Guide to the Pharmacological Management of End of Life (Terminal) Symptoms in Residential Aged Care Residents

Residential Aged Care
Palliative Approach Toolkit

Guide to the Pharmacological Management of End of Life (Terminal) Symptoms in Residential Aged Care Residents

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Disclaimer

This document was produced by the Brisbane South Palliative Care Collaborative as an educational resource and is intended for use by health professionals working in Australian residential aged care. The resource has been prepared to provide information on the use of medications in contributing to optimal symptom management during the terminal phase of a resident's life.

Brisbane South Palliative Care Collaborative has exercised due care in ensuring that information and materials in this resource are based on the available best practice literature or, in the absence of this literature, expert opinion. The information and materials in this resource do not constitute professional advice and should not be relied on as such.

It is beyond the scope of this resource to examine and cover in detail all elements of clinical practice that need to be addressed prior to prescribing medication to manage end of life (terminal) symptoms. Clinical information and materials in this resource do not replace clinical judgement. Individual clinicians and other health professionals remain responsible for:

- Comprehensive assessment of the resident and ensuring the appropriateness and suitability of a particular medication and dosage prior to prescribing or administering the medication.
- Providing care within scope of practice, meeting all legislative requirements and maintaining standards of professional conduct.

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Contents

About this Guide	2
Context	2
Focus	2
Key Features	3
Principles, Responsibilities and Strategies for the Pharmacological Management of End of Life (Terminal) Symptoms	4
Key Principles Guiding Quality Pharmacological Management of End of Life (Terminal) Symptoms	4
Roles and Responsibilities of Residential Aged Care Staff in the Provision of Optimal Symptom Control in the Terminal Phase	4
Strategies to Support Timely Access to Medications in the Terminal Phase	5
Symptom Management Flowcharts	10
Using the Flowcharts	10
Nausea and Vomiting	12
Pain	14
Respiratory Distress	16
Restlessness and Agitation	18
References	20
Glossary	22
Appendix A: Opioid Conversion Chart	23
Appendix B: Additional Resources	24

List of Tables

Table 1: Summary of Australian State and Territory Legislation on the Establishment of Medication Imprest Systems by RACFs	6
Table 2: End of Life (Terminal) Symptom Management Medications for RACFs	8
Table 3: Palliative Care in RACFs: Medications Commonly Used to Manage Symptoms at End of Life	9

List of Figures

Flowchart 1: Pharmacological Management of Nausea and Vomiting for Residents on the RAC EoLCP	12
Flowchart 2: Pharmacological Management of Pain for Residents on the RAC EoLCP	14
Flowchart 3: Pharmacological Management of Respiratory Distress for Residents on the RAC EoLCP	16
Flowchart 4: Pharmacological Management of Restlessness and Agitation for Residents on the RAC EoLCP	18

Good quality end of life (terminal) care can be delivered in a residential aged care facility if staff are adequately trained and resourced. This will mean that residents can remain in familiar surroundings, cared for by staff and with other residents they know, rather than move to the unfamiliar surroundings of an emergency department or hospital ward.[1]

About this Guide

Context

Residents who are dying commonly experience distressing symptoms in the last days and hours of life.[2-4] High quality end of life (terminal) care requires ongoing assessment of the resident and timely use of pharmacological and non-pharmacological strategies to address emerging symptoms. Failure to do so can result in poor resident/family outcomes as well as poor health system outcomes if dying residents are inappropriately transferred to emergency departments/hospital wards.[5,6]

Residential aged care staff responsible for managing/administering medications to control end of life (terminal) symptoms require:

- High level and up-to-date knowledge regarding end of life symptom management and the appropriate uses of palliative care medications.
- Immediate access to these medications in order to relieve symptoms as they occur.[7]
- Locally specific policies and procedures, linked to the continuous quality improvement and risk management programs of their residential aged care facility, to allow safe and effective medication management.[1]

Whereas palliative care may take place over a number months, end of life (terminal) care focuses on the final days or weeks of life.[7]

Symptoms commonly experienced during the terminal phase of life include:

- **Pain**
- **Breathlessness**
- **Anxiety**
- **Agitation and restlessness**
- **Hallucinations**
- **Dysphagia**
- **Nausea**
- **Vomiting**
- **Respiratory secretions**

Focus

This guide has been developed as part of the Residential Aged Care Palliative Approach (PA) Toolkit. It is designed:

1. For use by clinical teams providing end of life (terminal) care in residential aged care settings. This includes residential aged care staff (e.g. clinical managers, registered and enrolled nurses) as well as medical officers and nurse practitioners.
2. To support the care of residents who have entered the terminal phase of their lives. It is expected that these residents will have been commenced on an end of life care pathway and that their prognosis is limited to days.
3. To supplement information contained in the following PA Toolkit resources:
    - Module 1: Integrating a Palliative Approach
    - Module 2: Key Processes
    - Module 3: Clinical Care
    - Workplace Implementation Guide: Support for Managers, Link Nurses and Palliative Approach Working Parties
    - Educational DVD: How to Use the Residential Aged Care End of Life Care Pathway (RAC EoLCP)
4. To support the delivery of high quality and evidence-based end of life (terminal) care.

The PA Toolkit includes a set of resources which, when used in combination, are designed to assist residential aged care providers to implement a comprehensive and evidence-based approach to care for residents.

Key Features

This guide includes:

1. An overview of key principles guiding quality pharmacological management of end of life (terminal) symptoms.
2. An overview of the roles and responsibilities of residential aged care staff in the provision of optimal symptom control during the terminal phase:
   (a) registered and enrolled nurses; and
   (b) residential aged care managers.
3. A consensus-based list of medications, endorsed by The Australian and New Zealand Society of Palliative Medicine (ANZSPM), suitable for use in residential aged care for the management of terminal symptoms.
4. A table summarising the uses, doses and routes of administration of the medications endorsed by ANZSPM that can be used in the education and training of residential aged care staff.
5. Flowcharts summarising the pharmacological management of four common end of life symptoms within a quality use of medicine framework as set out in the Australian National Medicines Policy and inclusive of local jurisdictional legislative considerations.[8] The four symptoms are:
   - Nausea and vomiting
   - Pain
   - Respiratory distress
   - Restlessness and agitation

Three Forms of Palliative Care

In considering a resident's palliative care needs it is important to distinguish between a palliative approach, specialised palliative service provision, and end of life (terminal) care. Having a clear understanding of the differences between these three forms of palliative care is particularly important for care planning and in clarifying a resident's treatment goals.

Palliative approach

A palliative approach aims to improve quality of life for residents with life-limiting illnesses and their families by reducing their suffering through early identification, assessment and treatment of pain, physical, cultural, psychological, social and spiritual needs. Importantly, this form of palliative care is not restricted to the last days or weeks of a resident's life.

Specialised palliative service provision

This form of palliative care involves referral of a resident's case to a specialist palliative care team. This, however, does not replace a palliative approach to care being provided by the RACF but rather augments it with focused, intermittent, specific input when required. Specialist palliative care teams do not usually take over the care of a resident but instead provide advice on complex issues and support to aged care staff and general practitioners.

End of life (terminal) care

This form of palliative care is appropriate when a resident is in the final days or weeks of life and care decisions may need to be reviewed more frequently. Goals are more sharply focused on a resident's physical, emotional and spiritual comfort and support for the resident's family.

Adapted from Guidelines for a Palliative Approach in Residential Aged Care (2006)[7]

Important:

Whereas palliative care may be appropriate over a longer period, end of life (terminal) care focuses on the final days or week of life.[7] This guide focuses on the medication management of end of life (terminal) symptoms commonly experienced by residents in the last days and hours of life.

Principles, Responsibilities and Strategies for the Pharmacological Management of End of Life (Terminal) Symptoms

Key Principles Guiding Quality Pharmacological Management of End of Life (Terminal) Symptoms

Residents who are in the terminal (or dying) phase are clinically unstable – symptoms can emerge at any time which may require pharmacological intervention. To ensure a good death, residents require proactive pharmacological management.

