

Symptoms 2 – Other Symptoms and Emergencies
Module – 4
Facilitator Guidelines

General Points

- The modules have been developed for presentation by facilitator(s) who are acute hospital-based clinicians, though not necessarily practicing specialist palliative care.
- The modules have been designed as a group (of six), though are independent of each other and can be delivered individually, or out of sequence.
- The target audience is junior medical staff, post graduate years 2-4 of all training streams.
- It is envisaged that each module will take about an hour in total (including discussion time).
- Technical requirements include a computer and data projector, able to run PowerPoint. It is suggested that pre-reading be distributed, electronically or by hard copy prior to the presentation.
- It is hoped that the presentation will stimulate discussion amongst the group and sharing of clinical experiences. Appropriate facilitation and management of these discussions is an essential role of the facilitator.
- The presentations aim to enable attainment of the objectives outlined below.
- There is an accompanying evaluation form, based on the stated objectives.
- It is recommended that facilitators familiarise themselves with the material prior to presenting it and contact the authors or local palliative care consult service with any questions.

Module Summary

Pain and symptom management are uniformly considered important to patients at the end of their life (Steinhauser, 2000). We all have an essential role in meeting this expectation; either through implementation of our own knowledge and skills, or by appropriate referral. While this module is not intended to be an exhaustive review; it aims to provide a framework for symptom management. These techniques can be considered for patients with non-terminal illness, though those with advanced disease are the intended focus. Some common symptoms and conditions will be covered in more detail, such as nausea and vomiting, dyspnea and malignant bowel obstruction. Finally, there will be a brief review of the approach to emergencies at the end of life.

Objectives

Knowledge:

- Classify and assess nausea, using a 'mechanistic framework' to guide description and management.
- List and describe common anti-emetics, with reference to:
 - their site of action (including details of which receptors are involved)

- appropriate starting doses and routes of administration
 - their side effect profile
- Be aware of non drug options which may be appropriate in certain situations:
 - eg. decompression in bowel obstruction, radiotherapy in haemoptysis, etc...
- Recognise that bowel obstruction is common in advanced cancer and list the possible mechanisms
- Have an awareness of the palliative approach to the symptomatic management of malignant bowel obstruction, particularly:
 - When reversal is considered possible
 - When all agree that this will be a terminal event – and how to recognize the difference
- List (briefly) a differential diagnoses of dyspnea, using a mechanistic framework
- Be aware of the available treatment for the symptom of dyspnea, and their limitations, particularly:
 - The role of opioids
 - The role of oxygen
- Recognise when and how to refer for specialist palliative care support for difficult symptom management
 - Be aware that this need not imply a terminal event for the patient
- List the ‘red flags’ suggesting a potential palliative care emergency, particularly:
 - Spinal cord compression
 - Airway obstruction
 - Major haemorrhage
 - Agitated delirium (in the dying patient)
- Discuss first line management and appropriate urgent referrals for palliative care emergencies, particularly appreciating the time critical nature and who needs to be involved.

Attitudes:

- Be ready to treat the often unrecognized, but significant symptom burden in advanced illness.
- Appreciate that the skills and techniques are transferable to other fields of medical practice and to patients with ‘curable’ disease.

Skills:

- Assess and prescribe for nausea using a ‘mechanistic framework.
- Assess and consider the potential differential diagnoses for dyspnea in advanced illness and have an approach to symptom management.
- Approach the management of malignant bowel obstruction.
- Recognise a palliative care emergency and institute timely and appropriate first-line management and referrals.

Pre-Reading

- nil

Handouts

- Lichter I, **Which Antiemetic?** *Journal of Palliative Care* 1993;9(1):42-50 (see attached diagram)

PowerPoint Presentation – notes

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SLIDE 2

- Walsh and colleagues studied 1000 consecutive palliative care referrals, both out-patients and in-patients, and found that these patients have a high prevalence of multiple symptoms. Given this multiplicity of problems, we need to have the appropriate knowledge and skills to assess and manage them, and know when to refer for specialist advice.
- We are not intending to laboriously address the entire list however, but focus on those that are most relevant to acute hospital practice. Such as: nausea/vomiting and dyspnea, the symptomatic management of bowel obstruction in advanced disease which may require a different approach to the usual 'drip and suck', and finally briefly consider some of the true emergencies in palliative medicine.

