

Management of a patient with terminal illness: the final stages of life

At some point, all doctors will need to provide care for a dying patient. It is, therefore, necessary for doctors to possess some understanding of how to manage distressing symptoms that may accompany the terminal phase.

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There is no question that all life ultimately ends in death and most doctors will have to provide care for a dying person. Regardless of the cause of death, some dying patients will develop troublesome symptoms so an educated approach to management is optimal.

A new symptom in a dying patient may cause dilemmas for clinicians. New symptoms normally prompt investigations, but when death is imminent, comfort becomes the focus of care. The benefits versus the burdens of interventions, whether diagnostic or therapeutic, require consideration.

When new symptoms occur, one approach that may be useful is to consider the following points below for each patient.

- What was his or her life expectancy before the onset of this new symptom?
- Does this new problem change the outlook?
- What is the likely cause(s) of this new symptom?

- Are investigations appropriate?
- Is the underlying cause modifiable?
- What can be done pharmacologically and nonpharmacologically to improve symptom control?

Common symptoms at the end of life

Numerous reports describe sometimes troubling symptoms for dying patients. A chart review of in-patient deaths within the general wards of a Sydney hospital found that the most common problems perceived by nurses for dying patients are (Figure 1):¹

- noisy respirations (57%)
- agitation (52%)
- breathlessness (49%)
- pain (47%).

Reports from other hospitals list the most common problems as fatigue (80%), dyspnoea

IN SUMMARY

- An understanding of the expected death trajectory allows advanced planning for end of life care.
- Patients with a terminal illness may develop new and sometimes distressing symptoms during the final stages of life. These symptoms include breathlessness, noisy respirations, agitation and pain.
- All symptoms should be addressed, but the investigations need to be tailored to the patient's life expectancy.
- GPs are pivotal to the provision of end of life care of patients in the home and aged care facilities.
- Good end of life care also requires death preparation and family support, including bereavement support.

(50%) and pain (40%).² Delirium is also a commonly reported symptom. Similar results are reported in deaths in hospices and nursing homes and it is likely that the same pattern is also seen in patients who have a home death. Because of the frequency of these problems, doctors should have:

- an appreciation of the patient's expected death trajectory
- a framework to make the diagnosis of dying
- an understanding of how to manage common terminal symptoms in patients who are dying.

Expected death trajectory

Depending upon the disease, there are four patterns of functional decline during the time before death as described below.

- **Accidental deaths:** sudden deaths with little warning and no or minimal contact with health services.
- **Cancer deaths:** deaths that occur following a distinct terminal phase after a clearly defined, but often brief declining period.
- **Organ failure deaths:** deaths that occur in individuals who have had long periods of decline interspersed with acute deteriorations, which would have caused death if not treated.
- **Dementia/frail elderly deaths:** deaths that occur following a progressive deterioration over many years with accompanying frailty and increasing dependence.

Although each individual's passage through his or her illness and final trajectory is unique, identifying patterns of change are useful to guide care plans.^{3,4}

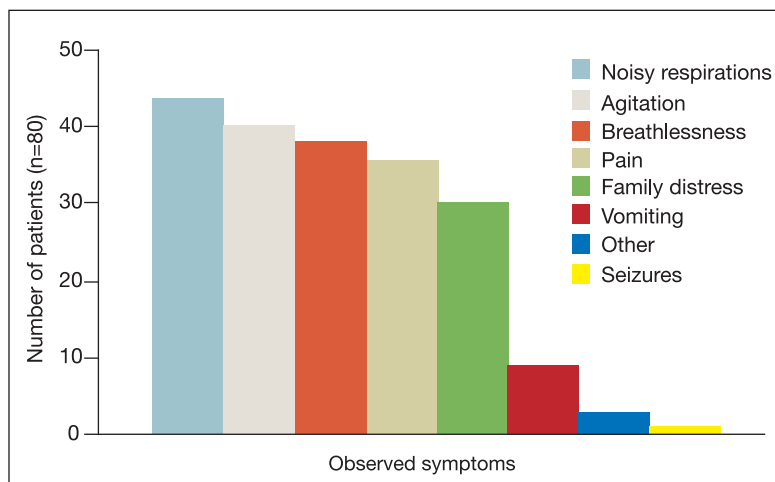
Diagnosis of dying

Optimal care for the dying patient can only be provided when a diagnosis of dying is made. Common features to suggest death is imminent include:

- deteriorating functional state in the days before death as the person becomes completely bedridden
- fluctuating levels of consciousness
- inability to take oral food, fluid or medications.

