

Respiratory Symptoms in Palliative Care

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Thanks to:

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Introduction

- Breathlessness
- Cough
- Secretions

Breathlessness

- Frequently cited as the most disabling symptom in cancer and non-malignant illness
- Exacerbations most likely to trigger
 - Unscheduled attendances & carer distress in both cancer & non-cancer patients
 - Up to 25% ED attendances in UK & US due to uncontrolled breathlessness²

Breathlessness – Epidemiology

- Chronic breathlessness > 6-8 weeks , arbitrary cut off ¹
- Highly prevalent in community, increases near death
 - 17% in those > 65 yrs
- Prevalence high across all diagnoses of life limiting illnesses^{2,3}
 - Cancer 16-70%, Heart failure 18-88%, COPD 56-98%, MND 81-86%
- Patients with cancer experience less breathlessness than chronic non-malignant illness - significant in last 3 months
- 26% in receipt palliative care - severe breathlessness in final 3 months life

1. Ekstrom M, Abernethy A, Currow DC The management of chronic breathlessness in patients with advanced and terminal illness BMJ 2015

2. Moens K, Higginson IJ Are there differences in the prevalence of palliative care related problems in people living with advanced cancer and eight non-cancer conditions ? A systematic review J Pain Symptom Manage 2014

3. Solano , Gomes et al A comparison of symptom prevalence in far advanced cancer, AIDS, chronic obstructive pulmonary disease, heart and renal disease J Pain Symptom Manage 2014

Breathlessness – the nature of the problem

- o Complex multi-dimensional symptom with a myriad of contributors to breathlessness experience¹
- o Previous experiences, context, anxiety & panic

1. Lovell N, Etkind S et al Control and context are central for people with advanced illness experiencing breathlessness – a systematic review and thematic synthesis J Pain Symptom Manage 2014

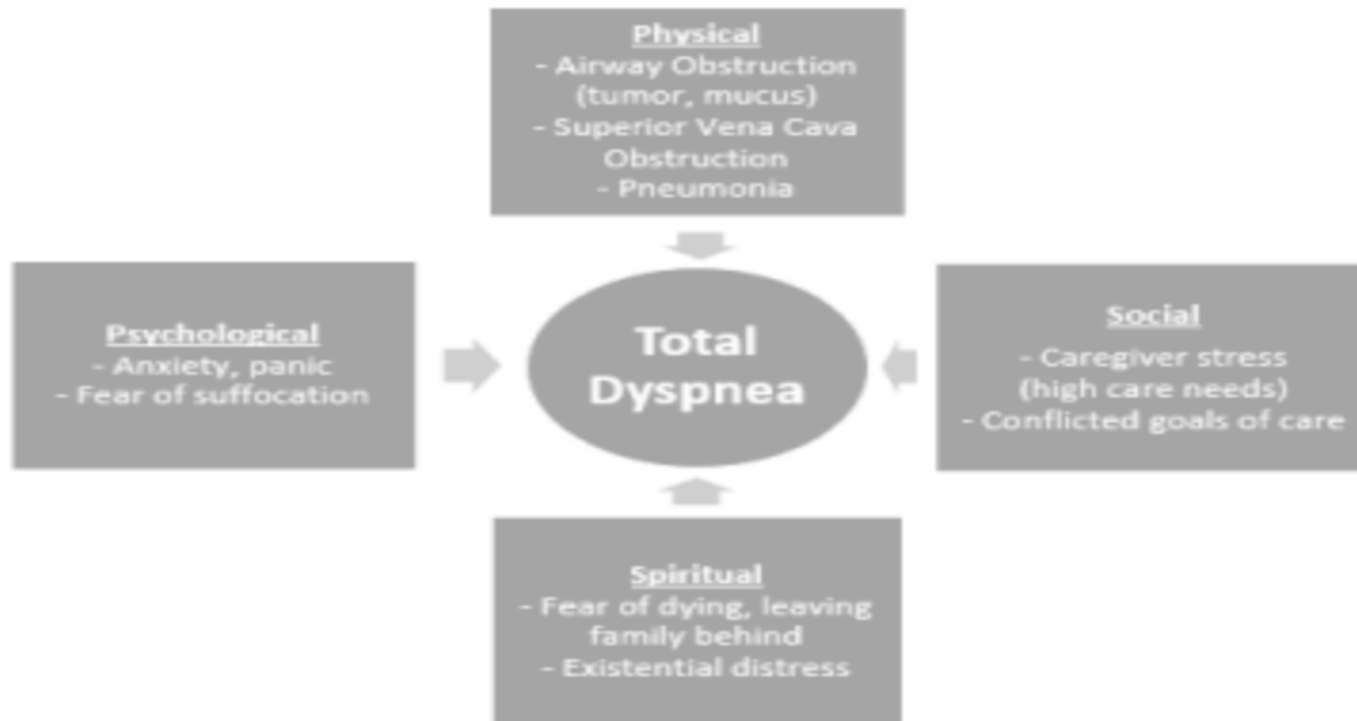
Breathlessness as a symptom

- Burden of dyspnoea co-exists - concurrent fatigue, cough, anxiety & depression
- Confer **significant functional limitation**
- Devastating effect on **quality of life**
 - concept of '*total breathlessness*'
- Associated with **poor prognosis**, particularly when breathless at rest

