relatives goal** • What do you consider your main problem to be at the moment? • What would you like to achieve? (long and short term as appropriate)
Objective (Edwards 2002, Lindsay et al 1991)	**Observations** • General appearance; facial symmetry • Skin integrity/oedema • Blood pressure, HR • GCS • Temperature • SpO_2, RR **Communication** • Expressive/receptive language difficulties • Dysarthria • Voice quality - phonation/festination • Following 1 or 2 step commands? **Cognitive Status** • Attention, orientation, cooperation, insight • Behaviour, motivation, disinhibition, impulsiveness • Mood/emotional lability • Memory **Sensory Considerations** • Hearing • Vision e.g. hemianopia, diplopia • Vestibular function: vertigo, dizziness, unsteady

Continued on next page

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Objective (continued)	**Range of movement, muscle tone and strength** • Neck/trunk/pelvis/upper and lower limbs • Passive/active • Position movement tested in • Factors affecting movement (e.g. tone, pain swelling) • Strength through range - use oxford scale as appropriate • Endurance • Quality of movement/selectivity of movement/patterns of movement • Involuntary movements – tremor, clonus, associated reactions • Tone: spasticity, flaccidity, spasms, rigidity (cogwheel, lead pipe) - use Modified Ashworth Scale or Tardieu Scale as appropriate **Sensation/proprioception** • Pain, temperature • Light touch, including 2 point discrimination, localization, and monofilaments as appropriate • Vibration • Stereognosis • Sensory extinction/inattention • Proprioception - joint position sense, thumb finding **Coordination** • Dysdiadochokinesia (rapid alternative movement) • Finger-nose test • Heel-shin/foot tapping • Dysynergia

Continued on next page

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Objective (continued)	**Perception** • Neglect/inattention – type • Right/left discrimination • Body and spatial awareness **Function** • Consider: level/type of assistance required, movement analysis (e.g. selectivity, control, bradykinesias), endurance/exercise tolerance, outcome measures • Apraxia – dressing, ideomotor **Upper/lower limb function** • Function or non-functional use • Reach grasp and fine motor control/dexterity • Complications (pain, subluxation, swelling) • Use of splints? Established splinting regime? **Bed mobility** • Rolling, bridging, moving up the bed, lying to sitting and sitting to lying **Sitting and trunk control** • Supported/unsupported, surface, length of time • Posture/acceptance of base of support/alignment, head control • Midline orientation • Dynamic sitting balance, function in sitting • Seating assessment **Standing** • Base of support, posture, alignment, sit to stand, stand to sit • Length of standing, dynamic balance

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Objective (continued)	**Transfers** • Type of transfer (consider: bed to chair/wheelchair/commode, wheelchair/commode to chair, wheelchair/commode to toilet, and wheelchair to car, and vice versa) • Safety awareness • Aids used e.g. sliding board, frame, standing hoist, full hoist **Gait and stairs** • Aids/assistance • Postural control, base of support, symmetry, swing and stance phase • Distance, speed • Automatic, effortful • Level of prompting • Ability to run • Outdoor mobility/obstacles (curbs, escalators, lifts, automatic doors, slopes and uneven surfaces, road safety awareness) (Shumway-Cook et al 2002) • Dual tasks – cognitive, physical (Silsupadol et al, 2006) • Stairs – technique, rail, aid used **Mobility in wheelchair** • Attendant pushed, self propelled, electric • Established sitting tolerance, pressure relief
Problem List	Should consider body structure and function, activity and participation (using ICF framework)

Continued on next page

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Goals & Outcome Measures	Goal setting is an integral part of all physiotherapy management, and where possible should actively involve the patient and/or family (Physiotherapy Board of New Zealand [PBNZ], 2009; New Zealand Society of Physiotherapy [NZSP], 2008) Outcome measures are also an integral part of all physiotherapy management and are used as part of a comprehensive patient assessment and to evaluate the physiotherapy management (PBNZ, 2009; NZSP, 2008) Regular reviews of outcomes, progress and goals should be undertaken with the patient (NZSP, 2008). **Neurological outcome measures – suggestions but not limited to** • Berg Balance Scale (Berg, et al 1995, Berg 1996, Piotrowski, 1994) • BEST Test • Community Balance and Mobility Scale • Tinnetti Balance Score • Brunel Balance Assessment • Functional Reach (Duncan 1990, Weiner 1993) • Trunk Control Test (Colin 1990, Franchignoni et al 1997) • 9 Hole Peg Test • 6 Minute Walk Test • 10m walk (Berg 1996, Friedman et al 1988) • TUAG (Mathias 1986) • Motor Assessment Scale (Carr et al 1985) • Barthel Index (Colin and Wade, 1998)/FIM (Uniform Data Systems for Medical Rehabilitation (1993)