SLIDE 3

- Nausea and vomiting causes significant discomfort and distress in patients with advanced cancer, and is common with a reported prevalence between 40 and 70%, which despite advances in anti-emetics has remained largely unchanged (Mannix, 2005).
- There are many associations, with particular cancers, patient factors and medications. While it is important to consider the likely cause to better target therapy, there are often multiple factors involved.

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SLIDE 7

- There is effectively no blood brain barrier in the area of the CTZ, which means that the chemosensitive nerve cell projections are bathed in CSF, which is in chemical equilibrium with the blood.

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- Other afferents are involved in this relationship between the VC and CTZ.
- While most vagal afferents terminate at the VC, there is some vagal input to the CTZ.
- Projections from the vestibular nuclei are less well understood, though it should be noted dopamine is not thought to be particularly involved (and dopamine antagonists are not usually helpful).

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- This is summarised in the following diagram (*which is also a handout*).

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- The approach to management of nausea and vomiting is similar to that we used for pain. Assessment and consideration of the likely cause is a vital first step (that is often overlooked). This will involve a thorough history, examination and most likely investigations; considering the list

presented earlier. In the ideal situation, a reversible cause will be identified, which can then be directly treated. The treatments of the underlying causes may be diverse: such as treating constipation, addressing psychological factors or treating metabolic factors such as hypercalcaemia.

- A mechanistic approach also allows for appropriate and rational anti-emetic selection, by considering the likely pathways and neurotransmitters involved. Then the most potent antagonist to the receptor identified, with an appropriate side effect profile, can be chosen
- The route is obviously a crucial consideration (and usually not oral, at least initially).
- As with any drug, regular review and titration is important. If the nausea and vomiting fails to respond adequately and through re assessment should be initiated. If this fails to suggest an appropriate alternative, specialist advice should be sought.

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- These are two very commonly used anti-emetic classes
- Butyrophenones act at the CTZ (and gastroduodenal junction) and can cause EPSE (eg. dystonias, dyskinesia and akathisia). They should obviously be avoided in patients with known Parkinson's disease or a prior history of EPSE after their administration. Haloperidol is the most commonly used, and can be given orally or subcutaneously; a starting dose of 0.5mg bd is usually effective and well tolerated.
- Prokinetics you would be more familiar with. They are most potent at the level of the gut (though there is some CTZ anti-dopaminergic activity), and metoclopramide can be given intravenously, subcutaneously and orally. Domperidone only has an oral preparation, but has a role because EPSE are rare (since it does not readily cross the blood-brain-barrier).

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- The phenothiazines are less potent D2 antagonists, but have activities at other receptor sites (which predict their side effect profiles).
- Antihistamines act on the H1 receptors in the VC and vestibular afferents. Only cyclizine (anti-histamine and anti-muscarinic) is available subcutaneously

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- Selective 5HT3 receptor antagonists revolutionised acute onset emesis after chemotherapy. They have an established role for post-chemotherapy and (to a less extent) radiotherapy induced emesis. However they have no established role in the management of nausea and vomiting from other causes (while this is recognised by the PBS, it is less so by prescribing practices in acute hospitals!) They do not have any effect on nausea mediated by dopamine pathways and remain largely untested in other populations. The UK licences ondansetron for post-operative nausea and vomiting, but the benefit is no greater than that expected with conventional agents. Their main side effects are headaches and constipation (dystonic reactions are rare).

- Other drug classes include corticosteroids. They are known to have intrinsic antiemetic effects and also potentiate the effects of other agents. Their anti-inflammatory effects can also have local tumour effects, reducing the emetic stimulus from stretch receptors in the gut or brain. Benzodiazepines have little anti-emetic potency, but do have a role in anticipatory nausea (eg. related to chemotherapy). Aprepitant is the example of the final class and has a role in highly emetogenic chemotherapy, alongside ondansetron and dexamethasone.