Key principles underlying this pharmacological management include:

- Medications are prescribed, obtained, charted and administered according to the Australian National Medicines Policy and in accordance with regional jurisdictional requirements and local facility policies and procedures.[1,7,8]
- Knowledge by the resident, or their substitute decision maker if appropriate, that the dying process is occurring and that medication administration may improve the quality of death.[9]
- Consent given by the resident, or their substitute decision maker if appropriate, to receive medications for the treatment of terminal symptoms.[9]
- If a medication is considered necessary, the most appropriate medicine is chosen and used safely and effectively.[9,10]
- Medications are immediately available to ensure optimal symptom control.[1,7,9]
- Charted medication doses are based on frequent assessment of the resident and are appropriate to the severity of the symptom(s). Persistent symptoms are treated with regular doses of medication while as needed doses of medication are charted to cover 'break through' symptoms. Medications are administered by the most reliable route.[9,10]
- Responses to administered medications are charted and adverse reactions noted and notified.[9,10] The Therapeutic Goods Administration encourages reporting of all suspected adverse reactions to prescription, over-the-counter and complementary medicines. Information on how to lodge a report together with the 'blue card' adverse reaction reporting form are available online at www.tga.gov.au/safety/problem-medicines-forms-bluecard.htm
- Action is taken in the event of a medication error occurring - e.g. under- or over-dosing according to local policy and procedure documentation.

Roles and Responsibilities of Residential Aged Care Staff in the Provision of Optimal Symptom Control in the Terminal Phase

a. Registered and enrolled nurses

Nursing staff responsibilities when caring for residents in the last days of life include:

- Recognising when a resident is approaching the terminal phase and organising care strategies including end of life medications to facilitate a peaceful and dignified death.
- Keeping resident/family informed of changes in the resident's condition as well as changes in treatment strategies.
- Requesting that the medical officer or nurse practitioner pre-emptively prescribe and chart medication orders to manage common end of life symptoms.
- Monitoring swallow and, if it deteriorates, requesting oral medication orders be re-charted using an alternative route or ceased if no longer required.
- Regular reassessment of symptoms and the efficacy of administered medication.
- Monitoring for medication side effects.
- Organising medical officer/nurse practitioner review if symptoms are not well managed or if medication is not tolerated.
- Initiating appropriate non-pharmacological strategies to manage symptoms.
- Contacting the medical officer, nurse practitioner or local specialist palliative care service for further advice if symptoms are not responding to treatment.

For detailed information about the assessment of symptoms see Module 3: Clinical Care and the Self Directed Learning Packages in the PA Toolkit.

b. Residential aged care managers

Residential aged care managers are responsible for providing systems, protocols and procedures that support staff in the safe and effective management of medications. This includes, but is not limited to:

- Developing policies and procedures in regards to the management of medications that comply with, for example, relevant Australian and State/Territory legislative requirements, clinical practice and other regulations for specific health professional groups, and Aged Care Accreditation Standards.
- Ensuring that up-to-date evidence-based information on all aspects of medication management is easily accessible within the facility for visiting medical officers and for nursing staff.
- Providing and encouraging ongoing education to all registered and enrolled nurses to ensure that they have the required level of knowledge and competence to appropriately manage medications. This is particularly important in palliative care where high risk medications such as opioids are commonly used.
- Having a quality improvement system in place that evaluates the safe and effective use of medications at end of life.[1,9-11]
- Establishing strategies and related procedures that guarantee timely access to medications in the terminal phase.[11]

This last responsibility is considered in more detail in the following section.

Strategies to Support Timely Access to Medications in the Terminal Phase

Various strategies can be implemented to ensure timely access to medications for the terminal phase. Three examples are listed below:

- Prioritise excellent proactive clinical care as the goal of care. Best practice clinical care involves early recognition of signs and symptoms that indicate the dying process allowing residential aged care staff to pre-emptively organise the prescription, charting and delivery of necessary medications for subsequent administration.
- Development of professional relationships with medical officers, nurse practitioners and local specialist palliative care services that can act as prescribing resources in partnership with community pharmacists who agree to stock and deliver, in a timely fashion, commonly prescribed palliative care drugs for use in the terminal phase. This strategy requires particular consideration of how to ensure timely access to medications after hours, during weekends and over holiday periods.
- Establishment of an on-site medication imprest or emergency stock of palliative drugs according to requirements set out by the Medication Advisory Committee of the residential aged care facility and in accordance with national and jurisdictional regulatory legislation (see box below).

Consider using a combination of these three strategies.

Key Steps for Establishing a Medication Imprest System for Use in End of Life (Terminal) Care of Residents

1. In consultation with the Medication Advisory Committee, develop an organisational policy and related procedures for managing a medication imprest/emergency stock of palliative care drugs.

   Note that individual approvals may be required by RACFs from state regulatory authorities to purchase, store and supply controlled drugs.

2. Investigate and comply with relevant Australian State and Territory legislation regarding the establishment and maintenance of a Medication Imprest System in residential aged care (see Table 1). Each Australian State and Territory has specific legislation concerning obtaining a supply of controlled (Schedule 8) and restricted (Schedule 4) drugs that have not been prescribed for a particular resident.

   Note that imprest supplies cannot be ordered or prescribed under the Pharmaceutical Benefits Scheme (PBS). Such stock must be purchased outside the PBS from a seller authorised under State legislation to supply the goods, including most community pharmacies.

3. Formulate a list of drugs to stock the Medication Imprest System that are commonly used to manage terminal symptoms (see Table 2).

4. Educate staff about the appropriate use of drugs to control common terminal symptoms (see Table 3 which is an educational resource that summarises key pharmacological information relating to each of the drugs listed in Table 2).

Important:

Safe and appropriate administration of medications to manage symptoms commonly experienced by residents at end of life requires a high level of nursing knowledge and skill. Residential aged care providers are responsible for ensuring that appropriately qualified staff are available onsite to administer these medications and evaluate their effectiveness.[8]

Table 1: Summary of Australian State and Territory Legislation on the Establishment of Medication Imprest Systems by Residential Aged Care Facilities (RACFs)

AUSTRALIAN STATE/TERRITORY	LEGISLATIVE REQUIREMENTS	FOR FURTHER INFORMATION
Australian Capital Territory	Legislation in the Australian Capital Territory allows for RACFs to establish a medication imprest system carrying controlled and restricted drugs. The director of nursing in a RACF is required to complete a purchase order that complies with the ACT Medicines, Poisons and Therapeutic Goods Regulation 2008 (Schedule 1, Part 1 (11), p. 235). The specific legislative requirements can be found in: **ACT Medicines, Poisons and Therapeutic Goods Regulation 2008** (Schedule 1, Part 1 (11), p. 235). http://www.legislation.act.gov.au/sl/2008-42/notification.asp	**Pharmaceutical Services** ACT Health Locked Bag 5 Weston ACT 2611 T: 02 6205 1700 E: hps@act.gov.au
New South Wales	Legislation in New South Wales allows for the director of nursing in a RACF to make a written application to the chief pharmacist in the state to establish a medication imprest system containing controlled and restricted drugs. The specific legislative requirements can be found in: **NSW Poisons and Therapeutic Goods Regulation 2008** Subdivision 2: Supply without prescription (47. Supply by pharmacist to nursing homes of stock for emergency use) http://www.legislation.nsw.gov.au/fullhtml/inforce/subordleg+392+2008+FIRST+0+N	**Pharmaceutical Services** NSW Ministry of Health Locked Mail Bag 961 North Sydney NSW 2059 T: 02 9391 9944 E: pharmserv@doh.health.nsw.gov.au
Northern Territory	Legislation in the Northern Territory allows for a Department of Health Emergency Medicines Kit containing controlled and restricted drugs to be used in a RACF. The specific legislative requirements can be found in: **NT Poisons and Dangerous Drug Act 2012** Part VIII: Medical kits (42. Authorisation of poisons in medical kits) http://www.health.nt.gov.au/Environmental_Health/Poisons_Control/index.aspx#Legislation	**Poisons Control** Department of Health Northern Territory PO Box 40596 Casuarina NT 0811 T: 08 8922 7341
Queensland	Legislation in Queensland allows for RACFs to establish a medication imprest system carrying controlled and restricted drugs. The director of nursing in a RACF is required to complete a purchase order that complies with Health (Drugs and Poisons) Regulation 1996 (Part 5: 86) for the drugs to be included in the medication imprest system. The specific legislative requirements can be found in: **Health (Drugs and Poisons) Regulation 1996** http://www.legislation.qld.gov.au/LEGISLTN/CURRENT/H/HealDrAPOR96.pdf **Health (Drugs and Poisons) Regulation 1996: What Nurses Need to Know** http://www.health.qld.gov.au/health_professionals/medicines/	**Drugs and Poisons Policy and Regulation Unit** Environmental Health Branch Health Protection Directorate Queensland Health PO Box 2368 Fortitude Valley BC QLD 4006 T: 07 3328 9310 E: ehu@health.qld.gov.au