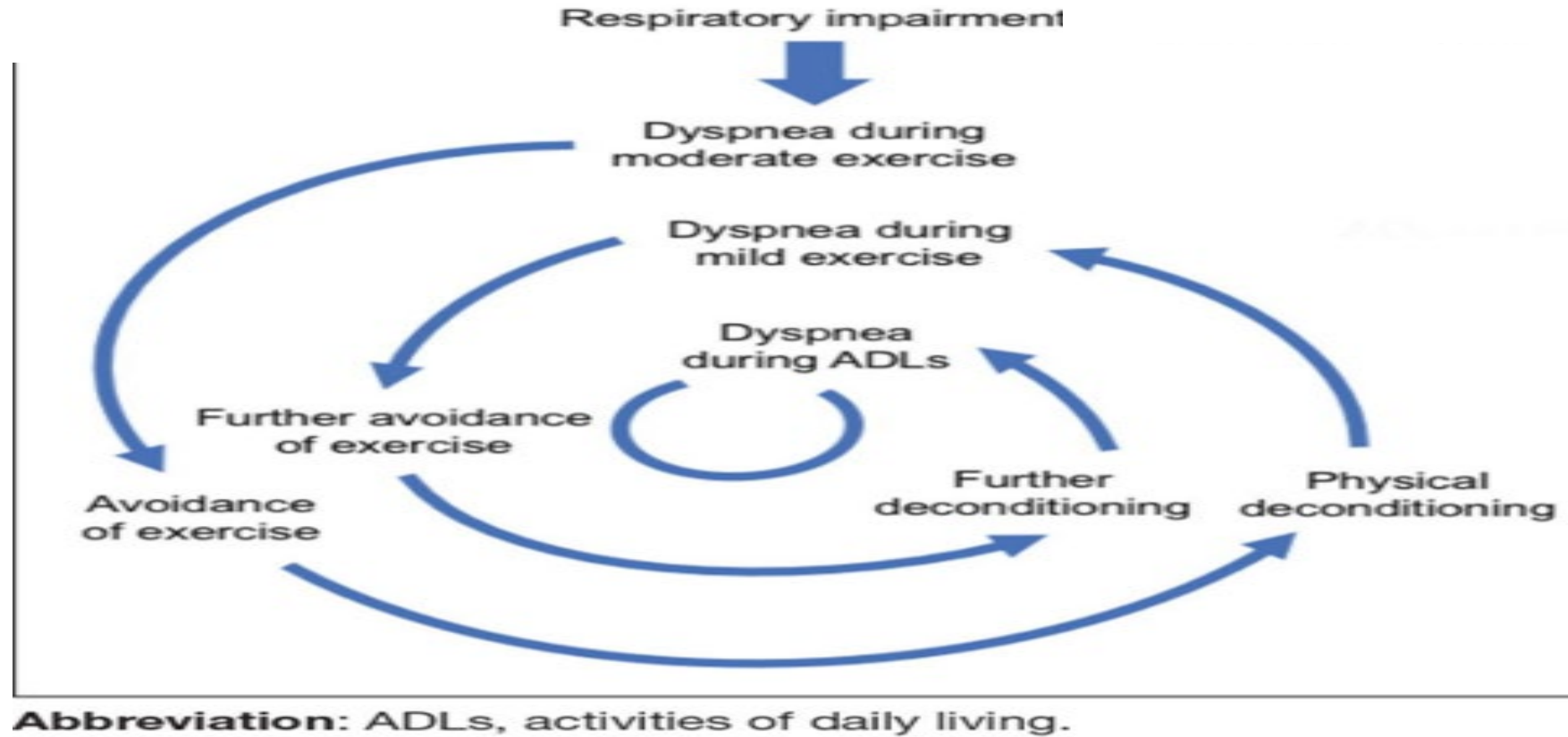
- Clinicians recognise significant impact on patients¹ - but
 - Time constraints
 - Inadequate access to resources & training
 - Ill-equipped in assessment & management

1. Young, Donahue Farquahar M Using opioids to treat dyspnoea in advanced COPD – attitudes of family physicians and respiratory therapists Can Fam Medicine 2012

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- Devastating effect on quality of life
 - concept of ‘total breathlessness’