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- Bowel obstruction is a well-recognized complication in cancer patients with abdominal or pelvic malignancy; and an important cause of symptoms in patients with advanced cancer. Although it may develop at any time of the disease, it more frequently occurs in the advanced stage.
- Studies in this area are difficult and reported incidence varies markedly with figures derived from autopsy and retrospective studies in highly selected groups. Frequency reports range from 5% to 51% in advanced ovarian carcinoma, and from 4% to 28% in advanced colorectal cancer. The true incidence may be higher.
- The presentation of malignant intestinal obstruction is often not the classical acute surgical abdomen where there is sudden onset of colicky abdominal pain, associated with vomiting and absolute constipation; more usually the onset is more insidious, over many weeks or months, with all the symptoms gradually worsening, becoming more continuous and severe.
- The natural history of obstruction can also be intermittent, with obstructive episodes resolving spontaneously, if only temporarily.
- Partial obstructions are common.
- Small (61%) or large (33%), or both (20%) may be involved and there may be single or multiple levels of obstruction.

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- Intraluminal obstruction: often polypoid primary tumours or metastases which if large enough occlude the lumen or act as a point for intussusception
- Intramural extension: lateral tumour spread within the muscle wall
- Extramural obstruction: mesenteric or omental masses, or malignant adhesions causing extrinsic compression.
- Motility disorders: Ileus; either directly by tumour infiltration of the mesentery, bowel muscle or celiac and enteric plexuses. Paraneoplastic disorders.
- Contributing factors may be opioids, anticholinergics and chemotherapy agents (causing peripheral and/or autonomic neuropathy).
- Faecal impaction/constipation is often an important and reversible factor.
- Even in advanced cancer benign causes are important to remember – reports suggest these may represent up to half in CRC though only 6% in gynaecological malignancy. Examples include adhesions (especially since often scarred abdomens), post radiation and hernias.

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- MBO is an example of where intervention may well be the most appropriate palliation.
- Surgery may well be the first choice in management, particularly in complete obstruction or after a trial of conservative management for non-resolving partial bowel obstruction after trial conservative management. (Given the high rates of benign causes (eg. in CRC) these would not want to be missed.)
- However, it is obviously a complicated and controversial area because of the known increased morbidity and mortality in patients with advanced cancer usually in the final stages of life.

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- The Cochrane collaboration undertook a systematic review in 2000, but this was not particularly helpful, concluding that “The role of surgery in malignant bowel obstruction remains controversial, and no firm conclusions from the many retrospective case series can be made. Control of symptoms varies from 42% to over 80%, though it is often unclear how symptoms were measured and whether the tools used to collect symptom scores are validated. There is a large range in the rates of re-obstruction, from 10-50%, though time to re-obstruction was often not included. There is a wide range of postoperative morbidity and mortality, although again the definition of both these surgical outcomes varied between many of the papers.”
- A Canadian study (Helyer et al.) reported in 2007 conducted a retrospective review of forty-seven patients who had palliative surgery as part of the treatment for MBO from CRC.
 - Patients were excluded if the reason for palliative intent was patient factors rather than tumour factors.
 - Operations included resections, bypasses and stoma creation (63%).
 - Overall, 80% of patients were able to tolerate solid food post-operatively and return home. The median survival for the entire cohort was 3.5 months (comparable with the literature).
 - Seven patients died within 30 days of surgery. Of the remainder, 24 patients were palliated with surgery alone and 16 patients ultimately received palliative chemotherapy. Survival in the final cohort was significantly prolonged with a median survival of 10.3 months ($P < 0.001$).
 - They concluded that surgery can adequately palliate a substantial proportion of patients with MBO from CRC with acceptable morbidity and mortality. In addition, in a subset of patients it can facilitate palliative chemotherapy that is associated with improved overall survival. While this is a small study, it is recent and perhaps suggests some optimism and certainly validates efforts to at least consider surgery an option in these patients.

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- The predictors of poor outcome with surgery are largely common sense, and though there are no absolute contraindications, these may be a helpful guide.

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- Self-expanding metallic stents have become an accepted alternative to surgery for definitive palliative management and also have a role in the emergency setting as a 'bridge to surgery'.
- The literature suggests that stents are safe and highly effective, with low levels of morbidity and mortality. Obviously appropriate patient selection is vital to ensuring such good outcomes, and this is another reason to consider intervention and involve surgical colleagues in MBO.