Commonly observed changes in the last hours before death include:

- noisy respirations and/or respirations associated with mandibular movements
- altered peripheral circulation (acrocyanosis and radial pulselessness).^{5,6}



Not unexpectedly, there is a wide individual variation and an alternative approach to diagnose dying is to consider the following question: 'Would I be surprised if this patient were to die in the next week?' The answer to this question is rarely wrong. If the answer is no, then institute end of life care.

An excellent resource to guide end of life management is detailed by the Liverpool Pathway for the Dying Patient. (For more information visit www.mcpcil.org.uk/liverpool_care_pathway.) These evidence-based guidelines were developed with the intention to transfer the levels of care administered to dying patients within hospices to other locations.⁵

Investigations and treatment of the common symptoms

Investigations into the cause of each new symptom need to be tailored to the patient's life expectancy. Table 1 lists some pharmacological approaches to treating these symptoms.⁷ For more information on the topics mentioned below, see the GP homepage on the CareSearch palliative care knowledge network website (www.caresearch.com.au).

Delirium

Delirium is very common at the end of life and is characterised by:

- fluctuating disturbance in consciousness
 - changes in cognition
 - disturbance evolving over a short period
 - evidence that it is caused by physiological consequences of the underlying medical condition.⁸
- There are numerous possible causes of delirium

Figure 1. Frequency of symptoms, as perceived by nurses, in 80 patients during the last 48 hours of life in a teaching hospital.¹

continued

Table 1. Suggested medications to manage symptoms during the final stages of life*

Pain

- If the patient is opioid naive
 - Morphine 1 to 2.5 mg subcutaneously every four hours
- If patient is already taking an opioid
 - Convert to parenteral route of administration
 - Increase dose by 50% and titrate to effect

Breathlessness

- If the patient is opioid naive
 - Morphine 2.5 mg subcutaneously every four hours
- If patient is already taking an opioid
 - Convert to parenteral route of administration
 - Increase dose by 30% and titrate to effect
- If the patient is very anxious, add a benzodiazepine as needed

Delirium

- Initiate antipsychotic medication
 - Haloperidol (Haldol Decanoate, Serenace) 0.5 to 1.0 mg subcutaneously every two hours until the patient has settled, then continue a low regular dose
 - Chlorpromazine (Largactil) 25 to 50 mg,

intramuscularly, immediately; this may be repeated in eight to 12 hours

- If the patient is very agitated, at risk of harm to self or others, or is withdrawing from a substance, add a benzodiazepine. At the end of life, consider clonazepam (Rivotril) 0.5 to 1.0 mg subcutaneously every eight hours when needed

Terminal secretions

- Anticholinergic medications
 - Hyoscine hydrobromide 0.4 mg subcutaneously and repeat as necessary
 - Atropine 0.3 mg subcutaneously

Nausea and vomiting

- Metoclopramide (Maxolon) 10 mg subcutaneously every six hours
- Haloperidol 0.5 to 1.0 mg subcutaneously every 12 hours
- Dexamethasone 4 mg subcutaneously daily

Terminal crisis

- Morphine 10 mg subcutaneously, immediately
- Clonazepam 1.0 mg subcutaneously, immediately

* Doses adopted from the *Therapeutic Guidelines: Palliative Care*.⁷

at the end of life, many of which are identifiable after taking a history and performing a clinical examination, including pulse oximetry (Table 2). If the patient's prognosis is very short (hours to days), no further investigations are required. This contrasts with a longer prognosis (weeks or more) in which a more precise cause of delirium should be sought, aiming to correct the underlying pathology. Simple investigations are indicated such as blood tests and urinalysis. If these tests fail to reveal a cause, hospitalisation of the patient for investigations, such as a head CT scan, may be indicated.

Regardless of the cause of delirium, the following pharmacological and non-pharmacological interventions should be initiated, occurring simultaneously with assessment and investigations:

- initiate an antipsychotic agent, with or without a benzodiazepine
- if the patient is hypoxic, use low flow oxygen
- rule out urinary retention or faecal impaction
- maintain a quiet environment with soft lighting
- reorientate the patient by showing familiar faces or belongings.⁹

Table 2. Causes of delirium in palliative care patients

- Medications – e.g. opioids, NSAIDs, corticosteroids
- Infections
- Metabolic abnormalities – e.g. uraemia, hypercalcaemia, hyper- or hypoglycaemia
- Hypoxia
- Uncontrolled pain or discomfort
- Substance withdrawal
- Central nervous system malignancies
- Dehydration
- Postictal state
- Hepatic failure

Noisy respirations and excessive respiratory secretions

Excessive respiratory secretions occur in up to 90% of unconscious dying patients. The underlying pathology is considered oscillatory movements of accumulated bronchial mucosa and salivary secretions.¹⁰ The effects on patients are difficult to assess, but this problem is often perceived as distressing by caregivers, and relief is therefore indicated.

