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IAEM Clinical Guideline

## End of Life Care in the Emergency Department

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### DISCLAIMER

IAEM recognises that patients, their situations, Emergency Departments and staff all vary. These guidelines cannot cover all clinical scenarios. The ultimate responsibility for the interpretation and application of these guidelines, the use of current information and a patient’s overall care and wellbeing resides with the treating clinician.

## Revision History

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## GLOSSARY OF TERMS

EOL	End Of Life
ED	Emergency Department
SC	Subcutaneous
IV	Intravenous
PRN	Pro Re Nata
DNACPR	Do Not Attempt CardioPulmonary Resuscitation

## PARAMETERS

### Target audience

All healthcare professionals who provide clinical care to patients who present in the acute setting where a diagnosis of 'Dying' has been made to manage the symptoms of end of life.

### Patient population

- Adults (> 16 year old) who present to the **ED** with terminal illness, where all reversible pathology has been excluded.
- Patients with an Advanced Directive and DNACPR in place.

### Exclusion criteria

- Age less than 16.
- Patients with reversible illness.
- Patients/Families refusing consent for end of life care.

## AIMS

The purpose of this document is to provide clinicians with general guidance around safe and effective symptom control measures to ensure patients die in a dignified and comfortable manner.

# End of life care in the Emergency Department

## INTRODUCTION

- Improving end of life care in the ED should be a key priority for all healthcare workers in this setting. ED clinicians are required to ensure, when death is inevitable, every patient receives appropriate and timely end-of-life care, focused on comfort and dignity while avoiding futile and invasive interventions that prevent a peaceful death.
- Diagnosing dying is a complex clinical decision and should only be made by the most senior clinician available, after all possible reversible pathology have been excluded.
- After the diagnosis of 'dying' is made, clinicians need to take a proactive rather than a reactive approach to symptom management, because it is generally easier to prevent than to treat an acute symptom.
- Pain, breathlessness, agitation and delirium are among the most common symptoms at end of life. Symptom management should be individualised for each patient and encompasses both pharmacological and non-pharmacological support.
- Some emergency end of life situations may require rapid palliative sedation. These include massive hemorrhage, asphyxiation, an overwhelming pain crisis, and severe terminal breathlessness.
- Patients and their families should be involved, wherever possible, in end of life care decisions, including decisions around ceilings of care. The importance of preparing and supporting the family and those close to the patient is also recognised as directly influencing how they cope with and adapt to bereavement, with implications for their health and social well-being
- Stop IV fluids if this will not help alleviate any symptoms or distress and the patient is approaching the final hours of life.
- Opportunities for organ and tissue donation should be considered as a usual part of end of life care in the ED.

### For more information:

- <https://emed.ie/Symptoms/Palliative-Care.php>
- <https://www.marymount.ie/end-of-life-covid-19-resources>

## PHARMACOLOGICAL MANAGEMENT

### General principles:

- When considering medication for symptom control always take into account the likely cause of the symptom.
- The correct dose of any medication is the lowest possible dose that achieves the desired effect. Start with a low dose and titrate according to the clinical response. Remember there is a wide variation in doses of drugs required to achieve good symptom control at end of life.
- Subcutaneous administration is preferable to intravenous administration and is acceptable on hospital wards. There is a greater risk of apnoea when bolus injections are administered intravenously.
- **Reassess frequently.** Always review the effect of any PRN medication to see whether it has relieved the symptom(s). Consider additional bolus doses if a suboptimal effect is observed after 30-mins.
- Consider using a syringe driver to deliver medicines for continuous symptom control if more than 2 or 3 doses of any 'as required' medicines have been given within 24 hours.  
**Consider a SC bolus dose initially as SC infusions will take time to reach steady state (approx. 4 hours).**
- Syringe driver doses are based on severity of symptoms and PRN usage.
- **Do not forget to prescribe PRN medications.** See *Appendix 1 for an example on prescribing PRN medications.*

- Seek more senior clinical or specialist palliative care advice if the dying person's symptoms do not improve promptly with treatment or if there are undesirable side effects.
- All diluents for drugs are 0.9% saline **except** for Cyclizine (diluted in water for injection).
- **The ratio of drugs** when switching routes is:

**Oral: SC : IV – 10 : 5 : 5**

- **Golden Rule** – when converting from one opioid to another, always convert to morphine first before calculating the dose. Use Appendix 2 as a guide to opioid conversions. However, use only as a guide as significant interindividual cross tolerance to opioids exists.