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- Decompression of the GI tract allows for nausea and vomiting control in 83-93% of patients; and intermittent decompression can allow patients to eat and drink small quantities and to maintain a reasonable quality of life.
- NGT often acquired early in a patients hospital stay. Though not always common practice, replacement with gastrostomy is recommended in the literature to minimize complications.
- Gastrostomy is a procedure, with risks and complications, but can provide good ongoing symptom relief, particularly in patients with recurrent MBO.

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- Now that we have considered for our patient with MBO whether surgery or stents are appropriate, and decided against such interventions, the next question is critical (and often overlooked).
- Is this medically reversible?
- Most commonly those thought to be potentially reversible are the motility disorders, or ileus. If this is thought possible for a particular patient; bowel rest, a trial of steroids in combination with prokinetic agent (metoclopramide) and stool softeners/enemas may be appropriate.
- The final management point listed 'symptom control' will be addressed shortly.

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- Corticosteroids act as both anti-emetics and co-analgesics and so may provide symptom palliation in MBO.
- The anti-inflammatory activity of corticosteroids may reduce peritumour inflammatory oedema associated with a malignant lesion thereby helping to resolve the obstruction and leading to consequent symptom relief.
- There are also some thoughts that they may have an anti-secretory effect by reduce salt and water secretion in the lumen.
- A Cochrane systematic review in 2000 (and updated Feb 2006) demonstrated a trend, which is not statistically significant, for the resolution of bowel obstruction using corticosteroids (IV dexamethasone, dose range 6-16mg).
- The incidence of side effects in all the included studies is extremely low. The number needed to treat is six (three, infinity) i.e. six patients need to be treated with corticosteroids to resolve one episode of bowel

obstruction. Therefore though the evidence is limited most would agree that steroids are certainly worth a therapeutic trial.

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- A landmark paper by Baines and colleagues in 1985 demonstrated that the symptoms of bowel obstruction, in patients for whom the obstruction was not reversible and where surgery was not possible, could be managed by pharmacological means.
- This was a successful demonstration of good symptom control (in a notoriously highly symptomatic group of patients), without a NGT and IV fluids, and potentially even raising the possibility of care out of the hospital environment.

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- Note difference between hyoscine butylbromide (BUSCOPAN) and hyoscine scopolamine (HYOSCINE) also called hyoscine hydrobromide. Buscopan has low lipid solubility and, unlike atropine and hyoscine scopolamine, does not cross the blood-brain barrier. It therefore does not cause such adverse central effects as somnolence and hallucinations.

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- An appropriate route is usually subcutaneous (or transdermal) in MBO.
- Buscopan is helpful for colicky / spasmodic pain (and can be given subcutaneously).

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- Centrally acting anti-emetics are the agents of choice.
- Ondansetron (5HT₃ antagonist) also acts on CTZ, should theoretically be useful. However there is a word of caution given the significant vagally mediated constipating effects (which may worsen the situation). It is also expensive and not attainable in the community for this education (so a '3rd line' + option).

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- Dyspnea, like all symptoms is subjective. There are many definitions, but this consensus definition is suitably broad to describe the perception of breathlessness and its inherent complexity.

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- Dyspnea is not a symptom restricted to cancer patients, and certainly the principles we discuss can in many cases be extrapolated to non-malignant causes. However, as in much of palliative medicine, much of the evidence and literature begins in the malignant population.
- Dyspnea is common, though varies in prevalence with site and stage of disease, among other factors (Chan et al. 2005).
- Solano and colleagues performed a systematic review of the literature to determine symptom prevalence in far advanced cancer, AIDS, heart disease, COAD and renal disease. Breathlessness was common in most conditions, with a wide range of experience. However, it was most consistently found among patients with COPD and HD; the

minimum values of prevalence was 90% and 60%, respectively, and the maximum values were prevalence was 95% and 88%, respectively.

- A group from Norway determined the point prevalence of symptoms in patients admitted to acute hospital medical wards with advanced chronic disease and limited life expectancy, where symptom management was the main goal of care. Dyspnea was the most prevalent symptom (equal with a 'lack of well-being) and present in 70%.
- There is also evidence that dyspnea becomes more intense and severe as a patients' functional status declines at the end of life (Mercandante et al. 2000). It is also very much correlated with poor survival and a respiratory rate >28 has been identified as one of four risk factors for imminent death (Escalante et al. 2000).
- Dyspnea and breathlessness have their own language, the descriptors communicate the distress and burden and indeed dyspnea is often reported as the most troublesome symptom. As can be seen by the more extreme terms, it is often also perceived as life threatening.

