Breathlessness

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Definition and prevalence

The term dyspnoea literally means 'bad breathing' and it is derived from the Greek - 'dys' (bad) 'pnoea' (breathing). It is a common side effect of cancer and is reported to affect up to 70% of people with terminal cancer and 75% of people with lung cancer. It is amongst the top 10 most commonly reported symptoms affecting people with cancer. Breathlessness can be distressing for both patients and their carers. It is often accompanied by anxiety, which exacerbates the symptom.



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Causes

Pulmonary

- Primary or metastatic tumours replacing lung tissue
- Obstruction of main bronchus
- Pleural effusion
- Lymphangitis carcinomatosa
- Mediastinal obstruction
- Pre-existing respiratory conditions e.g. COPD, asthma, bronchiecstasis
- Radiation induced pneumonitis/ fibrosis
- Chest infection/retained secretions

Cardiovascular

- Superior vena cava obstruction
- Pericardial effusion
- Congestive cardiac failure
- Pulmonary oedema
- Ischaemic heart disease
- Pulmonary embolism
- 📕 Anaemia

Other

- Chemotherapy
- Ascites/abdominal distension
- Weakness
- Anxiety resulting in hyperventilation
- Acidosis
- Pneumothorax
- Fractured ribs
- Pain
- Concurrent neuromuscular/neurological conditions

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Assessment

A history should be taken to ascertain the following:

Onset

- The nature of the breathlessness
- Severity
- Exacerbating and alleviating factors
- Other features such as cough, sputum etc
- Past medical intervention
- Current medications
- Impact on quality of life (through discussion of the physical, psychological, social and spiritual effects upon their lives)

A simple visual analogue scale with 0 being no breathlessness and 10 being severe breathlessness can be useful to gain a picture of the individual's subjective experience of the symptom.

Examples of features within the history indicating possible causes of breathlessness

Features	Examples
Presentation	
On exertion	Congestive cardiac failure (CCF), anaemia, advancing disease
At rest	Cancer, Chronic Obstructive Pulmonary Disease (COPD), CCF, Asthma
Progression	
Gradual	CCF, pleural effusion, neuromuscular disease.
Sudden	Pulmonary embolus (PE), anxiety
Intermittent	COPD, asthma
Quality of breath sounds	
Wheeze	Asthma/ bronchospasm
Noisy secretions	Terminal phase
Exacerbating factors	
Position	CCF, pericardial effusion
Pain	Inadequate analgesia
Alleviating factors	
Position	CCF, pericardial effusion
Reassurance	Anxiety
Treatment history	
Chemotherapy	Pneumonitis
Radiotherapy	Pneumonitis
Associated symptoms	
Purulent sputum	Infection

Haemoptysis	PE, cancer, infection
Abdominal distension	Ascites, CCF
Engorged neck veins	Superior vena cava obstruction

Source: Zeppetella (1998

Diagnostic tests may be indicated including: blood tests, chest x-rays, scans (MRI/CT/VQ) electrocardiograms, spirometry, full lung function tests, arterial blood gases analysis, and echocardiograms. However, the individual's prognosis, physical and emotional condition should be taken into account when considering these tests as some people may be too frail to undergo inappropriate procedures.

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Management

Oxygen



Source: Davis (1998

Benzodiazepines

Low doses can be useful in treating breathlessness even when there is no anxiety component because of their anxiolytic and sedative effects. They can be used in combination with opioids in a syringe driver. The most commonly used drugs are diazepam lorazepam and midazolam.

Opioids

Low dose opioids can alleviate breathlessness although the precise mechanism by which it works is not known. If the doses are too high, respiratory depression can result. Subcutaneous diamorphine can be used for people unable to swallow.

Corticosteriods

The anti-inflammatory effect of steroids can be useful for COPD, tracheal tumour, superior vena cava obstruction, lymphangitis carcinomatosa and pneumonitis. The general positive effect upon well being may also be useful.

Nebulisers

Nebulisers are machines used to provide an aerosol of water, saline or a drug solution to the lungs. They can be used with either a mask or a mouthpiece. Pure water can produce bronchospasm in asthmatic patients; however, a saline solution can assist people to

expectorate tenacious secretions.

Oncological therapies

E.g. Radiotherapy including brachytherapy, chemotherapy, laser therapy, stenting for obstruction, and pleurodesis for pleural effusion.

Non pharmacological measures

- Breathing techniques
- Fan/open window
- Relaxation techniques
- Positioning (E.g. sleeping with several pillows and sitting in a supportive chair to facilitate good posture)
- Modifying activity/routines (E.g. by prioritising and pacing activities, planning ahead and utilising labour saving equipment)
- Exercise. People who are breathless can become sedentary prematurely through the fear of precipitating an episode of breathlessness. This can quickly result in muscle deconditioning, leading to increased exertion and hence breathlessness upon

activity. Advice from a physiotherapist and or occupational therapist may be beneficia to ascertain appropriate levels of activity thus increasing the person's and their family's confidence

- Complementary therapies
- Reassurance
- Working through fears/feelings

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Intractable breathlessness at the end of life

This guidance is adapted from Christie Hospital and are applicable when all reversible factors have been considered or active interventions are no longer appropriate; and the prognosis is less than four weeks to a matter of days. In the community setting, the *Integrated Care Pathway [link to on ICP]* provides documentation and guidance on medication regimes when a patient is considered to be nearing the end of life.

Aims

- Alleviate distress of intractable dyspnoea
- Deal with coexistent problems such as pain, cough, secretions
- To help the patient and family cope with the situation

General measures

- Optimise positioning e.g. upright in chair or supported in bed
- Maximise air movement: nearby window, fan
- Regular mouth care and fluids
- Provision for toileting; avoid constipation
- Maintain calm: explanation; distraction; relaxation including complementary therapies

Therapeutic options

- Opioids and benzodiazepines are frequently used, often in combination. Please refer to Integrated Care Pathway Guidelines [link to ICP] for suggested medication.
- Opioids can help dysphoea in the absence of pain and should be prescribed regularly by the oral or parenteral route. They also suppress the stimulus to cough.
- Opioid naïve patients: morphine 2.5-10mg every 4 hours p.o. or Diamorphine 2.5 mg s/c
- An appropriate anti-emetic [link to nausea & vomiting] should be prescribed orally or subcutaneously. Dependent on the situation, a laxative may be appropriate to preven the distress of constipation [link to constipation]. However, if the patient is bed-bounc and semi-conscious, but restless [link to restlessness] and considered to be distressed from constipation, it may be more appropriate to administer a micro enema.
- For patients already on a regular strong opioid consider increasing the dose of both long acting and breakthrough drug by 30-50%
- Benzodiazepines should always be prescribed for use in acute distress as needed. They are valuable when given regularly if the sedative effects are acceptable to the patient.

Acute distress/ panic

- Lorazepam 0.5-1mg oral or sublingually
- Midazolam 2.5-5mg subcutaneously
- Steroids high dose steroids may help if there is increasing tumour related obstructio or lyphangitis but the prognosis should be at least a week to achieve any useful response
- Diuretics may reduce copious bronchial secretions in the terminal stage if the patient is still well perfused and not hypotensive
- Suppression of bronchial secretions anticipate the need before these accumulate. Options are:
- Givcopyrolate 0.6-1.2mg/24 hours. See Integrated Care Pathway

OR

- Hyoscine hydrobromide1.2-2.4 mg/24 hours s/c via syringe driver. Crosses the blood/brain barrier and may cause agitation.
- Consider gentle suction (after midazolam 2.5-5mg) in the dying patient with excessive secretions.

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References and further reading

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