Underlying abnormalities that may exacerbate noisy respirations should be excluded by taking a history and performing a physical examination in a dying patient with a short prognosis (Table 3). If the patient has a longer prognosis, further investigations to identify potentially reversible causes may be considered (e.g. chest x-ray to identify pulmonary oedema or pneumonia).

The management of terminal secretions in dying patients includes:

- re-positioning (e.g. elevate the bed head or put the patient in the lateral position)
- reduce parenteral fluids (e.g. subcutaneous, intravenous or enteral feeds)
- initiate anticholinergic medications
- give a clear explanation to caregivers.

continued

Table 3. Factors that may exacerbate noisy respiratory secretions

Increased fluid in the airway

- Oropharyngeal secretions (saliva)
- Tracheobronchial secretions
 - Normal amount but unable to clear
 - Excess production – e.g. infection, tumours, pleural effusion
- Nonrespiratory fluid
 - Aspiration
 - Blood

Decreased airway diameter

- Compression (intrinsic, extrinsic)
- Localised oedema

Abnormal fluid balance

- Over hydration
- End organ failure – e.g. cardiac failure, renal failure, liver failure
- Hypoalbuminaemia

Dyspnoea

Dyspnoea is also very common at the end of life and has multiple differential causes (Table 4).¹¹ Dyspnoea carries a poor prognosis and can be distressing and frightening for patients and caregivers. Intractable dyspnoea in dying patients remains the most common reason cited by palliative care doctors for terminal sedation.

As usual, management of dyspnoea in imminently dying patients requires assessment of modifiable factors, including:

- hypoxia – administer low flow oxygen via nasal prongs
- fluid overload – decrease parenteral fluids and administer frusemide (Frusehexal Injection, Furosemide Injection MIN-I-JET, Lasix) 20 mg daily subcutaneously
- pneumonitis – administer dexamethasone 4 mg daily subcutaneously

More thorough investigations may be helpful if the patient has a longer prognosis. Such investigations include a full blood count (to identify anaemia), chest

x-ray (to identify effusions, infection or lymphangitis) and CT or ventilation/perfusion scans (to identify pulmonary emboli). Regardless of the prognosis, attention to symptom control is indicated and includes:

- initiating a low-dose opioid
- treating anxiety
- moving air over the face – by opening a window or using a fan.

Pain

Fortunately, there are only a few people who develop rapidly worsening pain as death approaches. Even so, pain is a feared complication of death and reassurance that attention to pain will continue throughout life may assist to provide comfort.

Although the first step is taking a history and performing a physical examination, immediate attention must be paid to an appropriate prescription of analgesia. At this stage, the oral route of medication should be avoided. Mild pain may be managed with rectal paracetamol or NSAIDs. However, opioid analgesia is required for more intense pain. More detailed guidelines for prescribing opioids are summarised in Table 1.

Further investigations will depend on the estimated life expectancy of the patient. If the prognosis is more than hours to days, imaging to identify the exact source of the noxious stimulus is warranted.

Terminal crisis

Even when death is foreseen in the coming days to weeks, the agonal event can be precipitous – for example, a catastrophic haemorrhage in a person with bronchial or gastric cancer. These situations are distressing and unlikely to be reversible in end stage diseases. Part of the clinician’s challenge is to identify people who may be at risk of such crises and ensure appropriate comfort measures are in place including:

- ready availability of medications

Table 4. Potential causes of breathlessness in palliative care patients

Cancer

- Primary
- Metastases
- Lymphangitis
- Pericardial or pleural effusion
- Superior vena cava obstruction
- Pulmonary embolus
- Cachexia
- Anaemia
- Cancer treatments – e.g. chemotherapy-induced lung injury, pneumonitis

Other diseases

- Congestive cardiac failure
- Airways disease
- Infection
- Neuromuscular diseases

- (subcutaneous morphine 10 mg or an appropriate dose according to previous use and/or subcutaneous midazolam [Hypnovel] 5 mg subcutaneously, or alternatively benzodiazepines – e.g. intramuscular diazepam [Valium] 5 to 10 mg or subcutaneous clonazepam [Rivotril] 1 mg)
- a pre-determined route of administration (ensure subcutaneous line is in place and medications already drawn up)
- sensitive discussions with the caregivers.⁷

GP access to medications considered essential to palliative care

The medications listed in Table 4, most of which are available on the PBS, will help ensure patients have a comfortable death when the time arrives. However, when death is expected within hours, it is still possible to immediately provide good end of life care from medications accessible