Neurological Assessments of Adults by Physiotherapists

	• Quality of Life Questionnaires- SF36 Health Questionnaire (Ware and Sherbourne (1992), The Nottingham Health Profile (Hune and McKewen et al (1985). • Dynamic gait index • The Chedoke-McMaster Stroke Assessment • HiMAT • ARAT • Rancho Los Amigos

Continued on next page

Neurological Assessments of Adults by Physiotherapists

Neurological Assessment, Continued

Stage	Description
Treatment Plan	This should be patient-centred and based on the problem list and goals. Patient should be reassessed regularly, using outcome measures, to monitor progress.
Documentation	Initial physiotherapy assessment should be documented in the patient's clinical record within 24 hours and updated as assessment and treatment continues, as per the ADHB Documentation policy. Patient centred SMART goals should be clearly documented. Discharge needs/options considered and recommended.

Neurological Assessments of Adults by Physiotherapists

References

Neurological Assessments of Adults by Physiotherapists

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Neurological Assessments of Adults by Physiotherapists

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Neurological Assessments of Adults by Physiotherapists

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ORTHOPAEDIC – ELECTIVE SPINAL – Paed

Overview

Objective

To provide a process for Occupational Therapists (NZAOT) working with children with neuromuscular conditions following spinal fusion surgery at Starship Children's Health.

Responsibility

New Zealand Registered Occupational Therapists. (NZROT)

Frequency

As referred to the NZROT by the Starship orthopaedic service

Associated Documents

The table below indicates other documents associated with this procedure.

Type	Document Title
Other	Starship Occupational Therapy priority guidelines (held in Children's Therapy, Starship)

Definitions

The following terms are used within this document

Term	Definitions
MDT	Multidisciplinary Team
NZROT	New Zealand Registered Occupational Therapist

ORTHOPAEDIC – ELECTIVE SPINAL – Paed

Procedure

Procedure Follow the stages below to complete the Occupational Therapy process for spinal fusion – neuromuscular patients.

Stage	Description
Referrals	The spinal fusion list will be emailed monthly to the designated elective orthopaedic NZROT, by the spinal nurse specialist, for spinal surgeries scheduled for the following month.
Screening	The NZROT will scan the list and identify all children with neuromuscular conditions that will require occupational therapy input.
Pre-operative Assessment	The identified patients will be assessed pre-operatively in conjunction with the allocated physiotherapist, on the day of admission (usually 2.00pm the day before surgery).
Prioritisation	Refer to Starship Occupational Therapy Priority Guidelines
Assessment (Child's strengths & limitations)	Information can be gathered from the patient, their family/whanau, the patient's clinical notes and/or other health professionals, at the pre-admission clinic or on the ward. <u>Using client/ family/ whanau centred practice, the NZROT will assess participation related to:</u> • Environment: Home, school and relevant other environments e.g. community • Occupational Performance: Self-care, school, play, leisure/recreation • Performance Components: Physical, cognitive, affective <u>Other information required:</u> • Type of planned surgery • Date of planned surgery • Previous medical history/other medical conditions • Post operative limitations and movement restrictions (as per surgeon) • Location of home address (especially important if patient is from out of Auckland) • Expected place of discharge (e.g. home, Wilson Centre, other regional hospital) • Other professionals involved including school and community therapists, and wheelchair therapists

ORTHOPAEDIC – ELECTIVE SPINAL – Paed

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ORTHOPAEDIC – ELECTIVE SPINAL – Paed

Procedure, Continued

Stage	Description
Assessment (Child's strengths & limitations), continued	Appropriate resources will be identified: • ACC (if applicable) • Family supports, including cultural supports • School support • Other therapists e.g. Ministry of Education Special Education, Special School/Units, Child Development Team
Goal setting	Collaboratively negotiate goals with client and their family/whanau.
Intervention	Intervention will be based on identified goals related to: • Occupational Performance e.g. mobility, toileting, washing, showering, positioning for play, transfers, return to school / kindergarten. • Occupational Performance components e.g. pain, fatigue, tone, range of motion. Provision of adaptive/assistive equipment for ward or home/school use to enable function to return to previous level in the immediate post-operative period following assessment. Modification of child's own wheelchair to accommodate new position and posture as a result of surgical intervention. Education to client and family/whanau e.g. transfers, positioning. Referral to other agencies: • ACC • Regional hospital and therapists • Relevant Child Development Team • Ministry of Education Special Education & school-based therapists • Relevant Wheelchair and Seating service • Wilson Centre

