

# The Palliative Care Handbook

Guidelines for clinical management  
and symptom control, featuring extensive  
support for advanced dementia



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# Respiratory system

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Respiratory symptoms are among the most common at the end-of-life. Dyspnoea (breathlessness), for example, can occur in more than half of patients who are dying, and the incidence increases as death approaches. In addition, cough, haemoptysis, hiccup and pleural pain are present in a considerable number of people who are dying.

## **Dyspnoea (breathlessness)** .....

Breathlessness is one of the most common and distressing symptoms for both patients and relatives as the end-of-life approaches.

- it has a reported incidence of 29 to 74% of people near the end-of-life
- the distress caused by breathlessness should not be underestimated
- a careful evaluation of the nature of the breathlessness is important
- listening to the descriptors (the language that the patient uses to describe the sensation) of the quality and quantity of breathlessness is important in choosing management
- breathlessness will only rarely be expressed in purely physical terms
- the assessment of breathlessness should use a multidimensional approach, as with the assessment of pain
- identifying the cause(s) is an essential step in effective management

## **Causes**

- it is often multifactorial
- it is not always possible to identify one treatable cause
- impaired performance (can be broken down further into a number of separate entities)
  - airflow obstruction
    - > this can be related to large airways (tumour producing either extrinsic or intrinsic obstruction, laryngeal palsy, radiation stricture)
    - > or smaller airways (asthma, emphysema, chronic bronchitis, lymphangitis carcinomatosis)
  - decreased effective lung volume (effusions, ascites, pneumothorax, tumour, lung collapse, infection)
  - increased lung stiffness (pulmonary oedema, lymphangitis carcinomatosis, pulmonary fibrosis, mesothelioma)
  - decreased gas exchange (as above plus pulmonary emboli, thrombotic tumour, tumour effect on pulmonary circulation)
  - pain (pleurisy, chest wall infiltration, rib/vertebral fractures)
  - neuromuscular failure (paraplegia, motor neurone disease, phrenic nerve palsy, cachexia, paraneoplastic syndromes)
  - left ventricular failure (congestive heart failure)
  - ascites/pleural effusion
- increased ventilatory demand (due to anxiety, anaemia, metabolic acidosis)

## **Assessment**

- careful assessment of each situation to identify probable causes is an essential starting point
- pay particular attention to the descriptions the patient gives of the sensation and experience of breathlessness and ask specifically, 'How would you describe your breathlessness today?'
- severity and meaning for each individual is important as dyspnoea may have a variable effect on quality of life at the end-of-life, varying with the cause(s) and the individual's perception of the meaning of the symptom
- in a broad sense, dyspnoea has at least five main components, each of which must be attended to
  - sensation (what it feels like)
  - perception (how it is viewed in the context of the illness)
  - distress (does it cause suffering or grief?)
  - response (how individuals react)
  - reporting (the language used to relay these elements)

## **Management**

- treat/remove causes where possible with treatments that are similar to those used in general medicine
  - the cancer itself together with radiation or chemotherapy
  - the complications of cancer e.g. pleural effusions, anaemia
  - concurrent non-cancer causes e.g. heart or lung disease
- non-pharmacological management
  - psychosocial support
    - > address anxiety and fear by active listening and exploration of the meaning of breathlessness
    - > explanation and reassurance
    - > relaxation techniques
    - > relearning breathing patterns and control
    - > discuss coping strategies
  - positioning
  - adaptation and energy conservation which is often most effectively undertaken with the help of occupational or physiotherapists or specialist nurses
  - physiotherapy
  - drainage of effusions or ascites
  - blood transfusion may be useful if anaemia is present and it is appropriate
  - bronchial stents, brachytherapy
  - complementary therapies e.g. aromatherapy
  - music engagement, therapy and the arts
  - draughts of fresh air using fans and open windows
- at the end-of-life non-pharmacological interventions become less effective so greater reliance on drugs is common, although both may be used together

- drugs
  - opioids (usually morphine as efficacy of others have not been studied)
    - > oral/parenteral - oral seems to be more effective than subcutaneous
    - > doses are usually small 2.5 to 10 mg prn
  - oxygen
    - > a draught of fresh air may be as effective as oxygen so only use in hypoxic patients
    - > efficacy of oxygen varies between patients but if saturations are < 90% oxygen may have some benefits
  - nebulised normal saline
  - bronchodilators (nebulised/inhaled) e.g. salbutamol
    - > for patients with reversible airway obstruction
  - corticosteroids e.g. dexamethasone
    - > for patients with lymphangitis carcinomatosa, bronchial obstruction or radiation pneumonitis
  - benzodiazepines (short acting) e.g. midazolam
    - > in anxious or fearful patients where other methods have failed
  - antibiotics e.g. amoxicillin
    - > if infection is suspected may decrease secretions
  - diuretics
    - > if congestive heart failure or pulmonary oedema are present
  - anticholinergics e.g. hyoscine, glycopyrrolate
    - > if secretions are bothersome - see excessive (retained) secretions

## **Cough**.....

Cough is often associated with other symptoms such as dyspnoea, wheezing or chest tightness. It is a defensive mechanism - like pain - and it can have a detrimental effect on the quality of life as it interferes with communication, food and drink intake and sleep.