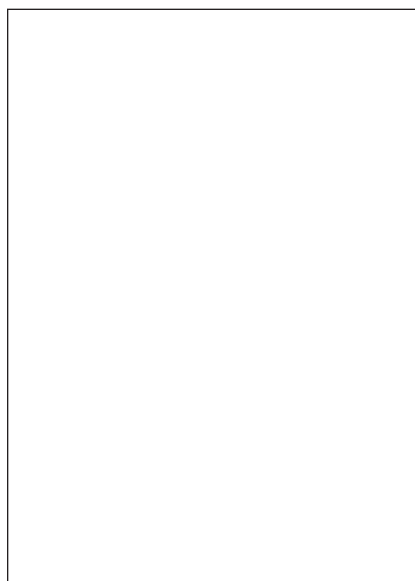
through ‘the Doctor’s Bag’ (Table 5).¹¹ (The complete list of medications for inclusion in the Doctor’s Bag can be viewed at www.pbs.gov.au/html/healthpro/browseby/doctorsbag – more medications to assist GPs in the care of dying patients will soon be added.)

GPs are able to rely on PBS-listed items to support palliative care patients. This is because many patients are elderly and unable to afford the cost of nonPBS-listed drugs. When more specialised medications are suggested, usually in conjunction with specialist palliative care teams, some public hospitals will assist with the provision of medications, which may allow a patient to manage outside of hospital. However, not all hospitals can provide medications due to financial constraints. In these situations, when patients have been sent home or to an aged care facility, local palliative care services should be able to advise the best alternative method of obtaining these medications.

In August 2006, the PBS issued a list of preparations that may be prescribed on authority for patients receiving palliative care (the ‘Mauve Section’ of the PBS). This includes patients with ‘active, progressive, far advanced disease for whom the prognosis is limited and the focus of care is the quality of life’. This is not just patients with cancer but all patients with far advanced and progressive disease. The indications for the drugs are specific and the initial supply is for four months. Ongoing supply needs review by a palliative care specialist. The list is not exhaustive but goes towards addressing the inequities of access (Table 6). In the future, more specialised drugs (e.g. ketamine [Ketalar], megestrol [Megace], risperidone [Risperdal, Risperdal Consta], ketorolac [Toradol], octreotide [Sandostatin, Sandostatin LAR] ondansetron [Ondaz, Onsetron, Zofran]) will be added to the list, along with clear evidence-based guidelines for use of the medications. (For more information visit www.pbs.gov.au/html/healthpro/browseby/palliative-care.)

Guidelines for the delivery of palliative care to residents of aged care facilities

The ongoing care of people who need end of life and palliative care has been recognised as a matter of national importance by the Department of Health and



Ageing. As a result, various initiatives have been developed, including Palliative Care Australia’s ‘Guidelines for a Palliative Approach in Residential Aged Care’. (These comprehensive guidelines

are available at www.agedcare.pallcare.org.au.) These guidelines provide a valuable reference for GPs caring for people within their own homes or in aged care facilities.

The topics covered within the guidelines include:

- pain assessment and management
- symptom management, including nausea, vomiting, constipation and hydration
- symptom management at the very end of life, including pain and respiratory problems
- family support and the need for good communication between the aged care team and the family, including cultural considerations and overcoming the barriers to effective communication
- grief and bereavement support, identifying problematic grief responses and the impact of grief
- advanced care planning, including the legal aspects of advance care planning and guidelines to implement advance care directives.

Advance care planning

In addition to managing symptoms, good end of life care requires death preparation

Table 5. Four emergency medications available through the Doctor’s Bag for the most common problems in dying patients during the last hours of life

Medication	Dosages and route	Symptom
Atropine	0.3 mg subcutaneously, immediately	Noisy breathing
Morphine	Give half of the previous oral dose subcutaneously, every four hours; for patients who are opioid naive, give 2.5 to 5 mg subcutaneously as needed	Pain, breathlessness
Haloperidol (Haldol Decanoate, Serenace)	0.5 to 1 mg subcutaneously when needed	Nausea, agitation
Diazepam (Valium)	5 to 10 mg intramuscularly every eight hours	Agitation

Table 6. Drugs available on the PBS (authority required) for palliative care patients*