Behavioural Disturbance - Acute Management

Document Type	Guideline
Function	Clinical Practice, Patient Care
Directorate(s)	Mental Health and Addictions
Department(s) affected	All acute adult mental health - inpatient setting
Applicable for which patients, clients or residents?	Patients admitted to an acute adult mental health unit
Applicable for which staff members?	All clinicians working in the area of acute adult mental health
Key words (not part of title)	Acuphase, intramuscular, agitation, aggression, rapid tranquilisation
Author - role only	Advanced Clinical Pharmacist - Mental Health
Owner (see ownership structure)	Owner: Director – Mental Health Issuer: Clinical Director - Te Whetu Tawera
Edited by	Clinical Policy Advisor
Date first published	22 January 2018
Date this version published	22 January 2018 - issued
Review frequency	3 yearly
Unique Identifier	PP2625/RBP/021 – v01.00

Contents

1. Purpose of guideline

This guideline has been developed primarily to:

- Minimise distress to service users caused by acute behavioural disturbance through an efficient and effective treatment regime
- Assist prescribers and nursing staff members to identify and intervene effectively in the management of acute behavioural disturbance

2. Guideline management principles and goals

There are many underlying reasons for acute behavioural disturbance that may cause potential violence to one self or others. In many situations, the cause may be a complex combination of illness and situational factors. Such situational factors include overcrowding, coercive behaviour, verbal abuse by 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 defuse the situation prior to further escalation.

This guideline focuses primarily on the selection of appropriate medication for the control of acutely disturbed behaviour. Caution should be exercised when using this guideline in medication naïve, older or physically compromised adults. **Seek further medical advice if behavioural disturbance is not due to primary psychiatric causes.**

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.

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

- Reduce psychological suffering
- Reduce the risk of self-harm for the service user
- Reduce harm to others by maintaining a safe environment
- Minimise the harm to the service user
- Return the service user to the least restrictive environment as quickly as possible

There are a variety 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.

3. Definitions

Term/Abbreviation	Description
CNS score	Central Nervous System Score
CVA	Cardio Vascular Assessment
DASA	Dynamic Appraisal of Situational Aggression
ECG	Electro Cardio Gram
EPSE	Extra pyramidal side effects
HCC	Health Care Community - Regional electronic service user clinical record
IM	Intramuscular
MDT	Multi-Disciplinary Team
NMS	Neuroleptic Malignant Syndrome
NRT	Nicotine Replacement Therapy
PO	Oral administration (per os)
PRN	As required
UK	United Kingdom

4. Advance directives

These are collaborative plans agreed between a service user with a history of psychiatric illness and their treating team. These directives involve preferred treatments being specified by the service user and clearly documented in advance of an episode of acutely disturbed behaviour.

If an advance directive has been completed this should be followed in the first instance. If for any reason an advanced directive is not followed, the clinician should fully record this in the clinical notes.

5. Baseline assessment by medical staff

To minimise the need for behaviour disturbance interventions, a review of previous notes and a discussion with the service user should be undertaken soon after admission. This helps identify what circumstances may trigger behavioural disturbance so efforts can be made to minimise these.

It is a priority to consider physical causes eg an acutely confused state, intoxication, head injury, epilepsy, infection or metabolic disturbance. The possibility of hyper or hypoglycaemia must be considered as it requires urgent treatment.

Perform the following assessments (psychosocial and physical) where appropriate to determine the underlying cause(s) of the disturbed behaviour:

- Obtain a history from the service user and close contacts/family/whānau
- Review notes and investigation results in HCC and Concerto (good clinical practice should include metabolic screening)