Table 1 (cont.): Summary of Australian State and Territory Legislation on the Establishment of Medication Imprest Systems by Residential Aged Care Facilities (RACFs)

AUSTRALIAN STATE/TERRITORY	LEGISLATIVE REQUIREMENTS	FOR FURTHER INFORMATION
South Australia	Legislation in South Australia allows for the director of nursing in a RACF to apply for a special licence to establish a medication imprest system containing controlled and restricted drugs. Information and application forms for this special licence can be obtained at: **Controlled Substance and Licensing** Department of Health PO Box 6, Rundle Mall Adelaide SA 5000 T: 08 8226 7137 E: controlled.substances@health.sa.gov.au The specific legislative requirements can be found in: **SA Controlled Substances (Poisons) Regulations 2011** http://www.legislation.sa.gov.au/LZ/C/R/Controlled%20Substances%20(Poisons)%20Regulations%202011.aspx	**Drugs Labeling and Scheduling** Medicines and Technology Policy and Programs Department of Health PO Box 287, Rundle Mall Adelaide SA 5000 T: 08 8204 1942
Tasmania	Legislation in Tasmania allows for the director of nursing in a RACF to order a supply of necessary imprest drugs including controlled and restricted medications. The specific legislative requirements can be found in: **TAS Poisons Regulations 2008** Division 9: Storage and use of narcotic substances in special circumstances www.austlii.edu.au/au/legis/tas/consol_reg/pr2008230/	**Pharmaceutical Services Branch** Department of Health and Human Services, Tasmania GPO Box 125 Hobart TAS 7001 T: 03 6233 2064 W: www.dhhs.tas.gov.au/psbtas
Victoria	Legislation in Victoria requires that RACFs obtain a Health Services Permit (HSP) to establish a medication imprest system containing controlled and restricted drugs. Information and application forms for a Victorian Health Services Permit (HSP) can be downloaded from: http://www.health.vic.gov.au/dpcs/health.htm	**Drugs and Poisons Regulation** Department of Health GPO Box 4541 Melbourne VIC 3001 T: 1300 364 545 E: dpu@health.vic.gov.au
Western Australia	Legislation in Western Australia allows for the clinical manager in a RACF to apply for a poisons permit which authorises the permit holder to purchase controlled (Schedule 8) and restricted (Schedule 4) drugs. Information and application forms for a poisons permit can be obtained at: **Pharmaceutical Services Branch** PO Box 8172 Perth Business Centre WA 6849 T: 08 9222 6883 http://www.public.health.wa.gov.au/3/1317/2/forms_guidelines_and_information.pm	**Pharmaceutical Services Branch** PO Box 8172 Perth Business Centre WA 6849 T: 08 9222 6883 E: poisons@health.wa.gov.au

Table 2: End of Life (Terminal) Symptom Management Medications for Residential Aged Care Facilities

A consensus-based list of medications, endorsed by The Australian and New Zealand Society of Palliative Medicine (ANZSPM), suitable for use in residential aged care for the management of terminal symptoms

MEDICATION	DOSE	STOCK
Clonazepam drops*	2.5 mg/ml	1 bottle (10 mls)
Fentanyl Citrate injection**	100 mcg/2 ml	10 ampoules
Haloperidol injection	5 mg/ml	10 ampoules
Hydromorphone injection	2 mg/ml	5 ampoules
Hyoscine Butylbromide (Buscopan) injection**	20 mg/ml	5 ampoules
Metoclopramide injection	10 mg/2 ml	10 ampoules
Midazolam injection**	5 mg/ml	10 ampoules
Morphine Sulphate injection	10 mg/ml	5 ampoules

Notes:
* Non-PBS unless for seizure control
** Not on the PBS

ANZSPM

Endorsed by The Australian and New Zealand Society of Palliative Medicine Inc (ANZSPM), July 2013.

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Table 3: Palliative Care in Residential Aged Care Facilities: Medications Commonly Used to Manage Symptoms at End of Life

An educational resource summarising the uses, doses and routes of administration of the medications endorsed by ANZSPM

IMPORTANT: The information presented here is for educational benefit only. It is a general guide to appropriate practice and is subordinate to the clinical judgement of the treating clinician. Much of the content in the table below was obtained from: Palliative Care Expert Group. Therapeutic Guidelines: Palliative Care. Version 3. Melbourne: Therapeutic Guidelines Limited; 2010

DRUG	USUAL DOSE AND FREQUENCY OF ADMINISTRATION RANGE	USUAL ROUTE OF ADMINISTRATION	REASONS FOR USE	COMMENTS
Clonazepam	0.3 to 1 mg, 4 hourly PRN 0.25 to 1 mg, 4 hourly PRN 1 to 4 mg by CSCI over 24 hours	Oral liquid formulation Subcutaneous bolus CSCI	• Anxiety • Prevention / treatment of seizures • Terminal agitation / restlessness • Sedation	• Recommendation: low initial dosing and frequent reassessment • Oral administration: count oral drops onto a spoon prior to putting into mouth. Three drops ≈ 0.3 mg • Oral clonazepam is well absorbed by buccal mucosa • Subcutaneous administration: clonazepam absorbs to PVC so should preferably be given using PVC-free equipment
Fentanyl	25 to 200 mcg, 2 hourly PRN 100 to 800 mcg as CSCI over 24 hours	Subcutaneous bolus CSCI	• Pain • SOB	• Short acting (i.e. effective for 1 to 1.5 hours so may need to be given more frequently than other narcotics) • Equianalgesic dose: 150 mcg fentanyl subcut ≈ 10 mg morphine subcut
Haloperidol	0.5 to 1.5 mg, 12 hourly PRN 1 to 5 mg by CSCI over 24 hours	Subcutaneous bolus CSCI	• Delirium • Psychosis • Terminal agitation / restlessness • Nausea • Vomiting	• Recommendation: low initial dosing and frequent reassessment • Antiemetic doses are lower than antipsychotic doses • Consult specialist palliative care service for more detailed information regarding dosage • Observe for extrapyramidal side effects e.g. akathisia
Hydromorphone	Hydromorphone is 5 times stronger than morphine; **only to be used in consultation with specialist palliative care service**	Subcutaneous bolus CSCI	• Pain • SOB	• Synthetic form of morphine • Potential for medication errors due to confusion with morphine • Equianalgesic dose: 2 mg hydromorphone subcut ≈ 10 mg morphine subcut
Hyoscine Butylbromide	20 mg, 2 to 4 hourly PRN 20 to 60 mg by CSCI over 24 hours	Subcutaneous bolus CSCI	• Respiratory secretions at end of life • Colic	• Most frequently used to treat respiratory secretions. Most effective if given early (i.e. as soon as 'noisy respirations' begin)
Metoclopramide	10 to 20 mg, 6 hourly PRN 10 to 80 mg by CSCI over 24 hours	Subcutaneous bolus CSCI	• Nausea • Vomiting	• Observe for extrapyramidal side effects e.g. akathisia
Midazolam	2.5 to 10 mg, 2 to 4 hourly PRN 5 to 30 mgs by CSCI over 24 hours (occasionally higher doses used)	Subcutaneous or sublingual bolus CSCI	• Anxiety • Seizures • Terminal agitation / restlessness • Sedation	• Rapid onset, short acting benzodiazepine
Morphine Sulphate	2.5 to 20 mg, 2 to 4 hourly PRN 5 to 200 mg by CSCI over 24 hours (theoretically no ceiling dose)	Subcutaneous bolus CSCI	• Pain • SOB	• Not tolerated in residents with poor renal function as can cause confusion, myoclonus and other effects of narcotic toxicity • Equianalgesic dose: 5 mg morphine subcut ≈ 15 mg oral morphine

Note: Subcutaneous infusions are an effective way to give a combination of medications to people who cannot swallow, are nauseated and/or have complex symptoms.