### **Causes and treatment**

- acute respiratory infection
  - antibiotic (if appropriate), physiotherapy, nebulised saline
- airways disease
  - bronchodilator e.g. salbutamol, inhaled or systemic corticosteroids, physiotherapy
- malignant obstruction (tumour)
  - as above but consider nebulised local anaesthetic
- oesophageal reflux
  - prokinetic agents e.g. metoclopramide, positioning, proton pump inhibitors e.g. pantoprazole
- salivary aspiration
  - anticholinergic agent e.g. hyoscine

- cardiovascular causes
  - usual cardiac drugs
- pulmonary oedema
- drugs which can cause cough
  - angiotensin converting enzyme inhibitors e.g. captopril - change or discontinue therapy

## **Management**

- cough with tenacious sputum i.e. a productive cough
  - may respond to steam inhalation, nebulised saline, bronchodilators or physiotherapy
- drugs (as above and below)
  - cough suppressants e.g. codeine, pholcodine, morphine
    - > may be useful in dry non-productive coughs
    - > titrate dose to effect
    - > may not be appropriate in productive coughs as retaining the mucus may encourage infection
  - Simple linctus
    - > this is a soothing syrup which may be an effective first choice
  - paroxetine (for itch of the respiratory tract)
  - nebulised local anaesthetics e.g. lignocaine (lidocaine)
    - > may be useful in intractable cough
    - > patients should not eat or drink for at least an hour after using the nebuliser to avoid accidental inhalation of food or drink
    - > potential to cause bronchospasm so the initial dose should always be given under medical supervision
  - oxygen
    - > may be useful in cough associated with emphysema
  - corticosteroids e.g. dexamethasone, prednisone
    - > often used to treat cough associated with endobronchial tumours, lymphangitis or radiation pneumonitis

## **Hiccup**.....

This is a respiratory reflex characterised by spasm of the diaphragm resulting in a sudden inspiration and closure of the vocal cords. Hiccup is a most distressing symptom and should be attended to with urgency. The phrenic and vagal nerve and the brain stem are involved.

### **Causes**

- gastric distension
- diaphragmatic irritation
- phrenic or vagal nerve irritation
- uraemia

- neurological disease affecting the medulla e.g. brain stem tumour, infarction, encephalitis
- liver disease (hepatomegaly)

### **Management**

- remove any correctable cause
  - e.g. reduction in gastric distension with a prokinetic - metoclopramide - if not obstructed
- pharyngeal stimulation with cold water
- elevation of pCO<sub>2</sub> using paper bag rebreathing or breath holding
- phrenic nerve block may be considered
- drugs
  - corticosteroids e.g. dexamethasone, prednisone
  - antipsychotics e.g. haloperidol, chlorpromazine, levomepromazine (methotrimeprazine)
  - muscle relaxants e.g. baclofen
  - benzotropine
  - anticonvulsants may be useful if a CNS cause is present e.g. phenytoin, valproate, carbamazepine
  - gabapentin

Several of the above may have to be tried. None are consistently reliable.

### **Excessive (retained) secretions** .....

This phenomenon occurs when a patient is too weak to clear respiratory secretions particularly near the end-of-life.

- air passing through these secretions produces a gurgling or rattling sound ('death rattle') which, although not obviously distressing to the patient may be distressing for families and carers
- reassurance that the patient is not distressed is important for families

### **Causes**

- inability to swallow or clear secretions
  - salivary or bronchial secretions
- cessation of steroids in patients with cerebral involvement can lead to neurogenic pulmonary oedema which may not respond to the management below - consider continuation of steroids in these patients

### **Management**

- appropriate positioning to allow postural drainage
- drugs
  - anticholinergics e.g. hyoscine butylbromide, hyoscine hydrobromide, glycopyrrolate
    - > can help but are often started too late in life to effect a major change as secretions already present have to evaporate first

- > hyoscine hydrobromide may cause delirium while glycopyrrolate and hyoscine butylbromide do not get into the CNS readily
- occasionally suction is needed to remove plugs of mucus but is not always successful and should be avoided if possible

## **Haemoptysis**.....

The coughing up of blood from the lungs, or haemoptysis, is often a frightening symptom for both patient and family.

### **Causes**

It is not always possible to identify the cause and it has been suggested that up to 40% of cases remain undiagnosed.

- tumour erosion - lung or oesophagus
- infection
- pulmonary embolism
- clotting disorders

### **Management**

- treat/remove the causes if appropriate
- if minor coughing up of blood i.e. flecks or spots of blood
  - not usually helpful to give any specific treatment but patient reassurance may help
- if the bleeding is persistent or is major
  - haemostatics such as tranexamic acid may be useful (1 to 1.5 g, 2 to 4 times daily)
  - consider radiotherapy which may have some benefit
- if the bleeding is massive
  - the normal 'life saving' interventions of bronchoscopy and intubation are inappropriate
  - reduce the patient's awareness, fear and anxiety with subcutaneous midazolam (2.5 to 10 mg) with or without subcutaneous morphine
  - staff should stay with the patient and family until the immediate crisis is over