- Medication history (including history of all medication taken especially during the past 24 hours)
- Physical examination - the following should be assessed according to degree of cooperation:
    - Level of sedation/arousal/facial flushing/pallor
    - Hydration status, blood pressure, pulse, temperature, sweating, respiration rate, stridor, oxygen saturation, capillary blood sugar level
    - Abnormal movements or muscle tone, underlying EPSE, degree and types of movement
    - Identification of previous medication exposure and adverse medication reactions
    - General medical condition, especially including cognitive evaluation for delirium (and performing specific indicated investigations)
    - Evidence of concurrent substance use eg intoxication/withdrawal, pupil size, order baseline toxicology tests
    - Baseline ECG - to assist with prescription choice
    - If the service user is uncooperative, 'across-the-room' observations (noting movement, respiration, facial flushing or pallor, sweating etc.) should be documented in the service users' clinical notes
- Formulation of possible causes (including substance or alcohol use/misuse, stress or emotional triggers, acute psychosis or mania, acute confusion, delirium, organic causes adverse reaction to medication. Non psychiatric conditions which can cause behavioural disturbance (this list is not exhaustive):
    - Hypoglycaemia - diabetes, malnourished, alcoholic
    - Hyperglycaemia - diabetes, patients on clozapine or olanzapine
    - Hypoxia - pneumonia, chronic airway disease
    - Sepsis - systemic sepsis, urinary infection in elderly
    - Cerebral insult - trauma, stroke, seizure, encephalitis, meningitis, tumour
    - Cardiac - arrhythmia, acute coronary syndrome
    - Metabolic disturbance - hyponatremia, hypercalcaemia, thiamine deficiency
    - Withdrawal - alcohol, benzodiazepines
    - Drug effects - steroids, alcohol, prescribed medication and interactions, recreational drugs
    - Organ failure - renal, liver
    - Subtle causes - urinary retention (elderly), faecal impaction (elderly, dual disability service users, service users on clozapine), pain, emotional upset, environmental changes and perioperative.

Any clinically significant abnormality of the baseline examination requires appropriate intervention. Consider obtaining subspecialist advice in complex cases.

A service user's initial subjective experience of treatment is a major predictor of future adherence to treatment. Discussion with the service user by the treating team should:

- Attempt to discuss with the service user the cause of the disturbance and possible ways to address any distress and anger (consider nicotine withdrawal and use of NRT). Close contacts may be able to provide further information

- Attempt to obtain informed consent (even where consent is not obtained, there is an obligation to inform the patient of possible treatment related risks)
- Offer cultural support where appropriate

6. Documentation

Clearly document within the service users' clinical record the following information:

- History, MSE and formulation, risk assessment and management plan
- Clinical rationale for any medication prescribed for acute behavioural disturbance
- Medication prescribed: doses including maximum cumulative doses within a defined period, frequency and indication with clear instructions of when to progress to an alternative medication or route of administration, when more than one PRN medication is charted
- Oral (PO) and intramuscular (IM) medication should be prescribed separately (the joint abbreviation 'PO/ IM' must not be used) because of differences in bioavailability for different formulations of some medicines eg haloperidol has an approximate PO: IM equivalence of 2:1
- What circumstances should prompt further medical review
- Verbal orders should be clearly documented by the prescriber as soon as possible and countersigned within 24 hours
- Whether consent for treatment has been obtained

7. General prescribing and administering information

Before prescribing and administering any medication suggested in this document the medical and nursing staff must:

- Allow for any medication given recently to reach full effect
- Consider any regular doses which are due in the next few hours
- Give consideration to regular depot antipsychotic injections
- Consider factors such as ethnicity, age, gender of the service user to determine the medication dose

Risks associated with the medication:

- **Rather than obtaining a calming effect alone, over-sedation with loss of alertness or even loss of consciousness can occur**
- Polypharmacy within a class of medication should be avoided where possible eg 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.
- Medical risks include cardiac arrhythmias, respiratory depression, hypotension, NMS and EPSE (not exhaustive)
- **There are specific risks associated with the different classes of medication that are used. When combinations are used, risks may be compounded**

These include:

Benzodiazepines	Antipsychotics
• Loss of consciousness • Respiratory depression or arrest • Cardiovascular collapse (in service users on both clozapine and benzodiazepines) • Disinhibition • Dependency during long term use	• Loss of consciousness • Cardiovascular and respiratory collapse • Seizures • Subjective experience of restlessness (akathisia) • Involuntary movements (dyskinesia) • Acute muscular rigidity (dystonia) • NMS • Excessive sedation • EPSE

- **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.**

As required medication

If it is necessary to prescribe a range of medication and administration routes for future use, the prescription should clearly indicate:

- Which medication should be used first line
- Indication
- Maximum dose in 24 hours

Frequent use of PRN medication should prompt a review of regular medication, as this may indicate suboptimal treatment.

The adequacy and effectiveness of the PRN medication prescription should be regularly reviewed, as clinically indicated.

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 multidisciplinary team. The individual's management plan must specify the monitoring required following administration of the PRN medication.