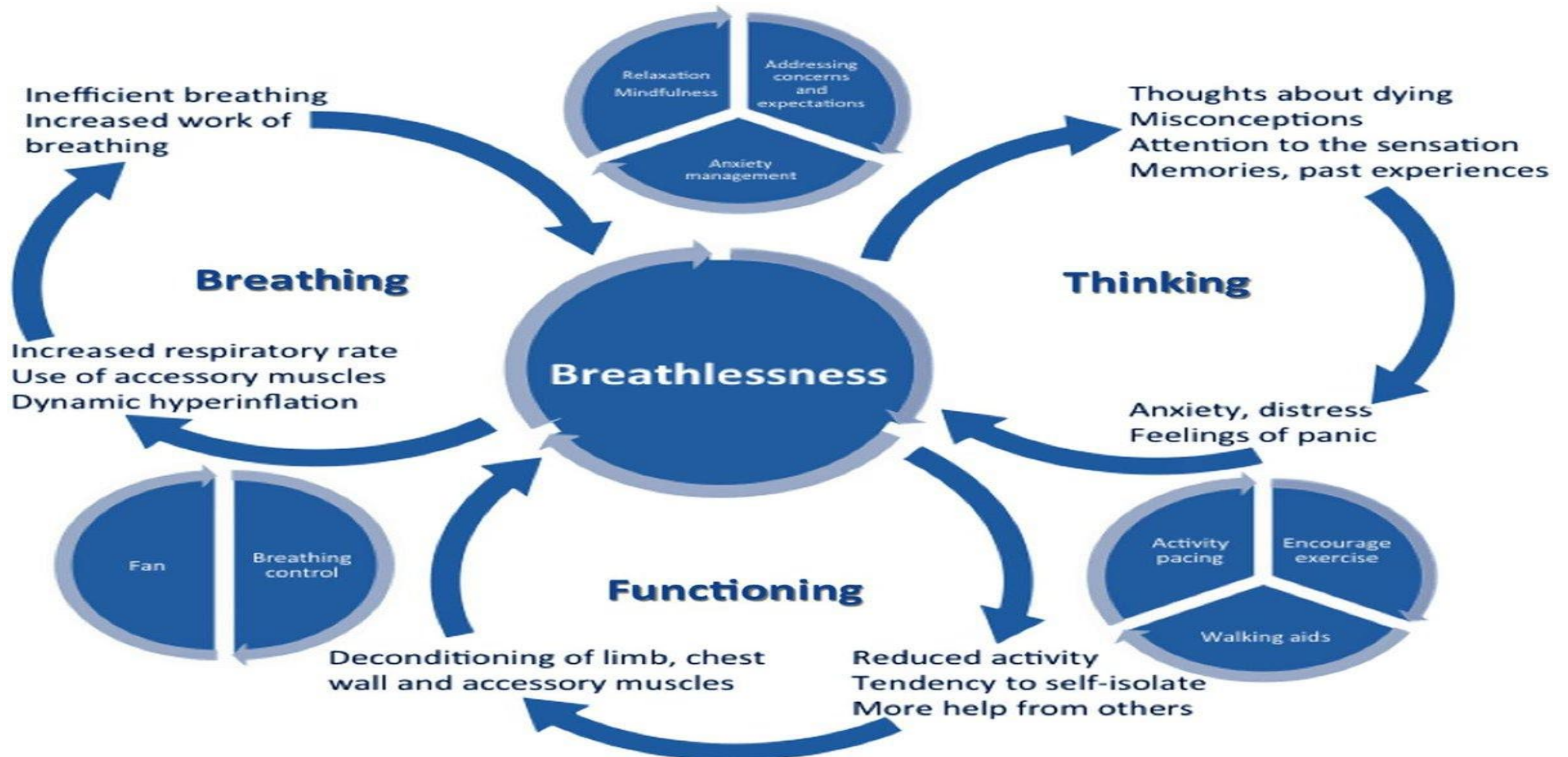


The spiral of dyspnoea disability



- Intimately related to **physical & emotional exertion** – avoidance, resulting in vicious cycle of deconditioning and further breathlessness on exertion

Breathing, Thinking, Functioning Model



Impact & Experience of breathlessness

Frightening, disabling & restricting...
pervades every part of life^{1,2}

Support highly valued – but
provided inconsistently &
sporadically¹

Stoical philosophical approach to live
with impact of breathlessness¹

Restrictions imposed affected lives
profoundly^{1,2}

Feelings of isolation & invisibility^{1,2}

Perceived lack of interest or response
from clinicians²
- retreat from seeking help

1. Booth S, Silvester S, Tood C et al, Breathlessness in cancer and chronic obstructive pulmonary disease – using a qualitative approach to describe the experience of patients and carers Palliat Support Care 2003

2. Lovell N, Etkind S et al Control and context are central for people with advanced illness experiencing breathlessness –a systematic review and thematic synthesis J Pain Symptom Manage 2014

Not just the patients... Informal carers

> BMC Palliat Care. 2020 May 6;19(1):64. doi: 10.1186/s12904-020-00572-7.

Two faces of the same coin: a qualitative study of patients' and carers' coexistence with chronic breathlessness associated with chronic obstructive pulmonary disease (COPD)

Diana H Ferreira ¹, Slavica Kochovska ², Aaron Honson ³, Jane L Phillips ², David C Currow ³ ²

- Growing, substantial body of evidence demonstrate that carers of those with breathlessness may experience profound anxiety, exhaustion and poor sleep
- Heightened when witnessing breathlessness paroxysms
 - powerless to help
- Living with uncertainty, shrinking world
- Exhausted by extra physical work & psychological support required

1. Booth S, Silvester S, Tood C et al, Breathlessness in cancer and chronic obstructive pulmonary disease – using a qualitative approach to describe the experience of patients and carers Palliat Support Care 2003

Assessment of Breathlessness



Assessment of Breathlessness

- Subjective experience - '*a sensation, not a physiological variable*¹'
- Screen at every assessment
- **Gold standard** for assessment of breathlessness is patient self-report

Assessment of Breathlessness

‘Are you short of breath..?’

VS.

*‘What activities have you reduced or given up
as a result of breathlessness?’*

- Objective physiological measures complement assessment **but** weak association with subjective sensation of breathlessness
 - Presence and severity of breathlessness for an individual cannot be predicated by variables such as oxygen saturations, respiratory rate¹
 - Lung function tests correlate poorly with breathlessness experience
- Agreement between doctors and patients on rating of breathlessness was 45%

Uni-dimensional & functional tools for assessment

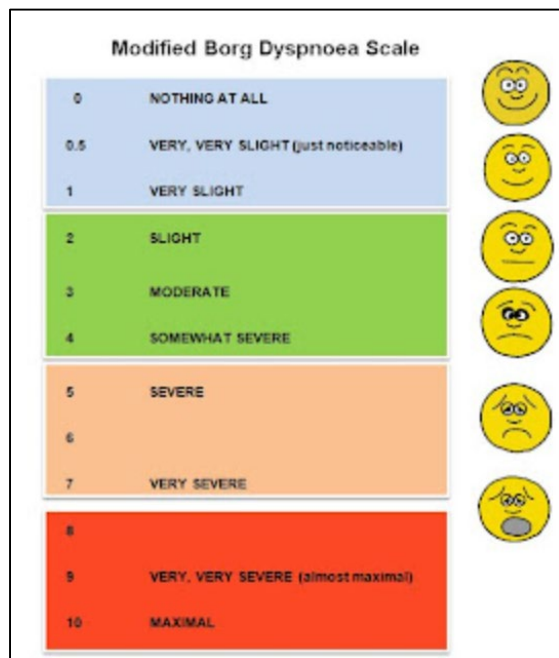
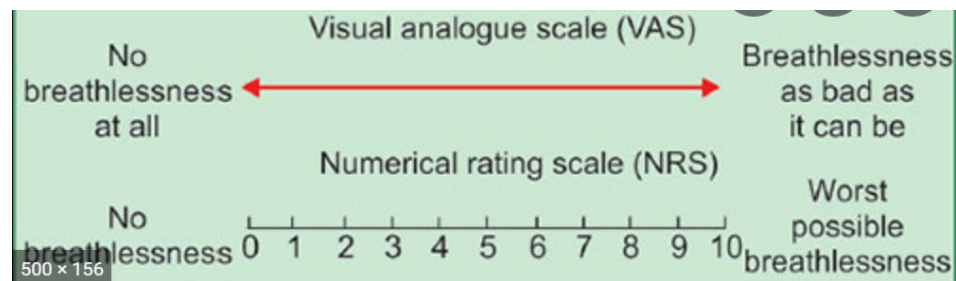


