The Pennine Acute Hospitals NHS
NHS Trust

North East Sector of Greater Manchester & Cheshire Cancer Network
Pain & Symptom Control Guidelines

These guidelines have been compiled to provide guidance on the management of a wide range of clinical conditions that may be encountered during the management of a patient with palliative care needs. They have clear parallels with the network guidelines produced by the Greater Manchester & Cheshire Cancer Network but they have been tailored to reflect local expert opinion and practice, best current evidence and local prescribing advice.

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Pennine Acute Hospitals NHS Trust

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Contents Page

1. Introduction

1.1 These guidelines have been compiled to provide guidance on the management of a wide range of clinical conditions that may be encountered during the management of a patient with palliative care needs. They have clear parallels with the network guidelines produced by the Greater Manchester & Cheshire Cancer Network but they have been tailored to reflect local expert opinion and practice, best current evidence and local prescribing advice. As a consequence there may be differences in the recommended dose conversions.

2. Purpose

2.1 To promote safe and consistent evidence based practice in symptom management for palliative care across the North East Sector of Manchester of Greater Manchester & Cheshire Cancer Network.

3. Scope

3.1 These guidelines are intended for use by the multi-professional health care teams involved in the prescribing, advising and administration of therapies to adult palliative care patients over the age of 18 years. For advice regarding patients of a younger age please contact your local specialist palliative care team.

They are intended to be used in any care setting.

4. Roles & responsibilities

4.1 Before using these guidelines please ensure that it is the most current version which will be available from your own organisations intranet site.

4.2 Many drugs in palliative care are used outside their licensed indication at the prescriber's discretion. Details of these, together with 'typical' doses and maximum doses are included. However, the inclusion of a drug or treatment in these guidelines does not absolve the prescriber of their personal responsibility in providing treatment that they are confident with and can justify, and that is tailored to the individual patient's circumstances.

5. Implementation

5.1 The Trust will demonstrate that this document has been issued, read and implemented as follows:

6. Dissemination

6.1 A variety of dissemination methods are in place to make sure that all staff are aware of, have access to and comply with the Trust's Controlled Documents. These are:

- Summary list of all new documents published in the monthly core brief including a brief description of the document and its intended core audience

- Inclusion in the weekly bulletin
- Inclusion in the monthly Medical Director/Nursing Director Bulletin
- Via the Chief Pharmacist for cascade to pharmacy staff
- Via the Associate Director of Nursing for cascade to Divisional Nurse Managers, ward/dept managers and nursing staff
- Via Primary Care Trust Prescribing Advisors

This guidance will be held on the Document Management System on the Trust intranet which all staff are encouraged to use to gain access to controlled documents.

6.2 Staff must always consult the intranet for the latest version of the document. This document may be printed and filed in ward/departmental areas. However where documents are printed and filed in this way, managers of those areas are responsible for ensuring that at all times, the current up to date version only is on file.

7. Education and Training

7.1 All Divisional Nurse Managers and Ward/Department Managers are responsible for ensuring that relevant staff are familiar with the content of this document and ensure that relevant training is made available as necessary.
Medicines management training needs should also be identified through the Personal Development Review (PDR) process and Mandatory Training Guidance Schedule.

7.2 Training & education on symptom control management in palliative care will be available across the Trust in varying formats.

8. Review of Guidelines

8.1 The guidelines will be reviewed in 3 years time by the Specialist Palliative Care Teams or earlier if a critical change in practice is required.

9. Monitoring Arrangements

9.1 Please refer to Appendix 2 for a summary of Arrangements within the Trust.

North East Sector of Greater Manchester & Cheshire Cancer Network Pain & Symptom Control Guidelines

1. Acute Confusional State (Delirium)

Delirium is an organic brain syndrome characterized by the acute onset of disordered attention and cognition, usually accompanied by disturbances of psychomotor behaviour and perception. It causes significant distress for patients, relatives and staff, interferes with real pain and symptom management and is associated with shorter survival. (1)

1.1 Clinical features

Clinical Situation	Symptoms
Attention/arousal	Altered conscious state, reduced awareness Hypoactive: lethargic, drowsy, stupor Hyperactive: agitated Reduced attention Poor concentration, easily distractible, unresponsive Disturbance of sleep-wake cycle
Cognition	Disorientation for time, place, person Impaired memory Impaired thinking, reasoning Speech: rambling, incoherent Perception; misperceptions, illusions, delusions, hallucinations
Affect	Irritability, anger, anxiety, hypomania Dysphoria, depression, withdrawn Terrified, euphoric
Psychomotor	Hypoactive: withdrawn, lethargic, stupor Hyperactive: restless, irritable, aggressive, noisy, repetitive semi-purposeful activity