8. Management of acute behavioural disturbance - stepped approach

8.1 Step One: De-escalation (measures that do not involve medication)

Efforts should be made to identify the cause of the behavioural disturbance in the first instance. Where appropriate, review notes for any information regarding what is usually effective for the service user.

Non-medication approaches can include:

- Providing space and support
- Cultural input
- Other techniques i.e. sensory modulation

Outcome

- Document the effect of any interventions tried to de-escalate the service user
- If measures that do not involve medication are unsatisfactory proceed to Step Two (or Step Three, if service user is refusing PO medication)

Before proceeding to the next step, assess the service users' level of agitation using the DASA. The rationale for proceeding to the next step should be clearly documented in the service users' clinical notes.

8.2 Step Two: Oral medication

Consider oral medication if Step One measures have been ineffective:

- Aim to induce a state of calm or light sedation with rapid onset
- Ideally base the treatment choice on previous response to a medication
- Tailor any medical intervention to the clinical situation and monitor effectiveness closely
- Oral therapy generally has a slower onset of action than intramuscular injection (with the exception of lorazepam - see below). Even with oral liquid and dispersible tablets, formulations may take at least two hours to achieve peak effect
- 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 formulation
- Nursing staff should seek Registrar/Consultant advice if unsatisfactory response after two doses of medication or recommended maximum dose in 24 hours has been reached (allow at least 1 - 2 hours for oral medication to work)

Precautions

Assessment and monitoring of service users, especially medication naïve, older adults or the physically compromised, needs to be carefully considered. The assessment will determine the frequency and duration of the monitoring you need to undertake, including:

1. Assess: respiratory rate, temperature, pulse rate, blood pressure, oxygen saturation, hydration, abnormal movements, evidence of intoxication, level of consciousness (CNS Score)
2. Check all medication administered in the past 24 hours
3. Ensure you are able to access oxygen, mechanical ventilation, benzatropine IM and flumazenil IV

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.

In the event of a medical emergency, follow the Early Warning Score (EWS) - Mandatory Escalation Pathway

Oral Benzodiazepines

Benzodiazepines 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 benzodiazepines alone.

Shorter acting benzodiazepines (eg 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, lorazepam PO has a similar speed of onset of sedation to lorazepam IM.

Oral antipsychotics

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:

- A prior good response to antipsychotics
- Behavioural disturbance occurring in the context of psychosis
- A prior poor response to benzodiazepines
- Problematic side effects with benzodiazepines
- Severe respiratory impairment

General principles of antipsychotic use:

- Avoid high doses or cumulative doses of antipsychotics due to the risk of QTc prolongation/cardiac arrhythmias, seizures, EPSE, dystonia or NMS
- Take into account other medication already administered (i.e. watch for interactions, especially concurrent drugs with the potential for QTc prolongation)
- Antipsychotics are **not recommended first line for service users with dementia**. This is due to an increased risk of stroke when antipsychotic drugs of any class are given. 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 agent	Oral dosing information
Lorazepam	• Peak concentration occurs in approximately 2 hours although initial response will occur earlier • Available as tablets **DOSING** **For healthy adults:** • 1 - 4 mg PO, repeat after 2 hours PRN • Usual maximum: 8 mg in 24 hours **For medication naïve, older adults or the physically compromised:** • 0.5 - 1 mg PO, repeat after 2 hours PRN • Usual maximum: 4 mg in 24 hours
Olanzapine	• 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

	DOSING **For healthy adults:** • 5 - 10 mg PO, repeat after 2 - 4 hours PRN • Licensed maximum: 20 mg in 24 hours, however doses up to 30 mg may be used **For medication naïve, older adults or physically compromised:** • 2.5 - 5 mg PO, repeat after 2 - 4 hours PRN • Usual maximum: 10 mg in 24 hours
Haloperidol	• Considered first-choice for the treatment of behavioural disturbances associated with **delirium and intoxication,** in other situations it should be regarded as second choice • Available as a liquid and tablets • High incidence of EPSE (eg dystonia) compared to other antipsychotics • Ensure benzatropine IM is readily available should EPSE occur **DOSING** **For healthy adults:** • 2 - 5 mg PO, repeat after 2 hours PRN • Usual maximum 20 mg in 24 hours **For medication naïve, older adults or physically compromised:** • 0.5 - 1 mg PO, repeat after 2 hours PRN • Usual maximum: 10 mg in 24 hours
Combination	• Combination of PO benzodiazepines and PO antipsychotics - see below