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- As with the approach to other symptoms, elucidating the cause is an important guide to treatment. Though the patients' stage of illness and prognosis may well limit investigations and some treatments, the cause or at least a differential should be considered (and documented).
- There are many different classification systems, and never-ending list of causes. This is by no means exhaustive, but rather highlights the broad categories to consider.
- Given the complexities of patients with advanced disease, it is very likely that there is more than one cause, though you may be able to detect which are more prominent (or more amenable to reversal).

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- The first step is to make a diagnosis, or at least formulate a reasonable differential. This requires a thorough history, examination and consideration of appropriate investigations (these may include most simply an FBE for haemoglobin, an oxygen saturation and a chest xray; other investigations may be appropriate depending on the clinical situation).
- The clinical assessment of dyspnea should be multi-dimensional, remembering the definition and drawing on our assessment of pain (remember the basic pain questions). So should include a thorough exploration of factors such as: precipitating / relieving factors, the trajectory, previous dyspnea experiences, concurrent symptoms, functional / emotional / psychological impacts and coping strategies.
- There are a number of formal dyspnea measuring scales that may be employed, though these can be difficult in patients with poor performance status and affected by the confounding of other symptoms. However the some documentation of the functional impact as well as a record of the qualitative descriptors will allow some outcome measurements after intervention.
- This should allow a differential diagnosis to be formulated and then potentially reversible factors can be addressed, eg. draining a pleural

or pericardial effusion, or treating a pulmonary embolism. This follows our usual management paradigm, with the caveat of complex decision-making regarding the appropriateness of intervention.

- Our focus now however is on the symptomatic treatments.

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- Opioids have a well-acknowledged role in dyspnea and are indeed part of the standard treatment of acute pulmonary edema.
 - A Cochrane systematic review of the role of opioids in the management of breathlessness in terminally ill patients did find a benefit with oral and parental opioids.
 - A more recent systematic review of the literature, in cancer patients, also supports the role of opioids, but similarly laments the deficiencies in the data.
 - Of note, neither review found any serious adverse events, such as respiratory depression or sedation.
- There is also considerable controversy, particularly in the respiratory literature about their safety.
- The mechanism of their effect is uncertain, and there are a number of theories. A central site of action is popular, and indeed opioids lead to a dose-dependent decrease in minute-ventilation leading to an increase in pCO₂. Which is where much of the controversy and concern arises. However it has also been shown in clinical studies that relief of dyspnea is possible without a rise in pCO₂. Peripheral sites of action are possible, and certainly there are opioid receptors in the lung (though the conflicting data on nebulised morphine may negate this role). Other thoughts include modulation of perception and anxiety.
- There is no good evidence for a clinical benefit with nebulised morphine (though there is still some enthusiasm after some small and flawed studies). Again systematic review did not identify any major side effects.
- In naive patients, a starting dose of 2.5-5mg oral morphine seems reasonable, with decisions about moving from intermittent to continuous dosing depending on the effect and profile of dyspneic episodes for a particular patient. The available evidence uses morphine sulfate, and so this should probably be the first choice when commencing an opioid for this indication. However in a patient already on another opioid, or if there is an intolerance, it is thought to be a class effect (though the evidence is lacking).

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- Benzodiazepines are frequently used, in recognition of the association with anxiety, fear, panic and perception of impending death. However there is very little evidence supporting this widespread practice. The single trial that assessed the role of midazolam as adjunct therapy to morphine demonstrated that the beneficial effects of morphine in controlling baseline levels of dyspnea could be improved by the addition of midazolam, without increasing somnolence. Of note, no other benzodiazepines were assessed in RCTs, though in practice sublingual preparations such as lorazepam (0.5-1mg) are frequently used with effect.