Figure 6. The Modified Medical Research Council Dyspnea Scale

mMRC Breathlessness Scale

Grade	Description of Breathlessness
0	I only get breathless with strenuous exercise
1	I get short of breath when hurrying on level ground or walking up a slight hill
2	On level ground, I walk slower than people of the same age because of breathlessness, or have to stop for breath when walking at my own pace
3	I stop for breath after walking about 100 yards or after a few minutes on level ground
4	I am too breathless to leave the house or I am breathless when dressing

Chris Stenton. The MRC breathlessness scale. *Occup Med (Lond)*(2008)58(3): 226-227 doi:10.1093/occmed/kqm162, Table 1. By permission of Oxford University Press on behalf of the Society of Occupational Medicine. A mMRC score of 1 or more suggests significant symptoms.

mMRC=modified Medical Research Council

74 year old lady with Metastatic Breast Carcinoma

Progressive dyspnoea, intermittent wheeze & dry nocturnal cough

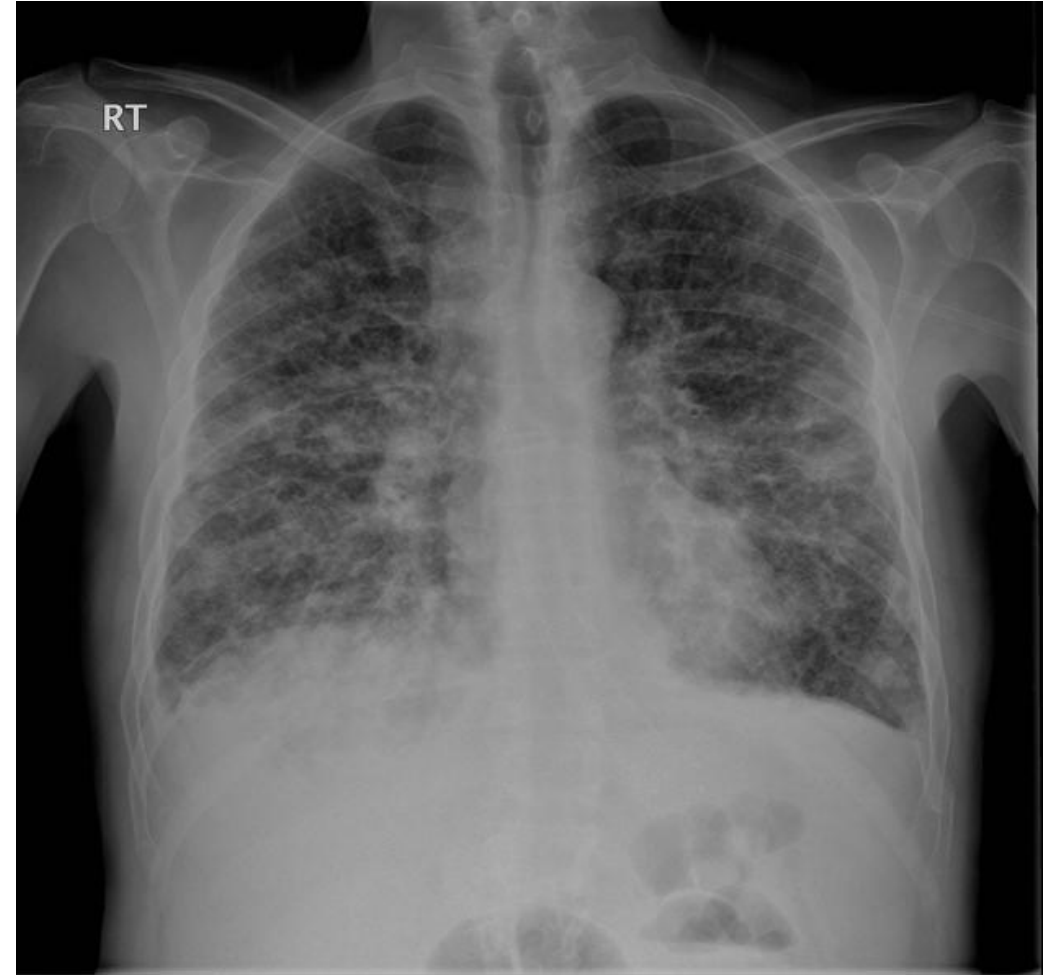
Panic, spiralling & impact on daily ADLs, ability to live alone

- Potential **differentials** for this lady's **symptomatic presentation** ?