Service user's regularly prescribed antipsychotic medication:

- 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

Combination of oral Benzodiazepines and oral antipsychotics:

- 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 oral antipsychotic results in a synergistic effect and allows lower dosages, or fewer repeat antipsychotic doses to be used
- Combination therapy may be considered first line if the service user has responded well in the past
- Lorazepam (1 - 2 mg) may be combined with the oral antipsychotic of choice (base the dose on recommendations given above, choosing doses at the lower end of the dosage range - always note maximum recommended dosages)

Outcome

- Consider Step Three measures if oral medication is unsatisfactory at controlling acute behavioural disturbance or if oral medication is being refused

⚠ **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.**

8.3 Step Three: Short acting intramuscular medication

Consider short-acting intramuscular therapy if de-escalation measures (Step One) or oral therapy (Step Two) are unsatisfactory or not feasible:

- Aim to rapidly induce a state of calm/light sedation
- Preferred intramuscular agents are benzodiazepines, specifically lorazepam
- Antipsychotics such as olanzapine or haloperidol may also be considered

Intramuscular Benzodiazepines

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 Antipsychotics

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.

Intramuscular agent	Intramuscular dosing information
Lorazepam ⚠ **WARNING:** Do not give within 1 hour of IM olanzapine	• Onset of action is similar to PO lorazepam, as distribution of the medicine is slow (approximately 2 hours to peak effect) • Lorazepam injection is not registered in New Zealand and should be supplied using Section 29 of the Medicines Act (see Legislation) **DOSING** **For healthy adults:** • 1 - 4 mg IM, repeat after 2 hours PRN • Usual maximum: 8 mg in 24 hours **For medication naïve, older adults or the physically compromised:** • 0.5 - 1 mg IM, repeat once after 2 hours PRN • Usual maximum: 4 mg in 24 hours
Olanzapine ⚠ **WARNING:** Do not give within 1 hour of	• Onset of action is approximately 30 minutes • 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.

IM lorazepam	**DOSING** **For healthy adults:** • 5 - 10 mg IM repeat after 2 - 4 hours PRN • Licensed Maximum: 30 mg in 24 hours in (3 injections) - caution with additional PO use **For medication naïve, older adults or the physically compromised:** • 2.5 mg IM, repeat after 2 - 4 hours if needed • Usual maximum: 10 mg in 24 hours
Haloperidol	• Considered first-choice for the treatment of behavioural disturbances associated with **delirium and intoxication,** in other situations it should be regarded as second choice • Onset of action: 30 minutes - 2 hours • Commonly associated with dystonia and other EPSEs • Risk of EPSE is dose related **DOSING** **For healthy adults:** • 2 - 5 mg IM repeat after 1 - 2 hours if needed • Usual IM maximum: 10 mg in 24 hours **For medication naïve, older adults or the physically compromised:** • 0.5 - 1 mg, repeat after 1 - 2 hours if needed • Usual IM maximum: 5 mg in 24 hours

Combination of intramuscular benzodiazepines and intramuscular antipsychotics

Routine co-administration of a benzodiazepine and an antipsychotic medication by the intramuscular route is generally not recommended as the first line treatment.

Co-administration of a benzodiazepine and an antipsychotic by the intramuscular route may be considered for:

- Service users continuing to not respond to a single medication
- Service users who have a documented history of good response to the combination rather than the individual medication
- Service users better suited to low-dose antipsychotic therapy for tolerability reasons, but for whom control is sub-optimal at low doses

Note:

- Do not give olanzapine IM and lorazepam IM simultaneously. There must be at least 1 hour between intramuscular doses due to the risk of;
  - excessive sedation
  - cardio-respiratory depression
  - deaths have been reported

Outcome

- If Step Three measures prove satisfactory at managing acute behavioural disturbance, continue monitoring the service user and DO NOT automatically proceed to Step Four

- Before administering further doses of IM medication the service user must be reassessed using the DASA
- Nursing staff should seek consultant advice if there is an unsatisfactory response after 3 hours
- If the service user starts to accept oral medication this is the preferred route

You MUST consult the clinically responsible psychiatrist (or on call psychiatrist) if:

- Dosages higher than those recommended are considered necessary
- Repeating the intramuscular combination prior to progressing to Step Four (zuclopenthixol acetate IM) is being considered
- Progression to Step Four (zuclopenthixol acetate IM) is being considered
- If you have any clinical concerns related to medication administration within the guideline

In the event that there is any disagreement about whether to proceed with Step Four then consult with the psychiatrist.