(1)

1.2 Causes

- Medication (1, 2)
- Intracranial: tumour; haemorrhage; encephalopathy (radiation, chemotherapy); infection; post seizure; cerebrovascular disease including stroke (1, 2)
- Metabolic: respiratory failure; liver failure; acidosis; alkalosis; electrolyte disturbance (calcium, sodium; adrenal, thyroid and pituitary dysfunction) (1, 2)
- Infection; fever (1, 2)

- Circulatory: dehydration; hypovolaemia; heart failure; shock; hyperviscosity; anaemia [1]
- Nutritional: general malnutrition; B1, B6, B12 deficiency [1]
- Drug adverse effects: alcohol; benzodiazepine; opioids; nicotine. Consult reference for a more complete list [1]

1.3 Precipitating Factors

- Increasing age [1]
- Dementia/cognitive impairment [1]
- Change of environment [2]
- Sleep deprivation [1]
- Depression [1, 2]
- Pain [1, 2]
- Urinary retention [2]
- Renal impairment [1]
- Unfamiliar excessive stimuli: too hot, too cold, wet bed [2]
- Anxiety [1, 2]
- Fatigue [2]
- Constipation [2]

1.4 Management

- Treat reversible causes: see causes above [1, 2]
- If medications are believed to be the cause they should be reduced or stopped or an alternative used, provided good symptom control is maintained [1, 2]
- If alcohol or drug withdrawal is the cause it may be appropriate for the patient to take the offending agent. Nicotine skin patches can be used for nicotine withdrawal [1, 2]

1.5 Non-drug Measures

- Keep patient in familiar surroundings [1]
- Quiet well lit room [1]
- Repeated calm reassurance and explanation, minimizing the number of different staff having contact with the patient [1, 2]
- Presence of a family member or trusted friend [1, 2]
- Avoid all disruptive disturbances [1, 2]
- Hallucinations, nightmares and misperceptions may reflect unresolved fears and anxieties, so allow discussion of these [1, 2]
- Reassure family that the patient is not mad but the confusion is secondary to a physical problem [1, 2]

1.6 Drug therapy

Only use if symptoms are marked, persistent, and cause distress to the patient and/or family. Review frequently as sedative drugs may exacerbate the problem. [2]

- Reduce medication if possible [2]
- Oxygen if cyanosed [2]

- Dexamethasone if cerebral tumour with raised intracranial pressure (16mg daily for 4-5 days and then reduce) [2]
- Haloperidol is the drug of choice – initial dose determined by age and weight and severity of symptoms. Mild – 0.5-2mg po and titrated against effect. Severe – 5mg i/v, i/m, s/c and repeated every 30 minutes until the patient is calm. After initial titration maintenance therapy should be continued at a dose that effectively controls symptoms
- If in the last few days of life refer to the current version of the Integrated Care Pathway (ICP) Prescribing Guidance

1.7 References

- Woodruff, R. (1999) Palliative Medicine. 3rd ed. Oxford: Oxford University Press.
- Twycross, R. & Wilcock, A. (2001) Symptom Management in Advanced Cancer. 3rd ed. Abingdon: Radcliffe Medical Press.

2. Anorexia

2.1 Causes of Anorexia

Anorexia is a loss of appetite that can lead to severe weight loss. Anorexia is present in nearly 80% of patients with gastro-intestinal (GI) cancers and 60% of lung cancers. (1)

PRIMARY CAUSE	SECONDARY CAUSE
Cancer and its treatments	E.g. chemotherapy, radiotherapy and surgery
Pain	Loose dentures causing pain and difficulty eating
Nausea	GI obstruction, chemotherapy, radiotherapy, drugs
Intracranial disease	Cerebral metastases, cranial radiotherapy
Abnormal taste or smell	Cancer growth Malodorous ulcer or fungating tumour Radiotherapy, chemotherapy, other drugs Dry mouth, ageing, oral infections
Stomatitis	Mucositis, infection, chemotherapy, radiotherapy, drugs
Gastrointestinal	Oesophagitis, oesophagectomy, oesophageal stent overgrowth Dysphagia Gastrectomy Gastric compression: hepatomegaly, splenomegaly, ascites Gastric distension, delayed gastric emptying Bowel obstruction, constipation, malabsorption Hepatic metastases, enlarged liver
Metabolic	Cancer cachexia Electrolyte imbalance: sodium, calcium, glucose, zinc Organ failure: liver, kidney, adrenal
Infections	Neutropaenia, dry mouth
Drugs	Opiates, antibiotics
Psychological	Anxiety, depression, fear of nausea, vomiting and pain Intolerance of institutional food, unappetizing food