Cancer related

- Pulmonary metastatic disease
- Effusions – Pleural or Cardiac
- Superior Vena Caval Obstruction
- Lymphangitis Carcinomatosa



Treatment related

- Post radiotherapy
- Chemotherapy
 - Cardiac or pulmonary toxicity
- Surgical
 - Chest wall resection, phrenic nerve damage

Co-morbid issues

- Infection
 - Concurrent anaemia
 - Thrombo-embolism
 - Deconditioning as a result of weight loss & in-activity
-

Factors for consideration

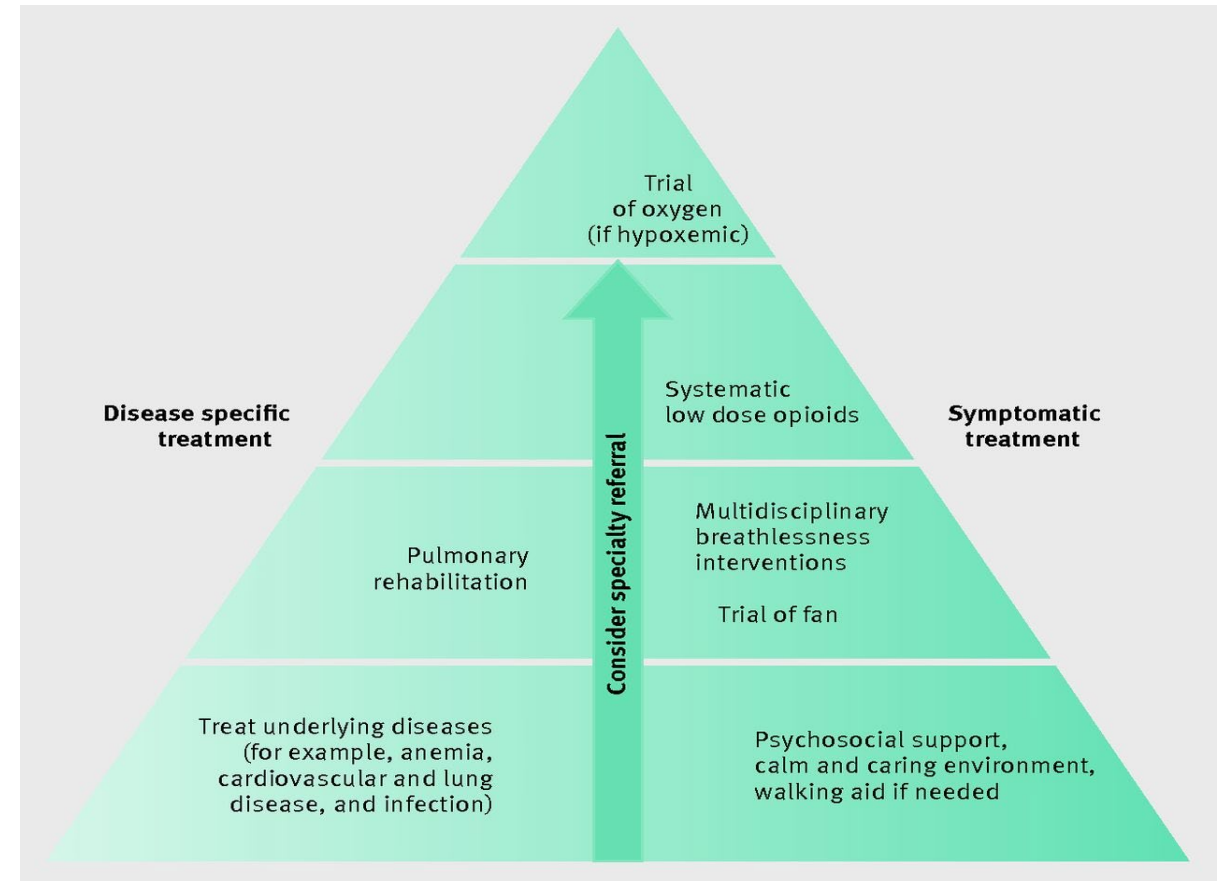
Decision making will be influenced by your patient's **preferences, performance status & estimated prognosis**

- Reverse the reversible
 - ✓ Actively seek infection – including atypical
 - ✓ Consider therapeutic thoracocentesis, indwelling Pleurex® drain
 - ✓ Diuretic therapy trial if compelling features of de-compensated heart failure
 - ✓ Lymphangitis carcinomatosis/Superior Vena Caval Obstruction
 - high dose steroids e.g. Dexamethasone 8mg od- bd po
 - Stenting, suitability for thoracic radiotherapy
-

Approach to management

Hierarchy of Management

1. Correct the correctable
2. Non-Pharmacological
3. Pharmacological
 - opiate therapy
 - benzodiazepines
 - oxygen therapy
 - antidepressants ?



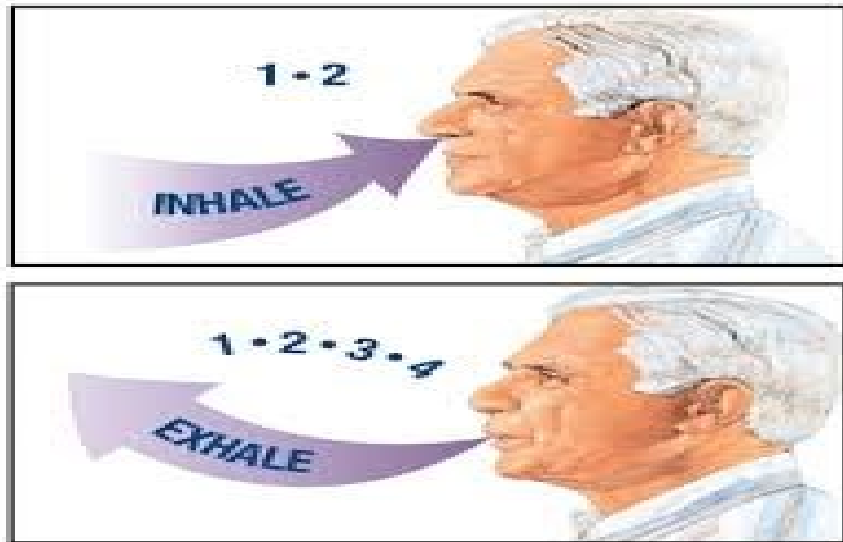
Non Pharmacological Management

- **Cornerstone in management**
 - Complements & may be superior to use of pharmacological interventions for some patients
 - Vital in promoting breathlessness mastery
 - Harness and **use early** in trajectory of advancing illness
 - window of opportunity
 - may be less useful as illness progresses & prognosis shortens
-