KEY: CSCI continuous subcutaneous infusion | **PRN** as needed by predetermined time | **Subcut** subcutaneous | **SOB** shortness of breath | **PVC** polyvinyl chloride (plastic)

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Symptom Management Flowcharts

Using the Flowcharts

The following flowcharts present a stepwise approach to the use of medications in managing distressing symptoms that are commonly experienced by dying residents in the terminal phase:

- Flowchart 1: Nausea and Vomiting
- Flowchart 2: Pain
- Flowchart 3: Respiratory Distress
- Flowchart 4: Restlessness and Agitation

The flowcharts are intended to assist clinical staff in making best practice and, where possible, evidence-based decisions about the care of residents who are dying and who have been commenced on the Residential Aged Care End of Life Care Pathway (RAC EoLCP).

What is the Residential Aged Care End of Life Care Pathway (RAC EoLCP)?

The RAC EoLCP is a clinical tool developed by the Brisbane South Palliative Care Collaborative (BSPCC) for use by Australian RACFs in documenting and delivering resident-centred end of life (terminal) care.

The RAC EoLCP form:

- Is a consensus-based, best practice guide for providing care during the last days of a resident's life.
- Is made up of five sections which facilitate the comprehensive documentation and delivery of end of life (terminal) care by RACFs.
- Is able to be freely downloaded from: www.health.qld.gov.au/pahospital/services/raceolcp.asp

When implemented in conjunction with a palliative approach framework, the RAC EoLCP has been shown to improve outcomes for dying residents and enhance the quality of end of life (terminal) care provided by RACFs.[6]

Detailed information about the RAC EoLCP is provided in the following PA Toolkit resources:

- Module 2: Key Processes
- Educational DVD: How to Use the Residential Aged Care End of Life Care Pathway (RAC EoLCP)

The flowcharts are a guide only and do not replace good clinical decision-making based on a detailed knowledge of the resident's health history and a comprehensive assessment of the resident's current condition and symptoms. Choice of drug(s) and specific dosage(s) remain the responsibility of the prescribing medical officer or nurse practitioner. Registered and enrolled nurses are responsible for:

(a) regularly assessing symptoms;
(b) administering PRN medications when required;
(c) regularly monitoring and documenting the effectiveness of prescribed drug(s); and
(d) identifying and reporting side effects/adverse drug reactions caused by prescribed medication.

The flowcharts are a guide only and do not replace good clinical decision-making.

Careful monitoring, titration and frequent assessment of medication effectiveness, side effects and adverse reactions are essential.

Each flowchart is accompanied by a brief summary of the current evidence used to inform the recommendations made about the pharmacological management of each symptom. The level of evidence currently available is identified in each summary. High level scientific evidence supporting the pharmacological management of end of life (terminal) symptoms in older people remains limited and, as a result, consensus-based expert opinion about best practice is often relied upon to guide clinical decision-making.

Levels of Evidence

The levels of evidence assigned in this document are those designed by the National Health and Medical Research Council of Australia with the addition of a Level V.[12]

I	Systematic review of all relevant randomised control trials (RCTs)
II	At least one properly designed RCT
III-1	Well designed pseudo-RCTs
III-2	Comparative studies with concurrent non-randomised controls, case control studies or interrupted time series with a control group
III-3	Comparative studies with historical control, two or more single arm studies, or interrupted time series without parallel control group
IV	Case series, either post-test or pre-test and post-test
V	Specialist expert opinion (the opinion of specialists with experience in the field of palliative medicine)

Key points to consider in the pharmacological management of end of life (terminal) symptoms experienced by residents in RACFs* include:

- The resident and/or their substitute decision maker should be aware that the resident is dying and support the use of medications to manage end of life (terminal) symptoms.
- Medications and doses prescribed should be based on careful assessment of the dying resident's condition and symptoms.
- Doses should be proportionate to the severity of symptoms and response to treatment should be regularly reassessed.
- Medications that have minimal therapeutic benefit in the terminal phase of life should be ceased.
- The burden of how medications are given and of potential side effects should be minimised. Palliative care medications at the end of life are usually given via the subcutaneous route, which is generally the least invasive and most reliable route in the dying resident.
- Persistent symptoms require regular rather than PRN (as needed) orders.
- Use of regular medications to manage symptoms does not preclude the need for appropriate breakthrough dose orders. PRN orders should be written for intermittent symptoms and to cover possible breakthrough events for persistent symptoms.
- Anticipatory PRN prescribing for problems which may occur during the dying process is important for good end of life (terminal) care as it will ensure that medications are easily accessible when required.

[*Adapted from CareSearch: Symptom Management at the End of Life[9]]

These points have been used to inform recommendations made in the following set of four flowcharts.

Flowchart 1: Pharmacological Management of Nausea and Vomiting for Residents on the Residential Aged Care End of Life Care Pathway (RAC EoLCP)

SYMPTOMS PRESENT | **Review regularly for symptoms of nausea and vomiting (see RAC EoLCP, Comfort Care Chart, page 5)** | **SYMPTOMS ABSENT**

Administer appropriate medication as currently charted for nausea and vomiting.
Request MO/NP to immediately review current drugs, both regular and PRN orders

Is an antiemetic prescribed?

YES

1. Review current antiemetic and dose:
   - If nausea and vomiting persist, or if resident using regular oral antiemetic and unable to swallow, consider converting to metoclopramide 20 to 30 mg administered by CSCI using a syringe driver over 24 hours
   - Ensure order written for metoclopramide 10 mg subcut PRN q tds
2. If nausea and vomiting persist consider trial of haloperidol 0.5 to 1.5 mg subcut PRN q bd
3. If haloperidol appears to be more effective than metoclopramide in managing nausea and vomiting consider changing to CSCI of haloperidol using a syringe driver over 24 hours
4. Regularly reassess symptom management and continue to administer PRN metoclopramide or PRN haloperidol for breakthrough nausea and vomiting
5. Observe closely for extrapyramidal side effects of metoclopramide/haloperidol e.g. akathisia

NO

1. Write/request medication order for metoclopramide 10 mg subcut PRN q tds
2. Administer PRN metoclopramide
3. Observe closely for extrapyramidal side effects e.g. akathisia
4. Assess effectiveness of administered medication and continue administering as required
5. If greater than 3 doses of PRN metoclopramide required over 24 hours consider commencement of antiemetic using a syringe driver

If greater than 3 doses of PRN metoclopramide 10 mg subcut required over 24 hour period, or if prescribed haloperidol dose ineffective over 24 hour period, request MO/NP review to consider changes in medication and syringe driver orders

Pre-emptively organise medications to manage nausea and vomiting.
Request MO/NP to review current drugs, both regular and PRN orders

Is an antiemetic prescribed?

YES

1. Review current antiemetic and dose:
   - If resident using regular oral antiemetic and unable to swallow, consider converting to metoclopramide 20 to 30 mg administered by CSCI using a syringe driver over 24 hours
   - Ensure order written for metoclopramide 10 mg subcut PRN q tds

NO

1. Write/request order for metoclopramide 10 mg subcut PRN q tds

Even if symptoms absent, continue to review regularly for nausea and vomiting.
If resident experiencing nausea and vomiting refer to the **'Symptoms present'** column

If symptom management remains inadequate despite above interventions contact MO/NP or palliative care service for further advice

KEY: bd twice daily | **B/T** breakthrough | **CSCI** continuous subcutaneous infusion | **MO** Medical Officer | **NP** Nurse Practitioner | **PRN** as needed by predetermined time | **q** every | **Subcut** subcutaneous | **tds** three times per day

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Key messages

- The RAC EoLCP is a consensus-based best practice guide to providing care for residents in the last days of life.
- Pre-emptive prescribing will ensure that in the last days and hours of a resident's life there is no delay in responding to a symptom if it occurs.
- Residents on the RAC EoLCP require 2 hourly symptom assessment. This allows for emergent symptoms to be detected quickly and treated pharmacologically if required. Efficacy of administered medications should be evaluated and documented.
- Always consider non-pharmacological interventions in addition to the pharmacological management of end of life (terminal) symptoms.

For further information

CareSearch: RAC Hub
http://www.caresearch.com.au/caresearch/tabid/2256/Default.aspx

Glare P, Miller J, Nikolova T & Tickoo R (2011), Treating nausea and vomiting in palliative care: a review. Clinical Interventions in Aging, 6, 243-259.

Commonwealth of Australia (2006) Guidelines for a Palliative Approach in Residential Aged Care – Enhanced Version, Canberra.