(2)

2.2 Management

- Explanation of reasons behind cachexia
- Treat reversible causes i.e. pain, nausea, constipation, infection (see appropriate section)
- Include families in nutritional counselling sessions (3)
- Advise small and frequent snacks rather than set mealtimes
- Make mealtimes sociable – sit at table if able, vary eating place, remove commodes etc. (3)
- Practice good oral hygiene (4)
- Offer fluids after meals rather than with meals, to reduce early satiety
- Alcohol can be given prior to a meal as it is an appetite stimulant (1)
- Refer to a dietitian for specific symptom advice
- Prescribe nutritional supplements (sweet, savoury and neutral flavours, milk based or fruit based drinks and puddings) for disease related malnutrition. Some

are available from retail chemists and supermarkets or they can be prescribed marked 'ACBS'. Request a variety of flavours [5]

- Patients with cancer cachexia syndrome may not respond to traditional methods of nutritional support. Refer to the dietitian if appropriate [6]
- In later stages of the illness discourage the "he must eat or he will die" syndrome – emphasise that a balanced diet is not necessary at this stage of illness, a "little of what he fancies" or "just taking fluids are quite acceptable" [7]

2.3 Drug Therapies

Steroids and hormonal agents may help improve appetite and food intake. They do not influence lean body mass, weight increases develop as a result of fat disposition and fluid retention. [6]

- Dexamethasone 2-4mg daily in the morning but the benefit may only last a few weeks (stop if not working). Not to be given to patients with early satiety
- Megestrol acetate, initially 160mg daily [7]
- Metoclopramide 10mg tds 30 minutes before a meal will improve delayed gastric emptying [7]

2.4 Dietary Guidance For Common Symptoms

Symptom	Dietary guidance
Poor appetite	Eat small, frequent, attractively presented foods Eat favourite foods or those found to be most enjoyable Consume fluids after, rather than with, meals to maximise food intake Ensure posture helps rather than hinders eating Eat in surroundings which are as pleasant as possible Eat in the company of others Consider appetite stimulants e.g. alcohol, megestrol acetate or low-dose steroids
Sore mouth	Replace salty, spicy or acidic foods with blander, less astringent alternatives Eat soft, moist foods Cold foods are more soothing
Dry mouth (xerostomia)	Take frequent, small sips of water Suck ice cubes, ice lollies or citrus-flavoured boiled sweets Chew fruit-flavoured sweets Meals should be moist in texture Consider artificial salivas
Taste changes	Problematic foods should be substituted with nutritionally similar alternatives: -Poultry or fish instead of red meat -Soft drinks or milk instead of tea or coffee -Boiled sweets or pastilles instead of chocolate Experiment with herbs and spices in cooking
Early satiety Belching and/or flatulence	Consume small amounts of nutrient-dense foods frequently Avoid foods and drinks which exacerbate gas production such as: -carbonated beverages, beer, brassicas (broccoli, spinach, cauliflower, brussels sprouts), peas, beans, sweetcorn, onion and radish Reduce the amount of ingested air by: -Eating slowly -Keeping the mouth shut when chewing and swallowing -Avoiding sucking drinks through a straw
Constipation	Ensure adequate medical intervention Increase fluid intake without compromising nutritional intake Increase fibre-rich foods, but care should be taken with patients whose appetite is decreased Clarify that the patient does not have an intestinal obstruction or is dehydrated
Diarrhoea	Avoid foods that appear to exacerbate symptoms Ensure that anti-diarrhoeal drugs have been prescribed Encourage a wide variety of foods
Hypercalcaemia	Do not reduce or restrict dietary sources of calcium Encourage carbonated drinks containing phosphoric acid