Non-Pharmacological Management

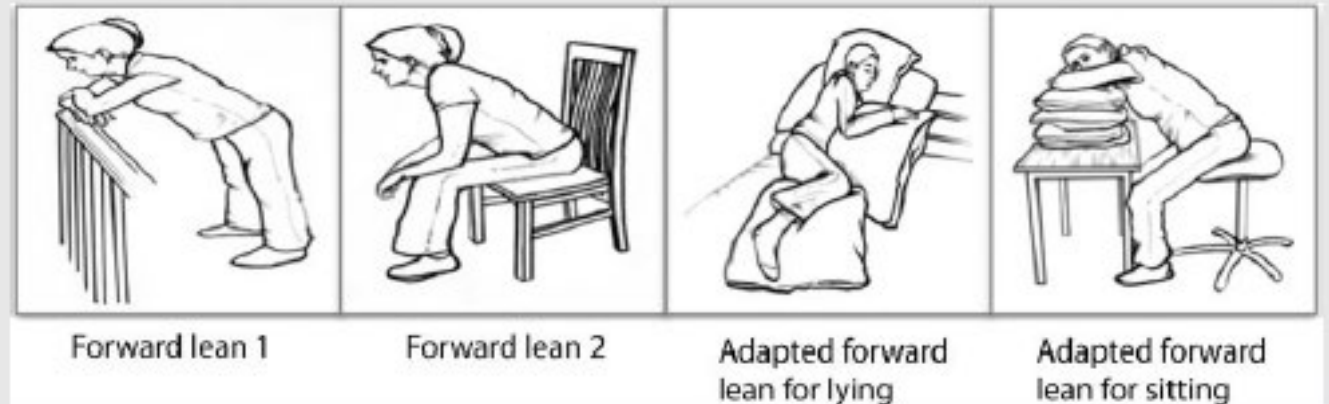
1. Breathing re-training

Pursed Lip Breathing,
Timed breathing
Diaphragmatic breathing



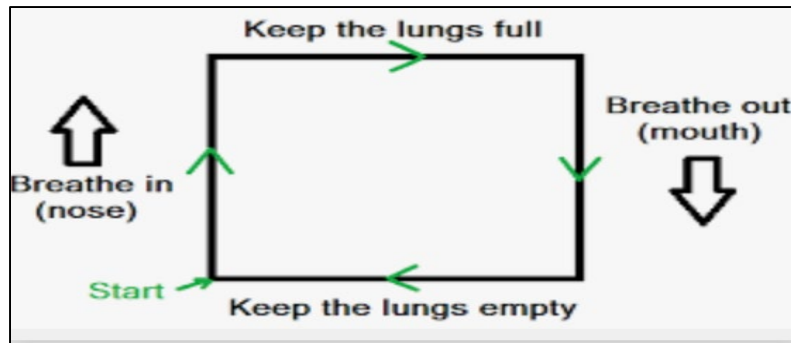
2. Positioning – recovery & empowerment

Box 1 Joint British Thoracic Society and Association of Chartered Physiotherapists in Respiratory Care (BTS/ACPRC) guidance on positioning to relieve breathlessness^{33 35}



Non-Pharmacological Management

3. Guided Imagery & Relaxation techniques



4. Education & Self-Management

- Emphasis that experiencing breathless not harmful – dispel fear of provoking breathlessness
- Activity pacing
- Use of mobility aid for ambulation & functional activities
- **Role of pulmonary rehabilitation**

Non-Pharmacological Management

[BMC Palliat Care](#). 2010; 9: 22.

Published online 2010 Oct 19. doi: [10.1186/1472-684X-9-22](https://doi.org/10.1186/1472-684X-9-22)

PMCID: PMC2974661

PMID: [20958972](https://pubmed.ncbi.nlm.nih.gov/20958972/)

Effectiveness of a hand-held fan for breathlessness: a randomised phase II trial

[Claudia Bausewein](#),¹ [Sara Booth](#),² [Marjolein Gysels](#),^{1,3} [Robert Kühnbach](#),⁴ and [Irene J Higginson](#)¹



- Role of hand held fan
- Under-rated, simple intervention to promote self management
- Cheap, minimal adverse effects
- Mode of action
 - generate air flow across nasal receptors in trigeminal distribution, moderates afferent signal to respiratory centre
 - enhanced self efficacy, particularly with paroxysms

1. Pharmacological options - Opiates

- Opiates the largest & most compelling evidence base for alleviation of breathlessness - though poor quality, conflicting.
- Reduce sensation of work of breathing
 - Act centrally
 - Via opiate receptors in pulmonary vasculature to promote vasodilation.
- Most evidence (although limited) relates to morphine
 - Oramorph(IR) 2.5mg po – can establish on TDS/QDS dose
 - Low dose sustained release MST(Morphine sulphate Tablet)¹
 - More than 90% people respond to 20mg OME daily or less¹
- Concern about respiratory depression overstated
 - small dose increments & titrate slowly.