Palliative Care Expert Group (2010) Therapeutic Guidelines: Palliative Care (Version 3), Melbourne: Therapeutic Guidelines Limited.

Summary of clinical evidence

- Factors contributing to nausea and vomiting in a resident with a life-limiting illness may include but are not limited to: drug toxicity, urinary tract infection, constipation, diseases of the gastrointestinal tract, metabolic and biochemical disturbance and organ failure. Cause(s) of nausea and vomiting in the last days of life may be unidentifiable and multi-factorial.[13 (Level V)]
- Nausea is often under recognised and under treated.[14 (Level I)]
- There is limited evidence to guide the use of antiemetic therapy in the elderly.[13 (Level V)]
- Opioids commonly cause nausea and vomiting. Metoclopramide has been shown to be effective in the management of nausea and vomiting in patients with cancer who are on opioid therapy.[13 (Level V), 14 (Level I), 15 (Level V)]
- Haloperidol can be trialled to manage nausea and vomiting if metoclopramide is ineffective.[13 (Level V), 14 (Level I)]
- Metoclopramide or haloperidol can cause extrapyramidal side effects. These drugs need to be avoided or used with caution in residents with neurodegenerative disorders such as Parkinson's disease.[10 (Level V), 16 (Level V)]
- Subcutaneous infusion of antiemetics delivered via a syringe driver has been shown to be effective in managing persistent symptoms of nausea and vomiting.[16 (Level V)]

Flowchart 2: Pharmacological Management of Pain for Residents on the Residential Aged Care End of Life Care Pathway (RAC EoLCP)

SYMPTOMS PRESENT | **Review regularly for symptoms of pain (see RAC EoLCP, Comfort Care Chart, page 5)** | **SYMPTOMS ABSENT**

SYMPTOMS PRESENT

Administer appropriate medication as currently charted for pain.
Request MO/NP to review immediately current drugs, both regular and PRN orders

YES — **Are regular or PRN opioids prescribed for pain?** — **NO**

1. Review current opioid dose:
   - If resident using regular opioids and unable to swallow consider:
     - converting regular oral opioids to appropriate subcut dose administered by CSCI using a syringe driver over 24 hours (see Opioid Conversion Chart)
     - If pain causing distress and/or if multiple PRN opioids administered in previous 24 hours to manage pain, calculate the total dose of B/T opioids over previous 24 hours and add to syringe driver opioid dose or titrate up the opioid dose administered by syringe driver in previous 24 hours by 30%
   - If opioid patch in situ consider:
     - continuing patch at same dose and giving opioid PRN subcut dose for B/T pain (may require advice from specialist palliative care team to calculate appropriate PRN dose)

   OR
     - converting patch to appropriate subcut opioid dose administered by CSCI using a syringe driver over 24 hours (see Opioid Conversion Chart)
   - Ensure order written for PRN dose. PRN order = 1/12 q 2hrly of total daily subcut dose
2. If pain persists, administer PRN opioid dose
3. Assess effectiveness of administered medication and continue administering opioids as required

1. Write/request opioid order for pain management. Consider:
   - Morphine 2.5 to 5 mg subcut PRN q 2hrly

   OR
   - Fentanyl 25 to 50 mcg subcut PRN q 2hrly

   OR
   - Hydromorphone 0.5 to 1 mg subcut PRN q 2hrly
2. If pain present, administer PRN opioid dose
3. Assess effectiveness of administered medication and continue administering opioids as required

If greater than 3 doses of PRN opioids required for B/T pain over 24 hour period, request MO/NP review to consider changes to medication and syringe driver orders

SYMPTOMS ABSENT

Pre-emptively organise medications to manage pain.
Request MO/NP to review current drugs, both regular and PRN orders

YES — **Are regular or PRN opioids prescribed for pain?** — **NO**

1. Review current opioid dose:
   - If resident using regular oral opioids and unable to swallow, consider converting to appropriate subcut opioid dose administered by CSCI using syringe driver over 24 hours (see Opioid Conversion Chart)
   - If opioid patch in situ consider:
     - continuing patch at same dose

   OR
     - converting patch to appropriate subcut opioid dose administered by CSCI using a syringe driver over 24 hours (see Opioid Conversion Chart)
   - Ensure order written for opioid subcut PRN dose. PRN order = 1/12 q 2hrly of total daily opioid subcut dose
   - If resident only has oral PRN opioid dose change to equivalent dose subcut PRN

1. Write/request opioid order for pain management. Consider:
   - Morphine 2.5 to 5 mg subcut PRN q 2hrly

   OR
   - Fentanyl 25 to 50 mcg subcut PRN q 2hrly

   OR
   - Hydromorphone 0.5 to 1 mg subcut PRN q 2hrly

Even if symptoms absent, continue to review regularly for pain.
If resident experiencing pain refer to the **'Symptoms present'** column

If symptom management remains inadequate despite above interventions contact MO/NP or palliative care service for further advice

KEY: **bd** twice daily | **B/T** breakthrough | **CSCI** continuous subcutaneous infusion | **MO** Medical Officer | **NP** Nurse Practitioner | **PRN** as needed by predetermined time | **q** every | **Subcut** subcutaneous | **tds** three times per day

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Key messages

- The RAC EoLCP is a consensus-based best practice guide to providing care for residents in the last days of life.
- Pre-emptive prescribing will ensure that in the last days and hours of a resident's life there is no delay in responding to a symptom if it occurs.
- Residents on the RAC EoLCP require 2 hourly symptom assessment. This allows for emergent symptoms to be detected quickly and treated pharmacologically if required. Efficacy of administered medications should be evaluated and documented.
- Always consider non-pharmacological interventions in addition to the pharmacological management of end of life (terminal) symptoms.

For further information

CareSearch: RAC Hub
http://www.caresearch.com.au/caresearch/tabid/2256/Default.aspx

Guidelines for LCP Drug Prescribing in Advanced Kidney Disease
http://www.liv.ac.uk/media/livacuk/mcpcil/migrated-files/liverpool-care-pathway/pdfs/National,LCP,Renal,symptom,control,guidelines,%28June,2008%29,%28p.pdf

Pain in Residential Aged Care Facilities: Management Strategies
www.apsoc.org.au/owner/files/9e2c2n.pdf

Residential Aged Care Palliative Approach Toolkit: Module 3 – Clinical Care

National Collaborative Guidelines for Cancer: Opioids in Palliative Care - Safe and Effective Prescribing of Strong Opioids for Pain in Palliative Care of Adults
http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0050722/

Summary of clinical evidence

- Studies indicate that pain is a common problem experienced by elderly people living in RACFs. The prevalence of persistent pain in this population is estimated to be between 49% and 80%.[17 (Level III-2), 18 (Level V)]
- Opioids are effective and generally well tolerated in the elderly. [19 (Level V)]
- Opioid naïve residents requiring opioids to manage pain should be commenced on the lowest opioid dose possible. Careful upward titration minimises the risk of toxicity.[19 (Level I), 20 (Level V)]
- Common side effects of opioid administration include constipation, nausea and vomiting, dizziness and sedation. Most side effects diminish with continued use except for constipation which will persist. A laxative order should be in place to minimise this problem.[10 (Level V)]
- Morphine should be avoided in residents with severe renal failure (eGFR<30) due to the build up of toxic metabolites. Fentanyl has no active metabolites of relevance and has been identified as the opioid that is least likely to cause harm in residents with severe renal impairment when used appropriately.[21 (Level I)]
- To optimise relief of persistent pain, opioids should be administered on an 'around-the-clock' basis according to the duration of action of the prescribed opioid.[10 (Level V)]
- Breakthrough pain occurs commonly in people who are receiving opioids for persistent pain.[22 (Level III-2)] In addition to the regular opioid dose, a PRN breakthrough opioid dose should be prescribed at 1/12th to 1/6th of the 24 hour dose.[10 (Level V)]
- Transdermal opioid patches (buprenorphine and fentanyl) are not suitable to commence in the last days of life. Transdermal opioid patches have a prolonged onset time and therefore rapid, safe dose titration to manage escalating symptoms is not possible.[23 (Level I)]
- When initiating opioids in the last days of life or when oral route is no longer viable, a continuous subcutaneous infusion using a syringe driver is the preferred route of administration.[10 (Level V), 24 (Level V)]