8.4 Step Four: Longer acting intramuscular antipsychotic medication

If the patient is not responsive to verbal direction, refusing oral medication and is requiring repeated short-acting intramuscular injections, then the longer-acting intramuscular antipsychotic zuclopenthixol acetate (Clopixol Acuphase®) may be indicated. Zuclopenthixol acetate (Clopixol Acuphase®) IM may be considered in the following situations:

- When reduction of behavioural disturbance has been insufficient over a period of 24 - 48 hours utilising previous stages of the guideline
- Past recorded good response and/or patient choice would favour this option

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

Zuclopenthixol acetate IM (Clopixol Acuphase®) should be prescribed as a STAT dose at a specific time (never prescribed as a PRN option).

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

Dose recommendations for zuclopenthixol acetate (Clopixol Acuphase®) intramuscular administration

- Zuclopenthixol acetate (Clopixol Acuphase®) IM should be prescribed by both generic and brand to reduce the risk of medication errors
- Onset of effect generally takes 2 - 4 hours and levels reach a peak concentration in 24 - 36 hours. The effects may last up to 72 hours
- Dose range: 50 - 150 mg IM STAT, repeated if necessary (preferably at intervals of 48 - 72 hours). In some cases, an additional injection may be required 24 - 48 hours after the first injection
- No more than 400 mg should be given over a 2-week period and the total number of injections should not exceed four. Individual injections should be spaced at least 24 hours apart

The recommended observations and monitoring frequency are outlined in the Clopixol Acuphase® Recording Sheet (see Appendix A). Any deviation from these recommendations requires a well-documented rationale.

If possible, obtain an ECG, and repeat ECG as needed if there is concern about a patient's cardiac status.

Ability to access and use immediately:

- Oxygen or mechanical ventilation if breathing becomes compromised
- Benzatropine IM

The co-administration of benzatropine IM, shorter acting IM antipsychotics or IM benzodiazepines at the same time as zuclopenthixol acetate IM (Clopixol Acuphase®) is not recommended.

Note:
If further help and advice is required regarding this guideline or other medication options contact a mental health pharmacist.

9. Supporting evidence

- Counties Manukau District Health Board. Guideline. (2013). *The Management of Acute Behavioural Disturbance in Adults for CMH Mental Health Services*. Version 1.0.
- Waitemata District Health Board. (September 2015). *Behavioural Disturbances in Adults - Acute Pharmacological Management Guideline*.
- 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*. Retrieved from, https://www.sussexpartnership.nhs.uk/sites/default/files/documents/clopixol_acuphase-guidelines_ver_3.1_-_amended_nov_16.pdf

10. Legislation

- 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
- Seclusion under the Mental Health (Compulsory Assessment and Treatment) Act 1992

11. Associated Auckland DHB documents

- Lorazepam (IM Injection)
- Medication - Administration
- Medications - Controlled drugs and restricted medicines supply

- Observations - Physical - Te Whetu Tawera (TWT)
- Olanzapine Long-Acting Injection
- Restraint Minimisation and Safe Practice in Mental Health
- Seclusion in Mental Health

12. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

13. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or the Clinical Policy Advisor without delay.

14. Appendices

14.1 Appendix A

Clopixol Acuphase® Record of Post-Administration Observations

This form should be completed but all readings should be entered onto the ADHB EWS form.
If there are occasions when close monitoring is not possible or considered inappropriate, this should be clearly documented on the form and in the patient's clinical notes. This form should be retained in the service users' clinical record.

Please Place Patient Sticker

Date and time administered:
Dose:

Time since administration	Time (24hr)	Blood Pressure	Temp	Pulse & Oximeter	Resp Rate	Alertness	Comment	Sign
Example:	0906	✓	✓	✓	✓	✓	Alert, oriented	SN
0 hours (Baseline)								
1 hour								
2 hours								
4 hours								
6 hours								
8 hours								
12 hours								
16 hours								
20 hours								
24 hours								
28 hours								
32 hours								
36 hours								
40 hours								
44 hours								
48 hours								

NB: A further form should be completed for each subsequent dose of Clopixol Acuphase® given.

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14.2 Appendix B

Guideline for the Pharmacological Management of Acute behavioural Disturbance in Adult Inpatient MH Services

Select the intervention that most appropriately meets the needs of the service user and the urgency of the situation. The steps can be used progressively up or down depending on the outcome of the intervention selected. Reduce doses to half or quarter for medication naive, older adults or the physically compromised.