1. Currow DC McDonald et al, Once daily opiates for chronic dyspnoea – a dose increment & pharmacovigilance study J Pain Symptom Manage 2011

2. Pharmacological options - Benzodiazepines

Cochrane Database of Systematic Reviews

Benzodiazepines for the relief of breathlessness in advanced malignant and non-malignant diseases in adults

Cochrane Systematic Review - Intervention | Version published: 20 October 2016 [see what's new](#)

- Evidence for efficacy in relief of breathlessness inconclusive in both malignant and non-malignant disease¹
 - little benefit if prescribed in isolation
- Can be helpful in short term relief of panic associated with paroxysms
- Tolerance & exacerbation of delirium an issue
- Should be prescribed 3RD LINE after opiates & non pharmacological interventions, role in end of life care



3. Pharmacological Management – Oxygen therapy

BTS Guidelines

British Thoracic Society guidelines for home oxygen use in adults

- Indicated ONLY if confirmed hypoxia
- Patients with cancer or advanced cardio-respiratory illness with intractable breathlessness should not receive Palliative Oxygen therapy (POT) if they are non-hypoxaemic ($\text{SpO}_2 > 92\%$)
- Burst oxygen if episodic breathlessness ?



4. Pharmacological Management – Corticosteroids

Cochrane Database of Systematic Reviews | [Review - Intervention](#)

Systemic corticosteroids for the management of cancer-related breathlessness (dyspnoea) in adults

[Alison Haywood](#), [Jacqueline Duc](#), [Phillip Good](#), [Sohil Khan](#), [Kirsty Rickett](#), [Petra Vayne-Bossert](#), [✉ Janet R Hardy](#)
Authors' declarations of interest

Version published: 20 February 2019 [Version history](#)

- Evidence base limited, insufficient
 - Cochrane review neither supported nor refuted use!
 - Corticosteroids felt to be helpful for alleviation of dyspnoea in cancer if
 - ✓ Central airway obstruction
 - ✓ Lymphangitis carcinomatosa
 - ✓ Superior vena caval obstruction
 - Limited role as maintenance therapy in idiopathic pulmonary fibrosis, interstitial disease
 - Adverse effects
-

Cough

- Cough is a forced expulsive manoeuvre usually against a closed glottis, which is associated with a characteristic sound.
- It usually has a protective function in maintaining patency and cleanliness of the airways, but may be due to a number of underlying conditions.
- Chronic cough: >8 weeks
- Cough occurs in 50-80% patients with cancer

Causes

- COPD
- Infection
- PE
- Cancer e.g. endobronchial tumour, treatment side effect
- Pleural/pericardial effusion
- Congestive cardiac failure
- Aspiration
- Drugs e.g. ACE inhibitors
- Interstitial lung disease
- Postnasal drip
- GORD
- Sinusitis
- Bulbar muscle weakness e.g. MND
- SVCO
- Recurrent laryngeal nerve palsy
- Tracheal compression

Assessment

- Explore:
 - understanding of the reasons for cough
 - fears (including fear of choking)
 - impact on:
 - functional abilities (including continence)
 - quality of life
 - families and carers.
- Clarify:
 - pattern, character and duration
 - precipitating/alleviating factors
 - associated symptoms
 - occupational history.
- Look for any potentially reversible causes of cough, such as:
 - infection
 - pleural or pericardial effusion
 - pulmonary embolism
 - gastro-oesophageal reflux
 - bronchospasm.

General Management

- Consider treating any potentially reversible causes.
- Optimise current therapy (non-drug management and medication); in particular, ensure adequate analgesia as pain may inhibit effective coughing.
- Acknowledge fear and anxieties, and provide supportive care.
- Consider referral to physiotherapy services if difficulty in expectorating retained secretions.
- Agree a self-management plan which could include:
 - cough diary
 - smoking cessation advice
 - improved ventilation such as opening a window, putting on a fan
 - coping strategies such as:
 - positioning and posture
 - relaxation
 - controlled breathing technique and effective coughing techniques, for example huffing.

Specific Management - Dry Cough

- COPD (non infective) - steroids, inhalers/nebulisers
- PE - consider appropriateness of anticoagulation
- Pleural/pericardial effusion - drainage
- SVCO - steroids
- Tracheal compression - radiotherapy, steroids, stenting

General Management - Dry Cough

- Cough suppression with opioids:
 - Codeine linctus (not usually if on other opioid)
 - Morphine
 - opioid naive – 2mg immediate release orally, 4 to 6 hourly if required.
 - already on morphine – continue and use the existing immediate-release breakthrough analgesic dose (oral if able or subcutaneous equivalent) for the relief of cough.
 - Methadone
- Trial second line GABA agonists e.g. gabapentin/pregabalin, benzodiazepines

Specific management - Productive Cough

- Infection - antibiotics
- COPD (infective exacerbation) - antibiotics, steroids, inhalers/nebulisers
- GORD - PPI, prokinetic
- Congestive cardiac failure - Medical management, diuretics
- Aspiration - SALT, altered diet
- Weak productive cough/excessive saliva e.g. MND - consider antisecretory
- Sinusitis/postnasal drip - nasal spray/decongestant

General Management - Productive Cough

- Mucolytics - to reduce sputum viscosity, for example carbocisteine (Exputex) as required.
- Nebulised sodium chloride 0.9% to help loosen secretions.
- When a patient with a moist cough reaches end of life, cough suppression/drying of secretions may be necessary.

Oropharyngeal Secretions

- 'Death rattle' , 'noisy', 'rattling', 'harsh', 'gurgling'
- Very common symptom at end of life. 23-92% deaths¹.
- Sign that death is close
- Emotional response in professionals and carers

1. Wee B, Hillier R. Interventions for noisy breathing in patients near to death. Cochrane Database Syst Rev. 2008 Jan 23;2008(1):CD005177. doi: 10.1002/14651858.CD005177.pub2.