Flowchart 3: Pharmacological Management of Respiratory Distress for Residents on the Residential Aged Care End of Life Care Pathway (RAC EoLCP)

Respiratory distress includes the symptoms of **A. shortness of breath** (observed or reported), **B. associated anxiety** and/or **C. excessive secretions**

SYMPTOMS PRESENT | **Review regularly for symptoms of respiratory distress (see RAC EoLCP, Comfort Care Chart, page 5)** | **SYMPTOMS ABSENT**

SYMPTOMS PRESENT

Administer appropriate medication(s) as currently charted for respiratory distress.
Request MO/NP to review immediately current drugs, both regular and PRN orders

A. Shortness of breath: Are opioids prescribed for any reason?

YES

1. Review current opioid dose:
   - If resident using regular opioids and unable to swallow consider converting regular oral opioids to appropriate subcut dose administered by CSCI using syringe driver over 24 hours
   - If resident very distressed and/or requiring multiple PRN opioids to manage breathlessness, may need higher dose in syringe driver but generally advised not to titrate above 30% of previous daily requirements
   - If opioid patch in situ continue at same dose and administer PRN medication for B/T symptoms

   OR
   - Convert patch to appropriate subcut opioid dose administered by CSCI using a syringe driver (see Opioid Conversion Chart)
   - Ensure order written for PRN dose. PRN order = 1/12 q 2hrly of total daily subcut dose
2. If shortness of breath present administer opioid PRN dose
3. Assess effectiveness of administered medication and continue administering opioids as required

NO

1. Write/request opioid order for shortness of breath. Consider:
   - Morphine 1.5 to 2.5 mg subcut PRN q 2hrly

   OR
   - Fentanyl 25 to 50 mcg subcut PRN q 2hrly

   OR
   - Hydromorphone 0.25 to 0.5 mg subcut PRN q 2hrly
2. If shortness of breath present administer opioid PRN dose
3. Assess effectiveness of administered medication and continue administering opioids as required

B. Associated anxiety: Are benzodiazepines already prescribed to manage anxiety?

YES

1. Review current benzodiazepine dose:
   - If resident using regular benzodiazepine tablets and unable to swallow, consider converting to subcut route via CSCI using syringe driver over 24 hours
   - Ensure order for PRN dose for anxiety
   - If resident only has PRN oral benzodiazepine tablet change to midazolam subcut or clonazepam subcut/oral drops
2. If anxiety present administer PRN dose of benzodiazepine
3. Assess effectiveness of administered medication and continue administering benzodiazepines as required

NO

1. Write/request benzodiazepine order for anxiety and if required administer as soon as possible. Consider:
   - Midazolam 2.5 to 5 mg subcut PRN q 2hrly

   OR
   - Clonazepam 0.25 to 0.5 mg subcut or oral drops PRN 4hrly
2. Assess effectiveness of administered medication and continue administering benzodiazepines as required

C. Excessive secretions: Write/request order for hyoscine butylbromide (Buscopan) 20 mg subcut PRN q 2 to 4hrly and administer if excessive respiratory secretions present

If greater than 3 doses of any PRN medication required over 24 hour period, request MO/NP review to consider changes to medications and syringe driver orders

SYMPTOMS ABSENT

Pre-emptively organise medications to manage respiratory distress.
Request MO/NP to review current drugs, both regular and PRN orders

A. Shortness of breath: Are opioids prescribed for any reason?

YES

1. Review current opioid dose:
   - If resident using regular oral opioids and unable to swallow, consider converting to CSCI using syringe driver over 24 hours
   - Ensure written order for opioid dose PRN for shortness of breath. PRN order = 1/12 q 2hrly of total daily subcut dose
   - If resident only has PRN oral opioid change to subcut PRN

NO

1. Write/request opioid order for shortness of breath. Consider:
   - Morphine 1.5 to 2.5 mg subcut PRN q 2hrly

   OR
   - Fentanyl 25 to 50 mcg subcut PRN q 2hrly

   OR
   - Hydromorphone 0.25 to 0.5 mg subcut PRN q 2hrly

B. Associated anxiety: Are benzodiazepines already prescribed to manage anxiety?

YES

1. Review current benzodiazepine dose:
   - If resident using regular oral benzodiazepine tablets and unable to swallow, consider converting to subcut route via CSCI using syringe driver over 24 hours
   - Ensure order for PRN dose for anxiety
   - If resident only has PRN oral benzodiazepine tablet change to midazolam subcut or clonazepam subcut/oral drops

NO

1. Review need for benzodiazepine order. If required consider:
   - Midazolam 2.5 to 5 mg subcut PRN q 2hrly

   OR
   - Clonazepam 0.25 to 0.5 mg oral drops/subcut PRN 4hrly

C. Excessive secretions: Pre-emptively write/request order for hyoscine butylbromide (Buscopan) 20 mg subcut PRN q 2 to 4hrly to manage excessive respiratory secretions

Even if symptoms absent, continue to review regularly for any emerging symptoms of respiratory distress. If symptoms appear refer to the **'Symptoms present'** column

If symptom management remains inadequate despite above interventions contact MO/NP or palliative care service for further advice

KEY: bd twice daily | **B/T** breakthrough | **CSCI** continuous subcutaneous infusion | **MO** Medical Officer | **NP** Nurse Practitioner | **PRN** as needed by predetermined time | **q** every | **Subcut** subcutaneous | **tds** three times per day

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Key messages

- The RAC EoLCP is a consensus-based best practice guide to providing care for residents in the last days of life.
- Pre-emptive prescribing will ensure that in the last days and hours of life there is no delay in responding to a symptom when it occurs.
- Oral and subcutaneous opioids administered in appropriate doses are safe and effective in managing shortness of breath.
- Residents on the RAC EoLCP require 2 hourly symptom assessment. This allows for emergent symptoms to be detected quickly and treated pharmacologically if required. Efficacy of medication administered should be evaluated and documented.
- Always consider non-pharmacological interventions in addition to the pharmacological management of end of life (terminal) symptoms.

For further information

CareSearch: RAC Hub
http://www.caresearch.com.au/caresearch/tabid/2256/Default.aspx

Commonwealth of Australia (2006) Guidelines for a Palliative Approach in Residential Aged Care – Enhanced Version, Canberra.

Residential Aged Care Palliative Approach Toolkit: Module 3 – Clinical Care

Summary of clinical evidence

- Dyspnoea is a common symptom experienced in advanced disease irrespective of diagnosis. The prevalence and severity can increase over time particularly in the last days of life.[25 [Level I], 26 [Level III-2]]
- Initiate simple measures to reduce dyspnoea such as repositioning the resident, tepid sponge if febrile and air flow across the face using rotating fan or open window.[10 [Level V]]
- There is limited evidence to support the use of oxygen to manage dyspnoea at end of life. Oxygen has not been shown to relieve dyspnoea in non-hypoxic patients.[25 [Level I]] If a resident is hypoxic, oxygen is recommended for provision of short term relief. Oxygen should be continued for residents who have required long term use for the management of breathlessness in chronic respiratory illnesses.[27 [Level 1]]
- Systemic opioids administered in appropriate doses are safe and effective in managing dyspnoea.[28 [Level I]]
- Opioid naïve residents requiring opioids to manage symptoms should be commenced on the lowest opioid dose possible. Careful upward titration minimises the risk of toxicity.[19 [Level I], 20 [Level V]]
- Morphine should be avoided in residents with severe renal failure (eGFR<30) due to the build up of toxic metabolites. Fentanyl has no active metabolites of relevance and has been identified as an opioid that is least likely to cause harm in residents with severe renal impairment when used appropriately.[21 [Level I]]
- Anxiety is often associated with shortness of breath and benzodiazepines are effective in managing this symptom.[25 [Level V], 29 [Level II]]
- Excessive respiratory secretions can be very distressing for the resident and their family. Hyoscine butylbromide (Buscopan) reduces respiratory secretions. It does not cross the blood-brain barrier and therefore does not contribute to drowsiness or delirium.[30 [Level II]]

Flowchart 4: Pharmacological Management of Restlessness and Agitation for Residents on the Residential Aged Care End of Life Care Pathway (RAC EoLCP)

SYMPTOMS PRESENT | **Review regularly for symptoms of restlessness and agitation (see RAC EoLCP, Comfort Care Chart, page 5)** | **SYMPTOMS ABSENT**