2.5 References

1. Gill, C., Murphy, K. & Ende, K. (2005) Immunonutrition: The role of specialised nutritional support for patients with cancer. Nutritional issues in cancer care (Oncology nursing society) pp.291 - 317.
2. Thomas, B. & Bishop, J. (2007) Manual of dietetic practice. 4th ed. Oxford: Blackwell.
3. Penson, J. & Fisher, R. (2002) Palliative care for people with cancer. 3rd ed. Sevenoaks: Hodder Stoughton.
4. Cooper, J. (2006) Stepping into palliative care 2: Care and practice. Oxford: Radcliffe Medical Press.
5. British National Formulary 55 BMA/ Royal Pharmaceutical Society of Great Britain: London. Borderline Substances section.
6. Gordon, J., Green, S. & Goggin, P. (2005) Cancer Cachexia Review. Q J Med 98: pp. 780 - 783.
7. Twycross, R. & Wilcock, A. (2003) Symptom Management in Advanced Cancer. 3rd ed. Oxford: Radcliffe Medical Press.

3. Anxiety

"Anxiety is a normal and universal emotion. Symptoms may occur in different situations in patients with cancer and should be regarded as a continuous clinical spectrum ranging from normal to psychiatric. The characteristics that distinguish abnormal from adaptive anxiety include anxiety out of proportion to the stress, persistence of symptoms for more than two weeks, severe physical symptoms or recurrent panic attacks and disruption to normal functioning." [1]

3.1 Clinical Features

Clinical features are numerous. The patient describes fear, apprehension or panic which may be general and not particularly associated with other features of the illness. More commonly for patients with cancer, the fear relates to the uncertainty of the future, bodily dysfunction, unrelieved pain or other symptoms, and of death itself. Panic attacks may occur that consist of sudden unpredictable attacks of intense fear and physical discomfort. [1] Identifying the triggers that cause the panic attacks is of benefit in aiding the patient to gain control. Often the physical symptoms overshadow the psychological or cognitive ones.

3.2 Signs and Symptoms of Anxiety

	Signs & symptoms
Cognitive	Non-specific fear, fear of dying, fear of 'going crazy'. Poor attention and concentration
Cardiovascular	Palpitations, tachycardia, systolic hypertension, chest pain
Autonomic	Flushing, sweating, dry mouth
Respiratory	Breathlessness, hyperventilation, feeling of choking
Neurological	Dizziness, feeling faint, trembling and shaking, parasethesia, weakness, exhaustion, insomnia
Gastro-intestinal	Anorexia, indigestion, diarrhoea, nausea, difficulty swallowing
General	Mentally tense, keyed up, worried, restless, irritable

3.3 Causes

- Underlying problem e.g. physical illness, work problems, relationship problems
- As a component of a mixed anxiety/depressive illness [2]
- Withdrawal from alcohol [1]
- Withdrawal from benzodiazepines and opioids [1, 2]
- Adverse drug reactions may be present as an anxiety state e.g. dexamethasone is a psychic stimulant. If taken later than 6pm it is capable of disturbing the sleep pattern and mimicking an anxiety state [1]
- Hypoxia [1, 2]
- Sepsis [2]
- Physical e.g. thyrotoxicosis
- There may not be an identifiable cause

3.4 Management

3.4.1 General

- Take history and examine the patient where appropriate. To the patient his or her symptoms are likely to be seen in terms of deterioration in their physical illness. Reassurance is more likely to be effective if this step is taken
- Provide an explanation about anxiety and its effects to the patient and family (if appropriate). Anxious people do not assimilate easily so be prepared to repeat it
- Allow patients and their families the opportunity to ventilate their fears – acknowledge them as being significant (they are important to the individual) and offer appropriate reassurance when you can
- Be positive that nobody ever died from a panic attack

3.4.2 Physical

- Assess and treat symptoms that may be exacerbating anxiety, e.g. pain, breathlessness, confusion [2]

3.4.3 Psychological

- Distraction is an excellent way of reducing background anxiety [1]
- Relaxation techniques can help the patient manage panic attacks [1]
- Cognitive therapy and counselling have value in enabling the patient (and carers) to look at issues of loss, separation, isolation and self worth that may arise, and help strengthen coping strategies [1, 2]

3.4.4 Social

- Assess how the family is coping. Their fears and concerns may be engendering increased anxiety for the patient
- Communication problems often amplify the anxiety. The “conspiracy of silence” which can develop often provokes feelings of isolation and will worsen anxiety