Causes

- Increased production of airway secretions or inefficient elimination of the mucus or both.
- Fluid collecting in the upper airway from one or more sources:
 - Saliva
 - Bronchial mucosa- infection/ inflammation
 - Pulmonary oedema
 - Gastric reflux

Who gets them?

- More commonly patients with :
 - lung cancer,
 - chest infections,
 - brain tumours
 - serious head injuries,
 - neuromuscular disorders, especially if associated with dysphagia,
 - cardiac arrest

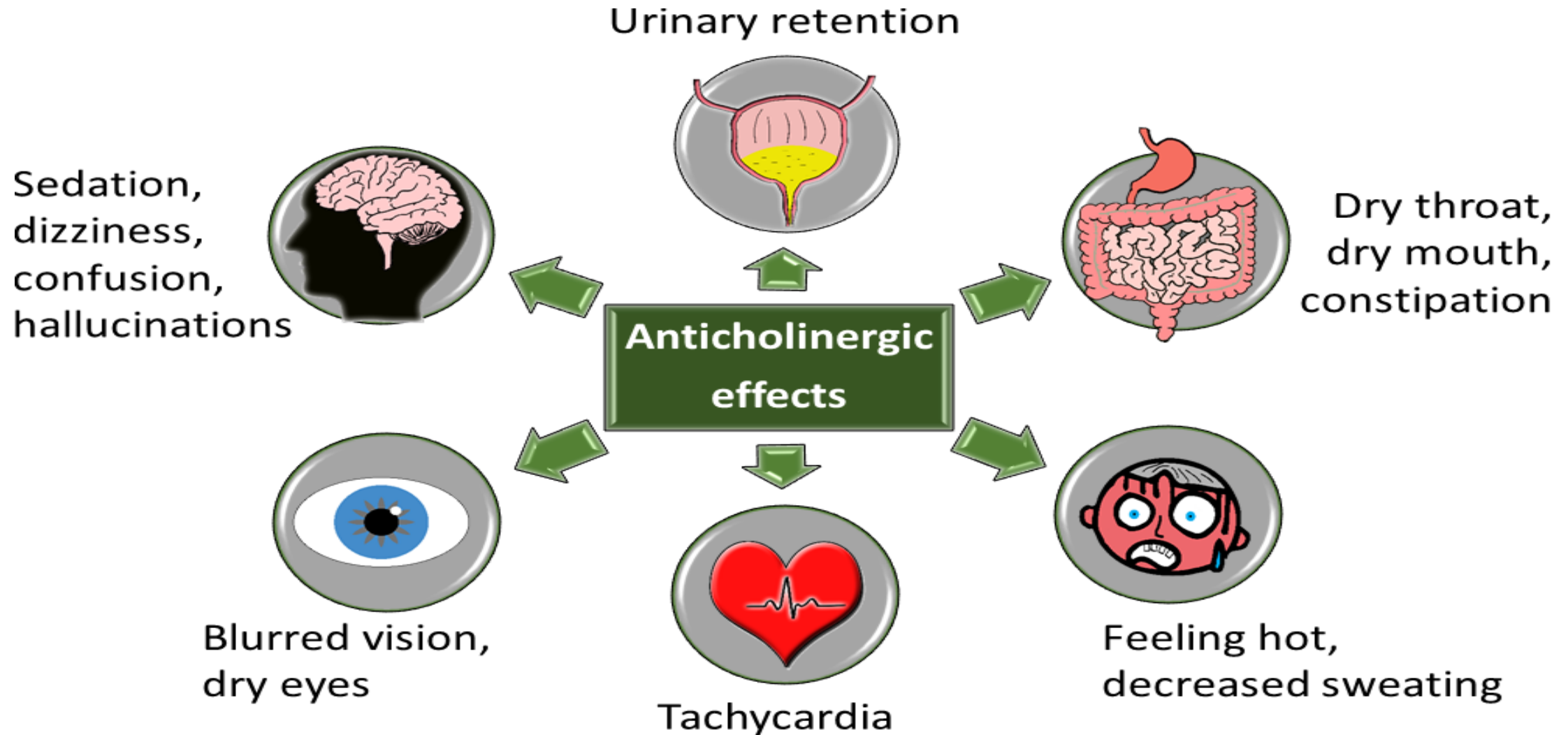
Nonpharmacological Management

- Counsel and educate families
- Positioning, i.e. head raised or lateral position may help
- Gentle upper airway suction can be considering on a case by case basis if unconscious
- Reduce risk by avoiding fluid overload; review any assisted hydration or nutrition (intravenous or subcutaneous fluids, feeding) if symptoms develop

Pharmacological

- Saliva
 - Antimuscarinic/anticholinergic i.e. hyoscine butylbromide (buscopan), glycopyrronium
 - Early introduction - prophylaxis more effective than treatment
 - Buscopan 20mg 4hrly PRN or via CSCI (Max 120mg/24hrs)
 - Glycopyrronium 400mcg 4hrly PRN or CSCI (Max 2400/3600mcg/24hrs)

Antimuscarinics- side effect profile



Pharmacological

- Bronchial mucosa
 - Unlikely to be appropriate to rx antibiotic if patient dying
- Pulmonary oedema
 - SC furosemide 20-40 mg prn SC/IM/IV
 - Furosemide via CSCI
- Gastric reflux
 - Consider prokinetic/ PPI

Conclusion

- Respiratory symptoms are common in our population.
- Complex, difficult to manage.
- Limited evidence for pharmacological management.
- Distressing for patients, carers, medical professionals.
- Understanding, education is key!