SYMPTOMS PRESENT

Administer appropriate medication as currently charted for restlessness and agitation.
Request MO/NP to review immediately current drugs, both regular and PRN orders

A. Anxiety/emotional distress. Is a regular or PRN benzodiazepine prescribed for any reason?

YES

1. Review current benzodiazepine dose:
   - If resident on long term regular benzodiazepine and unable to swallow, requires conversion to CSCI using syringe driver over 24 hours. Consider:
     - Midazolam - usual commencement dose 5 to 10 mg over 24 hours but may need higher dose depending on previous 24 hour dose
     OR
     - Clonazepam – usual commencement dose 1 to 2 mg over 24 hours but may need higher dose depending on previous 24 hour dose
   - Ensure written order for benzodiazepine dose PRN. Consider subcut midazolam or oral or subcut clonazepam
2. Administer PRN benzodiazepine dose
3. Assess effectiveness of administered medication and continue administering benzodiazepines as required
4. If symptoms persist consider use of antipsychotic medication

NO

1. Write/request order for benzodiazepine to manage restlessness and agitation. Consider:
   - Midazolam 2.5 to 5mg subcut PRN q 2hrly
   OR
   - Clonazepam 0.25 to 0.5 mg oral drops or subcut PRN q 4hrly
2. Administer PRN benzodiazepine dose
3. Assess effectiveness of administered medication and continue administering benzodiazepines as required
4. If symptoms persist consider use of antipsychotic medication

B. Delirium. Is an antipsychotic (e.g. risperidone) prescribed for any reason?

YES

1. Review current antipsychotic dose:
   - If resident on long term antipsychotic and unable to swallow, requires conversion to CSCI using syringe driver over 24 hours. Consider:
     - Haloperidol – commencement dose depends upon previous dose and severity of symptoms
   - If resident only has a PRN oral or wafer antipsychotic convert to subcut dose
2. Administer PRN antipsychotic dose
3. Assess effectiveness of administered medication and continue administering as required
4. Observe for extrapyramidal side effects

NO

1. Write/request antipsychotic order for persistent restlessness and agitation. Consider:
   - Haloperidol 0.5 to 1 mg subcut PRN q bd
2. Assess effectiveness of medication and continue administering antipsychotic as required
3. Observe for extrapyramidal side effects

If greater than 3 doses of any PRN medication required for B/T restlessness/agitation over 24 hour period, request MO/NP review to consider changes to medication and syringe driver orders

SYMPTOMS ABSENT

Pre-emptively organise medications to manage restlessness and agitation.
Request MO/NP to review current drugs, both regular and PRN orders

A. Anxiety/emotional distress. Is a regular or PRN benzodiazepine prescribed for any reason?

YES

1. Review current benzodiazepine dose:
   - If resident on long term regular benzodiazepine and unable to swallow, may require conversion to CSCI using syringe driver over 24 hours. Consider:
     - Midazolam - usual commencement dose 5 to 10 mg over 24 hours but may need higher dose depending on previous 24 hour dose
     OR
     - Clonazepam – usual commencement dose 1 to 2 mg over 24 hours but may need higher dose depending on previous 24 hour dose
   - Ensure written order for benzodiazepine dose PRN. Consider: subcut midazolam or oral or subcut clonazepam
   - If resident only has PRN oral benzodiazepine tablet order convert to oral drops or subcut dose

NO

1. Write/request order for benzodiazepine to manage restlessness and agitation. Consider:
   - Midazolam 2.5 to 5 mg subcut PRN q 2hrly
   OR
   - Clonazepam 0.25 to 0.5mg oral drops or subcut PRN q 4hrly

B. Delirium. Is an antipsychotic (e.g. risperidone) prescribed for any reason?

YES

1. Review current antipsychotic dose
   - If resident on long term antipsychotic and unable to swallow, requires conversion to CSCI using syringe driver over 24 hours. Consider:
     - Haloperidol at dose equivalent to previous antipsychotic dose over 24 hours
   - Ensure written order for antipsychotic dose PRN. Consider:
     - Haloperidol 0.5 to 1 mg subcut PRN up to twice daily
   - If resident only has a PRN oral or wafer antipsychotic convert to subcut dose

NO

1. Write/request medication order for:
   - Haloperidol 0.5 to 1 mg subcut up to twice daily to manage restless and agitation if it arises

Even if symptoms absent, continue to review regularly for restlessness and agitation.
If resident experiencing restlessness and agitation refer to the **'Symptoms present'** column

If symptom management remains inadequate despite above interventions contact MO/NP or palliative care service for further advice

KEY: bd twice daily | **B/T** breakthrough | **CSCI** continuous subcutaneous infusion | **MO** Medical Officer | **NP** Nurse Practitioner | **PRN** as needed by predetermined time | **q** every | **Subcut** subcutaneous | **tds** three times per day

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Key messages

- The RAC EoLCP is a consensus-based best practice guide to providing care for residents in the last days of life.
- Pre-emptive prescribing will ensure that in the last days and hours of life there is no delay in responding to a symptom when it occurs.
- Restlessness and agitation at end of life is distressing not only for the resident but also for the family and care staff. If the condition is not well managed there is the potential for families/staff to retain distressing memories of the last days of a resident's life.
- Residents on the RAC EoLCP require 2 hourly symptom assessment. This allows for emergent symptoms to be detected quickly and treated pharmacologically if required. Efficacy of medication administered should be evaluated and documented.
- Always consider non-pharmacological interventions in addition to the pharmacological management of end of life (terminal) symptoms.

For further information

CareSearch. RAC Hub
http://www.caresearch.com.au/caresearch/tabid/2317/Default.aspx

Clinical Practice Guidelines for the Management of Delirium in Older People (2006), Melbourne: Victorian Government Department of Human Services
www.health.gov.au/internet/main/.../Delirium_CPGforMODIOP_web.pdf

Commonwealth of Australia (2006) Guidelines for a Palliative Approach in Residential Aged Care – Enhanced Version, Canberra.

Residential Aged Care Palliative Approach Toolkit: Module 3 – Clinical Care

Summary of clinical evidence

- Restlessness and agitation occur commonly at end of life and can often be attributed to multiple causes. Investigating the underlying cause may not be appropriate in the last days of life.[10 (Level V)]
- It is important to assess and manage factors which contribute to restlessness and agitation such as pain, urinary retention, rectal impaction, hypoxia, environmental factors, psychological and spiritual distress.[10 (Level V)]
- Non-pharmacological interventions have been shown to be effective in the prevention and management of delirium. These include a peaceful, familiar environment, the presence of a familiar person(s), avoidance of the dark and of bright lights and re-orientation of the resident.[7 (Level V), 31 (Level I)]
- Restlessness and agitation at end of life can be caused by anxiety and distress. The addition of a low dose benzodiazepine can be effective in managing these symptoms.[32 (Level I), 33 (Level V)]
- Low dose haloperidol is effective in managing restlessness and agitation associated with delirium.[34 (Level I)]
- Extrapyramidal side effects (dystonia and akathisia) occur more commonly in doses of haloperidol above 4.5 mg per day.[34 (Level I)]

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Glossary

Analgesic: Drugs that provide symptomatic relief of pain but do not affect the underlying cause(s). Examples of analgesics include opioids, paracetamol and non-steroidal anti-inflammatory drugs.

Antiemetic: A drug used for preventing or alleviating nausea and vomiting.

Blood-brain barrier: A network of blood vessels with closely spaced cells that make it difficult for potentially toxic substances to penetrate the blood vessel walls and enter the brain.

Breakthrough dose: Administration of an additional dose of opioid medication in response to pain that occurs between regular doses of an analgesic. This may be due to an increase in pain beyond the control of the baseline analgesia or it may reflect an occasional natural fluctuation in pain.

Consensus-based: An opinion or position reached by a group as a whole.

Delirium: A fluctuating state of confusion and rapid changes in brain function sometimes associated with hallucinations and restlessness. Symptoms may include inability to concentrate and disorganised thinking evidenced by rambling irrelevant and incoherent speech.

Dyspnoea: An awareness of uncomfortable breathing that can seriously affect quality of life.

Evidence-based practice: The integration of clinical expertise, patient values, and the best research evidence into the decision-making process for patient care.

Extrapyramidal side effects: Symptoms (including tremor, slurred speech, akathisia, dystonia, anxiety, distress, and paranoia) that are primarily associated with or are unusual reactions to neuroleptic (antipsychotic) medications.