Checklist for All Steps

1. Formulation for causes of disturbance
2. Physical examination
3. Assess; RR, Temp, Pulse Rate, BP, O_2 Sat, hydration, abnormal movements, evidence of intoxication
4. Check all medication administered in the past 24 hours
5. Document your assessment and rationale
6. Ensure you are able to access O_2, mechanical ventilation, benzatropine IM, flumazenil IV
7. Level of agitation/aggression should be carried out by using the DASA rating scale before progressing to another step
8. Review historical response to medication, advanced directives or identified medication plan

Step 1: De-escalation
If good response seen, continue monitoring for maintenance of control. Proceed to another step if these measures are unsatisfactory.

→ Measures amendable to talking down, providing privacy, timeout, cultural input and other techniques i.e. sensory modulation

→
- Continue to monitor routine physical obs
- Use DASA tool to assess level of agitation/aggression

Step 2: Oral Medication
Choose either:
- Lorazepam (preferred)
- OR an oral antipsychotic
- OR a combination

If good response is seen, continue monitoring for maintenance of control.

Seek registrar/SMO advice if control is unsatisfactory.

ONLY proceed to Step 3 if above measures are unsatisfactory or SU is refusing PO medication.

→ **Preferred first option: Oral Benzodiazepine**
- Lorazepam 1 - 4 mg PO repeat after 2 hours prn. Usual max. 8 mg/24 hours.

Alternative option: Oral Antipsychotic
Choose either:
- Olanzapine 5 - 10 mg PO repeat after 2 - 4 hours prn. Usual max. 20 mg/24 hours.
- Haloperidol 2 - 5 mg PO repeat after 2 hours prn. Usual max. 20 mg/24 hours. Utilize haloperidol if delirium suspected

Alternative option: Combination Benzodiazepine + Oral Antipsychotic
- Combine lorazepam (1 - 2 mg) with a PO antipsychotic (choose dose at the lower end of the range)

Seek registrar/SMO advice if 2 doses have been given at least2 hours apart without sufficient effect

→ **For oral medication:**
- It is recommended to monitor alertness, RR, temp, pulse, BP, level of consciousness (CNS score) and O_2 sats at regular intervals until physiologically stable.

For IM short-acting medication
- It is recommended to monitor alertness, RR, temp, pulse, BP, level of consciousness (CNS score), O_2 sats every 15 mins for the first hour and then, at 30 minute intervals until physiologically stable.

For both oral and short-acting IM medication
- Document the intended frequency, duration and rationale for monitoring in the clinical notes
- Use the DASA tool to assess level of agitation/aggression
- ECG should be performed more frequently if higher doses of antipsychotics are used, or if there is concern about a SU's cardiac status

Step 3: Short-Acting IM medication
Choose either:
- Lorazepam (preferred)
- OR an IM antipsychotic
- OR a combination
- Haloperidol is considered 1st choice for the treatment of behavioural disturbances associated with delirium

If good response seen, continue monitoring for maintenance of control. Seek SMO advice if an adequate response within 6 hours is not observed.

→ Choose either:
- Lorazepam 1 - 4 mg IM (preferred), repeat after 2 hours prn. Max. 8 mg/24 hours.
- OR olanzapine 5 - 10 mg IM, repeat after 2 - 4 hours prn. Max. 30 mg/24 hours.
- OR haloperidol 2 - 5 mg IM, repeat after 1 - 2 hours prn. Usual max. 10 mg/24 hours.

Do not give IM olanzapine/ IM lorazepam simultaneously. There must be at least 1 hour between IM doses.

Seek SMO advice if unsatisfactory response after 2 doses or after 3 hours of treatment.

Step 4: Longer-Acting IM Medication
Unsatisfactory response to short-acting IMI or requiring repeated short-acting IMIs

ALWAYS PROCEED WITH CAUTION
- Do not use if sensitive to EPSE
- Do not use if antipsychotic naive
- SMO approval should be obtained

→ Zuclopenthixol acetate (Clopixol Acuphase®) 50 - 150 mg IM (gluteal)

Best practice supports SMO review prior to the administration of further doses. A minimum interval of 24 hours is required between doses.

Maximum cumulative dose is 400 mg over a period of 2 weeks.

→
- Monitor alertness, RR, temp, pulse rate, BP level of consciousness, (CNS score), O_2 sats at regular intervals - see Clopixol Acuphase® Recording Sheet.
- Use DASA tool to assess level of agitation/aggression