- Steroids may have a role depending on aetiology, for example if asthma is contributing, or perhaps COAD. There is also some (empirical) evidence for their use in major airway obstruction, superior vena caval obstruction and lymphangitis carcinomatosa. However they should be used with caution and certainly not as a cure-all for dyspnea given they may actually aggravate dyspnea by causing respiratory and proximal muscle weakness.
- Bronchodilators again are helpful when there is airway obstruction contributing from underlying asthma or COAD (these are often undertreated and under-recognised in the cancer setting).
- Nebulised lignocaine has been considered, but trials in malignant and non-malignant populations have thus far been negative.
- One trial of nebulised frusemide demonstrated a trend towards worsening dyspnea.

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- By acknowledging the multi-dimensional nature of dyspnea we acknowledge that the psychological experience is inseparable from the physical one. Hence the potential benefit of behavioural approaches.
- Three trials evaluated nursing-led programs based on breathlessness rehabilitation techniques and focused on the emotional experience of symptoms as well. Dyspnea scores had been evaluated after 8 to 12 weeks. A positive effect in terms of reduction in VAS dyspnea scores was seen in all.

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- Ben-Aharon's systematic review revealed 6 RCT's examining the effect of supplemental oxygen in cancer patients with dyspnea. Two showed no benefit of oxygen over air, though one found equal beneficial effect.
- The trials, which included hypoxic patients, demonstrated symptomatic benefits. However it should be noted that this did not correlate with oxygen saturations. Nor did the patients show a greater symptomatic improvement with oxygen over air, or preference for either.
- The use of supplemental oxygen to alleviate dyspnea in non-hypoxic cancer patients cannot be recommended on the basis of the available evidence. However, as we know, in the acute hospital setting it will be almost invariably (and often unthinkingly) trialed. Its ongoing use and prescription should be considered logically, with reference to the available evidence, and particularly whether the patient is hypoxic, and whether they derive any symptomatic benefit.
- It should be remembered that use of supplemental oxygen is expensive and may carry adverse effects including restriction of activities, possible impairment of quality of life, and psychological dependence.

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- The aim of emergency management is to allow rapid reversal of what is reversible. There are a number of conditions that occur in patients with advanced illness, and here we are talking particularly about cancer, that require treatment as an emergency if a favourable outcome is to be achieved. Missed emergency treatment of reversible symptomatology can be disastrous.

- As the list suggests, there are other types of emergencies in palliative care, that require an acute response with prompt intervention and aggressive symptom management to alleviate patient and family distress and suffering; though no reversible component may exist (and the likely outcome is imminent death).
- The following list of examples is far from complete, and includes both types of emergencies. We will discuss an approach to the first four briefly.

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- Spinal cord compression occurs in 5-10% of patients with cancer; and is a neurological emergency with outcomes depending on the degree of neurological impairment at diagnosis and initial response to treatment.
- Delayed diagnosis is frequent and has devastating implications. The best results are in ambulatory patients, with approximately 70% remaining so with prompt detection and treatment. Only about 35% of paraparetic patients will be able to walk after treatment, highlighting the importance of recognition (Falk and Fallon 1997).
- The aim is early detection, with new or changed back pain being the earliest sign, particularly if it is worse with lying down, the valsalva or is associated with radiculopathy. Often neurology is patchy in the early phase, and sphincter disturbance is a late sign that should not be relied upon.
- Early recognition and consideration of the diagnosis is key. Commencing steroids is the first step, and should be safely initiated while awaiting confirmatory imaging and gathering information about the patient's disease status and wishes. Referrals to the appropriate units should also be attended early, after discussion with the team, patient and family.

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- Airway obstruction is frightening for the patient, family and often staff as well.
- Sometimes it can be anticipated, from a patient's clinical condition (eg. thyroid cancer) and/or from recent imaging. In that case, appropriate management of an acute event should be discussed amongst the team, and sensitively with the patient and family. If intervention is to be considered, obviously doing so prior to an acute event is preferable, whether that involves tracheostomy, radiotherapy, or interventional bronchoscopic techniques such as laser or stenting.
- Where such planning has not taken place, in a subacute presentation intervention should be considered, and if appropriate accessed in a timely fashion. High dose steroids should be commenced during this phase and are probably helpful, though the evidence base is limited (Chan et al. 2005).
- There are instances however where the presentation is so acute and death is certain and imminent that such considerations are inappropriate. Equally the event may have been anticipated, and decisions have been made to pursue a purely symptomatic approach. In this situation medical review and aggressive symptomatic control is

the 'emergency response'. Using the methods we have discussed for the management of dyspnea, but particularly using benzodiazepines for sedation.