Hypoxia: Inadequate oxygen supply to the cells and tissues of the body.

Imprest drugs/emergency stock of medicines: Restricted (Schedule 4) and controlled (Schedule 8) medications that are not supplied on prescription for a specific person but are instead obtained by an establishment (e.g. RACF) to be used as emergency stock.

Levels of evidence: A system to stratify evidence based on its quality.

Non-pharmacological interventions: Treatments that do not use drugs to alleviate symptoms. Examples include massage, music therapy and aromatherapy.

Opioid (or narcotic): A group of substances that resemble morphine in their physiological and/or pharmacological effects (especially in their pain-relieving properties).

Opioid naïve: Refers to an individual who has either never had an opioid or who has not received repeated opioid dosing for a two to three week period.

Opioid rotation: Switching one opioid for another. This is required for patients with inadequate pain relief and/or intolerable opioid-related toxicities or adverse effects.

Opioid titration: Increasing or decreasing the dosage of an opioid. This requires regular assessment of the patient's pain and monitoring for possible side effects.

Pharmacological interventions: Treatments that involve the administration of drugs to alleviate symptoms.

Randomised control trial: Trial conducted using participants selected in such a way as all known selective biasing factors have been eliminated. The trial involves the comparison of an experimental group with another group of participants, equal in all respects, who do not undergo the treatment being trialled.

Substitute decision maker: As people become less able to manage their affairs they may appoint a Power of Attorney or an Enduring Power of Attorney to assist them in future planning or decision-making.

Terminal restlessness: A common symptom appearing in the last hours to days of life. The person may show symptoms of being unable to relax, picking at clothing or sheets, confusion and agitation, and trying to climb out of bed.

Appendix A: Opioid Conversion Chart

- These conversions are a guide only. Residents in RACFs may vary in their response to different opioids.
- When rotating opioids for intolerable side effects, inadequate analgesia or to change the delivery route, it is advisable to reduce the dose by 25-50% due to incomplete cross-tolerance.
- Dose reduction is particularly important where pain escalation is **not** the reason for rotation to a different opioid.
- Following opioid rotation, close assessment of the resident is required to ensure the drug, the dose and the delivery method are tolerated and effective.
- Conversions involving methadone are complicated and prescribing should be restricted to medical specialists with experience in methadone prescribing.

Oral Morphine to Other Oral Analgesics

Oral to Oral	Conversion ratio	Example
morphine to codeine	1 : 8	oral morphine 7.5 mg ≈ codeine 60 mg
morphine to hydromorphone (Dilaudid IR & Jurnista CR)	5 : 1	oral morphine 5 mg ≈ oral hydromorphone 1 mg
morphine to oxycodone (Endone IR/Oxynorm IR & Oxycontin CR)	1.5 : 1	oral morphine 15 mg ≈ oral oxycodone 10 mg
morphine to oxycodone – naloxone (Targin CR)	1.5 : 1	oral morphine 15 mg ≈ oral oxycodone 10 mg naloxone 5 mg
morphine to tramadol*	1 : 5	oral morphine 10 mg ≈ oral tramadol 50 mg

CR = Controlled Release IR = Immediate Release

Oral Opioid to Parenteral Opioid (Subcut) – same drug to same drug

Oral to Oral	Parenteral	Conversion ratio	Example
hydromorphone	hydromorphone	3 : 1	oral hydromorphone 60 mg ≈ subcutaneous hydromorphone 20 mg
morphine	morphine	3 : 1	oral morphine 30 mg ≈ subcutaneous morphine 10 mg

Parenteral (Subcut) Morphine to Other Parenteral (Subcut) Opioid

From subcutaneous	To subcutaneous	Conversion ratio	Example
morphine	fentanyl	100-150 : 1	morphine 10 mg ≈ fentanyl 150 mcg
morphine	hyrdromorphone	5 : 1	morphine 10 mg ≈ hydromorphone 2 mg
morphine	tramadol*	1 : 10	morphine 10 mg ≈ tramadol 100 mg

Transdermal Buprenorphine to Oral Morphine

Buprenorphine patch strength	Daily oral morphine dose	Breakthrough oral morphine dose
5 micrograms per hour	12 mg daily	1 to 2 mg 2hrly PRN
10 micrograms per hour	24 mg daily	2 to 4 mg 2hrly PRN

Transdermal Fentanyl to Oral Morphine

Fentanyl patch strength	Daily oral morphine dose	Breakthrough oral morphine dose
12 micrograms per hour	30 to 60 mg	2 to 4 mg 2hrly PRN
25 micrograms per hour	60 to 100 mg	5 to 10 mg 2hrly PRN
50 micrograms per hour	120 to 200 mg	10 to 20 mg 2hrly PRN

* Tramadol has a limited role in managing moderate to severe pain in palliative care.

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Palliative Care Expert Group (2010) Therapeutic Guidelines: Palliative Care (Version 3), Melbourne: Therapeutic Guidelines Limited.

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Appendix B: Additional Resources

CareSearch (2013) Symptom Management at the End of Life
http://www.caresearch.com.au/caresearch/tabid/741/Default.aspx

Commonwealth of Australia (2012) Guiding Principles for Medication Management in Residential Aged Care Facilities, Canberra
http://www.health.gov.au/internet/main/publishing.nsf/content/nmp-pdf-resguide-cnt.htm

National Prescribing Service (NPS)
http://www.health.gov.au/internet/main/publishing.nsf/Content/nmp-prescribers-nps.htm

> **Medicine enquiries**
> Medicines Line (for expert medicines information for the cost of a local call):
> 1300 MEDICINE (1300 633 424), Monday to Friday 9am–5pm AEST
>
> **Adverse Medicine Events (AME) Line**
> Report a problem or side effect with your medicine for the cost of a local call:
> 1300 134 237, Monday to Friday 9am–5pm AEST

Pharmaceutical Benefits Scheme
http://www.pbs.gov.au/pbs/home

Palliative Care Expert Group (2010) Therapeutic Guidelines: Palliative Care (Version 3), Melbourne: Therapeutic Guidelines Limited
http://www.tg.org.au/index.php?sectionid=47

Therapeutic Goods Administration
The Therapeutic Goods Administration encourages reporting of all suspected adverse reactions to prescription, over-the-counter and complementary medicines. Information on reporting adverse drug reactions is available online at http://www.tga.gov.au/safety/problem-medicines-forms-bluecard.htm or telephone: 1800 044 114.

About the Residential Aged Care Palliative Approach Toolkit

The Residential Aged Care Palliative Approach Toolkit (PA Toolkit) includes a set of resources which, when used in combination, are designed to assist residential aged care providers to implement a comprehensive and evidence-based approach to care for residents.

The PA Toolkit includes the following resources:

- Module 1: Integrating a Palliative Approach
- Module 2: Key Processes
  - Advance Care Planning
  - Palliative Care Case Conferencing
  - End of Life Care Pathway
- Module 3: Clinical Care
  - Pain
  - Dyspnoea
  - Nutrition and Hydration
  - Oral Care
  - Delirium
- 3 Self-Directed Learning Packages (Nurse Introduction, Nurse Advance, Careworker)
- Workplace Implementation Guide: Support for Managers, Link Nurses and Palliative Approach Working Parties
- Training Support Guide: How to Develop a Staff Education and Training Strategy to Help Implement a Palliative Approach in Residential Aged Care
- Guide to the Pharmacological Management of End of Life (Terminal) Symptoms in Residential Aged Care Residents
- 3 Educational DVDs:
  - Suiting the Needs: A Palliative Approach in Residential Aged Care
  - All on the Same Page: Palliative Care Case Conferences in Residential Aged Care
  - How to Use the Residential Aged Care End of Life Care Pathway (RAC EoLCP)
- 2 Educational Flipchart Sets:
  - Introduction to a Palliative Approach
  - Clinical Care Domains
- Bereavement Support Booklet for Residential Aged Care Staff
- Therapeutic Guidelines: Palliative Care, Version 3, 2010
- Understanding the Dying Process brochure
- Now What? Understanding Grief Palliative Care Australia brochure
- Invitation and Family Questionnaire - Palliative Care Case Conferences
- Guidelines for a Palliative Approach in Residential Aged Care order form

For further information and to download PA Toolkit resources visit: www.caresearch.com.au/PAToolkit