Medication	Registered name and dosages	Indication
Benzydamine hydrochloride (mouth and throat rinse)	Difflam (22.5mg/15 mL)	Painful mouth
Bisacodyl tablets Bisacodyl suppositories	Bisalax (5 mg), Lax-Tab (5 mg) Dulcolax (10 mg), Fleet Laxative Suppositories (10 mg), Petrus Bisacodyl Suppositories (10 mg)	Constipation
Bisacodyl enemas	Bisalax (10 mg/5 mL)	
Carmellose sodium mouth spray	Aquae (10 mg/5 mL)	Dry mouth
Clonazepam tablets Clonazepam oral liquid	Paxam (2 mg, 500 µg), Rivotril (2 mg, 500 µg) Rivotril (2.5 mg/mL)	Prevention of epilepsy
Diazepam tablets	Antenex (2, 5 mg), Diazepam-DP (5 mg), Ducene (2, 5 mg), Valium (2, 5 mg), Valpam (2, 5 mg)	Anxiety
Diclofenac tablets	Clonac (25, 50 mg), Chem mart Diclofenac (25, 50 mg), Diclohexal (25, 50 mg), Dinac (25, 50 mg), Fenac (25, 50 mg), GenRx Diclofenac (25, 50 mg), Terry White Chemists Diclofenac (25, 50 mg), Voltaren (25, 50 mg)	Severe pain
Diclofenac suppositories	Voltaren (100 mg)	
Fentanyl lozenges	Actiq (200, 400, 600, 800, 1200, 1600 µg)	Breakthrough pain (see the full Schedule)
Glycerol suppositories	Glycerol Suppositories BP (700 mg, 1.4 g, 2.8 g)	Constipation
Hyoscine butylbromide injection	Buscopan (20 mg/mL)	Colicky pain
Ibuprofen tablets	Rafen (200 mg), Brufen (400 mg)	Severe pain
Indomethacin capsules Indomethacin suppositories	Arthrexin (25 mg), Indocid (25 mg) Indocid (100 mg)	Severe pain
Lactulose mixture	Actilax, Duphalac, Genlac, GenRx Lactulose, Lac-Dol, Lactocur (all 3.34 g/5 mL)	Constipation
Macrogol 3350 (powder for solution)	Movicol (13.125 g with electrolytes)	Constipation
Methadone oral liquid	Methadone Syrup (25 mg/5mL)	Chronic severe disabling pain not responding to non-narcotic analgesics
Morphine sulfate tablets	MS Contin (200 mg, controlled release), Sevredol (10, 20 mg)	Chronic severe disabling pain not responding to non-narcotic analgesics
Naproxen tablets	Inza (250, 500 mg), Naprosyn (250, 500 mg), Naprosyn SR (750 mg, 1 g, sustained release), Proxen SR (750 mg, 1 g, sustained release)	Severe pain
Naproxen oral suspension	Naprosyn (125 mg/5 mL)	Severe pain in patients unable to take a solid dose form of a NSAID
Naproxen sodium tablets	Crysanal (550 mg), Anaprox (550 mg)	Severe pain
Nitrazepam tablets	Alodorm (5 mg), Mogadon (5 mg)	Insomnia
Oxazepam tablets	Alepam (15, 30 mg), Murelax (30 mg), Serepax (15, 30 mg)	Anxiety
Paracetamol tablets	Duatrol SR (665 mg, modified release), Panadol Osteo (665 mg, modified release)	Analgesia or fever where alternative therapy cannot be tolerated
Paracetamol suppositories	Panadol (500 mg)	
Promethazine tablets Promethazine oral liquid	Phenergan (10, 25 mg) Phenergan (5 mg/5 mL)	Nausea and/or vomiting
Sorbitol with sodium citrate and sodium lauryl sulfoacetate enemas	Microlax (3.125 g-450 mg-45 mg/5 mL)	Constipation
Sterculia with frangula bark granules	Normacol Plus (620 mg-80 mg/g)	Constipation
Sulindac tablets	Aclin (100, 200 mg)	Severe pain
Temazepam tablets	Temaze (10 mg), Temtabs (10 mg), Normison (10 mg)	Insomnia

* As of 1 June 2008. For more information on these medications consult the full Schedule.

continued

and family support, including bereavement support. Death preparation includes organising patients' affairs, and choosing and communicating their wishes regarding current and future healthcare. This may include preparation of an advanced care directive. The Respecting Patient Choices (RPC) Program is an advance care planning program that began in 2002 as a pilot project (Austin Hospital, Melbourne; www.respectingpatientchoices.org.au). The National Palliative Care Program supports the Australia wide expansion of the RPC Program.

Conclusion

If bothersome symptoms develop, provision of care that minimises the distress to dying patients and their families is possible. This knowledge allows GPs to discuss end of life care with patients and caregivers, providing reassurance of the delivery of comfort, regardless of the stage of life. MT

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DECLARATION OF INTEREST: None.

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