- This is an instance where if the event was anticipated 'catastrophic orders' may be charted. These should only be charted with clear documentation about their use, after discussion with your senior clinician and liaison with nursing staff. The intent is to allow for emergent symptom management prior to your arrival, and render the patient unaware. For this reason the doses are usually in the order of 10mg morphine subcutaneously and 10mg midazolam subcutaneously (in a naive patient). In reality, by the time these medications are administered (or even drawn up) the patient is usually unconscious or has died, but there is powerful reassurance for the patient, family and team in 'doing something' and the knowledge of medically providing sedation and unawareness.

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- Again anticipation is obviously preferable, to plan appropriate intervention; or to warn patient, family and staff and make appropriate arrangements for timely and aggressive symptom management. Green/dark coloured clothing, sheets and towels are often used (to reduce the distressing visual impact), as well as the prescription of catastrophic and alerting of relevant staff. Another key intervention, that is often part of the medical role, is to provide reassurance during the event, trying to maintain a calm and controlled environment.
- If the event is not clearly terminal and intervention may be appropriate, usual emergency management should be undertaken, involving oxygen, IV access, fluid replacement and calling for further assistance.

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- Agitated delirium in the actively dying is common, undignified and deeply distressing for the patient, family and staff. For those who have seen patients suffering from an agitated delirium at the end of life, you will agree that its place amongst the emergencies is well deserved.
- Obviously delirium is common in the dying and is usually multifactorial (*ask for potential causes if time allows*).
- However in the actively dying, investigation and reversal is usually inappropriate and the goals of therapy are clearly comfort alone.
- While antipsychotics remain the first line drug, it is recognised that the delirium may be unresponsive, the time frame as judged by the patients' prognosis too short, or sedation is desirable for the management of another refractory symptom. In this instance palliative sedation therapy, and the use of benzodiazepines (despite knowing that they can worsen delirium) may be most appropriate. These situations require an urgent medical response (where prn doses and discussion with family are required), followed by discussion about ongoing management within the team, and referral to palliative care.

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- This brief discussion of emergencies highlights the following general points.

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- Palliative care referral can be a very helpful intervention and can be considered in the following circumstances.
- It is important to note, and reassure the patient, family and team, that palliative care team involvement in acute hospitals need not portend an imminently terminal prognosis and indeed the principles of palliative medicine have a lot to offer patients with curable disease.
 - To this end, introducing the team as 'doctors with particular skills in xxx' may be helpful.

References

- American Thoracic Society: medical section of the American Lung Association **Dyspnea: Mechanisms, assessment, and management: a consensus statement** *American Journal of Respiratory and Critical Care Medicine* 1999;159:321-340
- Ben-Aharon I, Gafter-Gvili A, Paul M, Leibovici L, Stemmer SM **Interventions for alleviating cancer-related dyspnea: a systematic review** *Journal of Clinical Oncology* 2008;26(14):2396-2404
- Caraceni A, Martini C, Simonetti F **Neurological problems in advanced cancer** **IN Oxford Textbook of Palliative Medicine** 3rd Edition Edited by Doyle D, Hanks G, Cherny N and Calman K 2005:702-726
- Chan K, Sham MMK, Tse DMW, Thorsen AB **Palliative medicine in malignant respiratory diseases** **IN Oxford Textbook of Palliative Medicine** 3rd Edition Edited by Doyle D, Hanks G, Cherny N and Calman K 2005:587-618
- Escalante CP, Martin CF, Elting LS, Price KJ, Manzullo EF, Weiser MA, Harle TS, Cantor SB, Rubenstein EB **Identifying risk factors for imminent death in cancer patients with acute dyspnea** *Journal of Pain and Symptom Management* 2000;20(5):318-325
- Falk S, Fallon M **ABC of palliative care: emergencies** *British Medical Journal* 1997;315:1525-2528
- Feuer DJ, Broadley KE **Corticosteroids for the resolution of malignant bowel obstruction in advanced gynaecological and gastrointestinal cancer** *The Cochrane Database Systematic Review* 2000;2:CD001219
- Feuer DJ, Broadley KE, Shepherd JH, Barton DP **Surgery for the resolution of symptoms in malignant bowel obstruction in advanced gynaecological and gastrointestinal cancer** *The Cochrane Database Systematic Review* 2000;4:CD002764
- Helyer LK, Law CHL, Butler M, Last LD, Smith AJ, Wright FC **Surgery as a bridge to palliative chemotherapy in patients with malignant bowel obstruction from colorectal cancer** *Annals of Surgical Oncology* 2007;14(4):1264-1271
- Jatoi A, Podratz KC, Gill P, Hartmann LC **Pathophysiology and palliation of inoperable bowel obstruction in patients with ovarian cancer** *Journal of Supportive Oncology* 2004;2(4):323-337
- Jennings AL, Davies AN, Higgins JP, Broadley K **Opioids for the palliation of breathlessness in terminal illness** *The Cochrane Database Systematic Review* 2001;4:CD002066