## Anxiolytic Sedatives for Anxiety or Agitation

### ➤ Midazolam

- **Sedation:** Dose: 2.5-5 mg SC repeated at half hourly intervals as needed.
- **Rapid IV sedation** – Initial boluses of 1-2 mg, with dose and frequency of administration adjusted based on response, and instruction of a doctor.
- **SC Infusion** – Initially 10-20 mg/24 hours, titrate according to response. Dose and rate of increase are dependent on symptoms and response to PRNs. For convulsions increase to 30 mg/24 hours.
- **Additional “breakthrough” bolus doses** can be administered on top of the SC infusion 1-2 hourly, as required, to achieve the desired effect.
- If the desired effect is not achieved with the continuous infusion then, after a minimum of 4 hours, **increase the dose by 50% and seek expert advice.**
- **NOTE:** for patients on Clarithromycin consider reducing dose by 50% (reduced clearance on midazolam).

**Levomepromazine or Haloperidol** may need to be used in addition to midazolam if anxiety/distress or delirium is severe.

### ➤ Levomepromazine

- **Initial bolus** of 3.125-6.25 mg SC/IV; reassess after 30 min and repeat if indicated.
- **Review** if 3+ doses are required in 4hr with little/no benefit or if 6 doses are required in 24hrs.
- **Continuous SC/IV Infusion** with 12.5-25 mg/24 hours.

### ➤ Haloperidol

- **Initial bolus** of 0.5-1 mg SC/IV.
- **Review** if 3+ doses are required in 4hr with little/no benefit or if 6 doses are required in 24hrs.
- **Continuous SC/IV Infusion** with 2.5-5 mg/24 hours.

## Opioid for Pain and/or Breathlessness

- May need to be combined with an anxiolytic sedative like midazolam for added benefit according to patient symptoms.

### ➤ Morphine

#### ***For patients who are not previously on opioids:***

- **Bolus** of 2.5-5mg SC/IV; assess after every 30 minutes and repeat if needed.
- **SC Infusion** of 5-10mg/24 hours adjusted according to response.

#### ***For patients who are already on regular opioids:***

- The PRN dose of opioid is usually 1/6<sup>th</sup> of the total daily dose of opioid, given 4 hourly, e.g. patient on PO MST 30mg bd = 60mg / 24hrs, then oral dose is morphine 10mg, and SC dose is half the PO dose i.e. 5mg.

See Appendix 2 for Opioid Conversion Chart.

## Anti-Secretory for Respiratory Secretion:

### ➤ Hyoscine Butylbromide (Buscopan)

- **Initial Bolus** of 20 mg SC/IV q4-hourly.
- **SC Infusion** of 80-120mg SC via syringe pump over 24 hours.
- Also useful as an anti-spasmodic in abdominal pain.
- Use is advised in the deteriorating patient before secretions accumulate.
- Non-sedating as it does not cross the blood brain barrier, therefore useful for the patient who still has meaningful/wakeful periods with their family.

### ➤ Hyoscine Hydrobromide (Scopolamine)

- **Initial bolus** of 600 mcg SC STAT.
- **SC Infusion** of 2.4 mg over 24 hours (Max Dose of 3.6 mg in 24 hours which includes PRN doses).
- Added sedative effect – useful in patients where sedation is required to help aid their comfort.
- Useful as an anti-emetic and Anti-secretory agent.
- Also available as Scopoderm 1.5mg/72hr transdermal patch. Steady state absorption achieved in 6hrs post application.

## Persistent Nausea and Vomiting

### ➤ Levomepromazine

- **Initial bolus** of 3.125-6.25 mg SC/IV BD.
- **Continuous SC/IV Infusion** with 6.25-12.5 mg/24 hours.

### ➤ Haloperidol

- **Initial bolus** of 0.5-1 mg SC/IV BD.
- **SC Infusion** 1-2.5 mg/24 hours.