- Khot UP, Lang AW, Murali K, Parker MC **Systematic review of the efficacy and safety of colorectal stents** *British Journal of Surgery* 2002;89:1096-1102
- Lichter I, **Which Antiemetic?** *Journal of Palliative Care* 1993;9(1):42-50
- Mannix, KA **Palliation of Nausea and Vomiting IN Oxford Textbook of Palliative Medicine** 3rd Edition Edited by Doyle D, Hanks G, Cherny N and Calman K 2005:459-468
- Mercandante S, Casuccio A, Fulfaro F **The course of symptom frequency and intensity in advanced cancer patients followed at home** *Journal of Pain and Symptom Management* 2000;20:104-112
- Mercandante S, Casuccio A, Mangione S **Medical treatment for inoperable malignant bowel obstruction: a qualitative systematic review** *Journal of Pain and Symptom Management* 2007;33(2):217-223
- Miller G, Boman J, Shrie I, Gordon PH **Small-bowel obstruction secondary to malignant disease: an 11-year audit** *Canadian Journal of Surgery* 2000;43(5):353-358
- Navigante AH, Cerchietti LC, Castro MA, Lutteral MA, Cabalar ME **Midazolam as adjunct therapy to morphine in the alleviation of severe dyspnea perception in patients with advanced cancer** *Journal of Pain and Symptom Management* 2006;31(1):38-47
- Ripamonti C and Bruera E **Palliative management of malignant bowel obstruction** *International Journal of Gynaecological Cancer* 2002;12:135-143
- Ripamonti C, Mercandante S, Groff L, Zecca E, De Conno F, Casuccio **A Role of octreotide, scopolamine butylbromide and hydration in symptom control of patients with inoperable bowel obstruction and nasogastric tubes: a prospective randomised trial** *Journal of Pain and Symptom Management* 2000;19(1):23-34
- Singurdardottir KR and Haugen DF Prevalence of distressing symptoms in hospitalised patients on medical wards: a cross-sectional study *BMC Palliative Care* 2008;7:16
- Solano JO, Gomes, B and Higginson IJ **A comparison of symptom prevalence in far advanced cancer, AIDS, heart disease, chronic obstructive pulmonary disease and renal disease** *Journal of Pain and Symptom Management* 2006;31(1):58-69
- Steinhauser KE, Christakis NA, Clipp EC, McNeilly M, McIntyre L, Tulsky JA **Factors considered important and the end of life by patients, family, physicians and other care providers** *Journal of the American Medical Association* 2000;284(19):2476-2482
- Tsurumaru D, Hidaka H, Okada S, Sakoguchi T, Matsuda H, Matsumata T, Noiyama H, Utsunomiya T, Irie H, Honda H **Self expandable metallic stents as palliative treatment for malignant colorectal obstruction** *Abdominal Imaging* 2007;32(5):619-23
- Tramer MR, Moore RS, Reynolds DJM, McQuay HJ **A quantitative systematic review of ondansetron in established post-operative nausea and vomiting** *British Medical Journal* 1997;314:1088-1092

- Walsh D, Donnelly S, Rybicki L **The symptoms of advanced cancer: relationship to age, gender, and performance status in 1,000 patients** *Support Care Cancer* 2000;8(3):175-179