### ➤ Cyclizine

- **Bolus** of 50 mg SC/IV BD.
- **SC infusion** 150mg/24hrs.

### ➤ Ondansetron

- **Bolus** of 4-8 mg SC/IV BD.

## Supplemental Oxygen in Agitated/Distressed Patients:

- Patients who are agitated by oxygen masks or tubing can have oxygen discontinued and breathlessness managed with an opioid/anxiolytic combination instead.
- Monitoring oxygen saturations are not required at end of life.
- High flow oxygen systems, NIV are not appropriate for these patients.

## Diuretics:

- Patients who have a history of congestive cardiac failure or who have received large volume fluid resuscitation may benefit from **Furosemide 20-40mg SC/IV PRN.**

## EXAMPLE OF INITIAL BOLUSING AND COMBINED DRUG SC INFUSIONS

- **Bolus**

Midazolam : Morphine : Hyoscine Butylbromide or Hyoscine Hydrobromide  
2.5 mg : 2.5 mg : 10-20 mg or 0.6 mg

- **Subcutaneous Infusion/24 Hours (will require 4 hours to reach steady state)**

Midazolam : Morphine : Hyoscine Butylbromide : Hyoscine Hydrobromide  
10 mg : 10 mg : 60-120 mg : 2.4 mg

- Each syringe driver can be loaded with up to three compatible drugs. Start with an opioid, an anxiolytic sedative, and an anticholinergic agent to prevent accumulation of secretions.
- Ensure PRN dosing is also prescribed for breakthrough symptoms.

## NON-PHARMACOLOGICAL MANAGEMENT

### General Considerations

- Ensure an Advanced Directive is valid or a DNACPR order is signed and should be discussed with all patients deemed to have capacity, or with the next of kin otherwise.
- Document all discussions with the patient and family.
- A decision of DNACPR should be made by a senior clinician and the final decision of whether a patient should receive CPR in the event of an arrest lies with the clinician if treatment is futile.
- In the event of potentially reversible events such as a blocked tracheostomy tube, anaphylaxis, or choking, resuscitate to reverse cause.
- Discontinue unnecessary prescriptions, monitoring, investigations, and procedures.
- Discuss the need for hydration and nutrition with the patient and their family. IV hydration is typically not required but may occasionally make the patient more comfortable.

### Environment

- A single room providing a quiet, peaceful environment should be prioritized.

### Psychological/Spiritual Care

- Where appropriate, patient/family insight should be assessed, and fears/wishes explored.
- Consider if formal spiritual or religious care support needed/rituals which are important to patient and family.

## Respiratory Secretions

- Suctioning is rarely useful and has all the associated infection risks of an aerosol generating procedure. Re-positioning patient on side may help.

## Urinary, Bowel, Eye, Oral and Skin Care

- Catheterize if in urinary retention or incontinence aids comfort level of patient.
- Regular oral, skin, and eye care.
- Offer food and fluid if patient wishes to and is able.
- Repositioning every 2-4 hourly to prevent pressure sores.

## Family/Staff Support

- The patient's family may wish to participate in caring for their dying relative, if so, they should be helped by the staff to do so. A nurse should be assigned to support the family.
- After every death or incident staff should be encouraged to talk together about the event, in many cases a formal debrief can be valuable.

## COMPANION DOCUMENTS

1. Link to palliative care section on the Cork University Hospital Clinical Guideline  
<https://emed.ie/Symptoms/Palliative-Care.php>
2. Link to end of life resources on Marymount University Hospital and Hospice Clinical Guideline <https://www.marymount.ie/end-of-life-covid-19-resources>
3. Link to HSE Palliative care guidance and evidence  
<https://hse.drsteevenslibrary.ie/Covid19V2/palliativecare>
4. Link to NHS palliative care guidelines  
<https://www.palliativecareguidelines.scot.nhs.uk/guidelines/end-of-life-care/Care-in-the-Last-Days-of-Life.aspx>
5. [Appendix 1: Example for prescribing PRN medication](#)
6. [Appendix 2: Marymount Opioid Conversion Chart](#)
7. [Appendix 3: Subcutaneous Insertion Sites](#)
8. [Appendix 4: Insertion of BD Saf-T-Intima Device](#)

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