3.4.5 Drug therapy

- Patients with long standing anxiety disorders aggravated by cancer or treatment can be difficult to manage and may need treatment with anxiolytic and antidepressant drugs [1]
- Only a few antidepressant drugs are licensed for anxiety and panic attacks
- Drugs with short and intermediate half lives are preferred to longer acting drugs
- Side effects of benzodiazepines include drowsiness, poor coordination and confusion but these are dose related and reversible
- Dependency and withdrawal problems (occurring in about a third of patients) should not be considered important in those with advanced and terminal disease [1]

3.4.6 Anxiolytic drugs

Benzodiazepines Short acting Intermediate Long acting	 Midazolam 2.5-5mg s/c 1-2 hourly or 10-20mg over 24 hours via CSCI [4] In terminal restlessness use midazolam 10-60mgs over 24hrs via CSCI [5] Lorazepam 0.5-2mg po or s/l 6-8 hourly and titrate Diazepam 2-10mg po or pr 8-12 hourly and titrate [1]
Non-benzodiazepine	Buspirone 5-10mg po 8 hourly [1]
Antidepressant	See Depression guideline
Neuroleptic drugs - for use with severe anxiety/delirium	Haloperidol is the drug of choice – initial dose determined by age and weight and severity of symptoms. Mild – 0.5-2mg po and titrated against effect. Severe – 5mg i/v, i/m, s/c and repeated every 30 minutes until the patient is calm. After initial titration maintenance therapy should be continued at a dose that effectively controls symptoms [1]
Beta-blocker	Propranolol 10-40mg tds Avoid in asthma and COPD [6]
Anti-convulsant	Pregabalin (seek specialist advice)

3.5 References

1. Woodruff, R. (2004) Palliative Medicine. 4th ed. Oxford: Oxford University Press.
2. Breibart, W., Chochinov, H.M. & Passik, D.D. (2005) Psychiatric symptoms in palliative medicine. In Doyle, D., Hanks, G., Cherny, N. & Calman, K. eds. Oxford Textbook of Palliative Medicine. 3rd ed. Oxford: Oxford University Press. pp. 746 - 774.
3. Evidence is based on expert opinions of the Specialist Palliative Care Teams across the NE sector of Greater Manchester (with the exception of North Manchester Primary Care Trust).
4. Back, I.N. (2001) Palliative Medicine Handbook. 3rd ed. Cardiff: BPM Books.
5. The North East Sector Guideline Working Party (2007) Integrated Care Pathway for the Dying Patient Prescribing Guidance. Version 3.4.
6. British National Formulary 56 BMA/Royal Pharmaceutical Society of Great Britain: London. 2.4, 4.8.1

4. Ascites

4.1 Definition

Ascites is the excessive accumulation of fluid in the peritoneal cavity due to disease. (1)

4.2 Clinical Signs

- Abdominal distension
- Abdominal discomfort/pain
- Inability to sit upright
- Early satiety
- Dyspepsia
- Acid reflux
- Nausea and vomiting
- Leg oedema
- Dyspnoea

4.3 Management

4.3.1 Chemotherapy

- Either systemic or intraperitoneal – refer to oncologist
- Intraperitoneal chemotherapy allows higher dose intensity and reduced systemic toxicity but contra-indicated in loculated ascites (3)

4.3.2 Diuretics

- Diuretic therapy should be considered for every patient with ascites
- To avoid electrolyte imbalance resulting from overdiuresis, urea and electrolytes should be checked before starting treatment and then as appropriate (4)
- Spironolactone is diuretic of choice: usually commence 100mg bd and increase in 50mg-100mg increments every 3-7 days to a maximum daily dose of 400mg/day (4, 5, 6)
- Furosemide can be added if there is an inadequate response to spironolactone or if a rapid effect is desired 40-80mg/day. (5, 6) Reduce when satisfactory effect seen

N.B: Postural hypotension may develop. Patient's hydration needs close monitoring. (7)

4.3.3 Paracentesis

Indicated for patients with a tense distended abdomen, and for those who cannot tolerate/ no effect with spironolactone. (3)

- Drainage of up to 5 litres of fluid can provide good, although temporary relief, of symptoms like discomfort, dyspnoea, nausea and vomiting. Intravenous fluids are not routinely required. In patients who are

dehydrated, hypotensive or have severe renal impairment then i/v hydration should be considered [7]

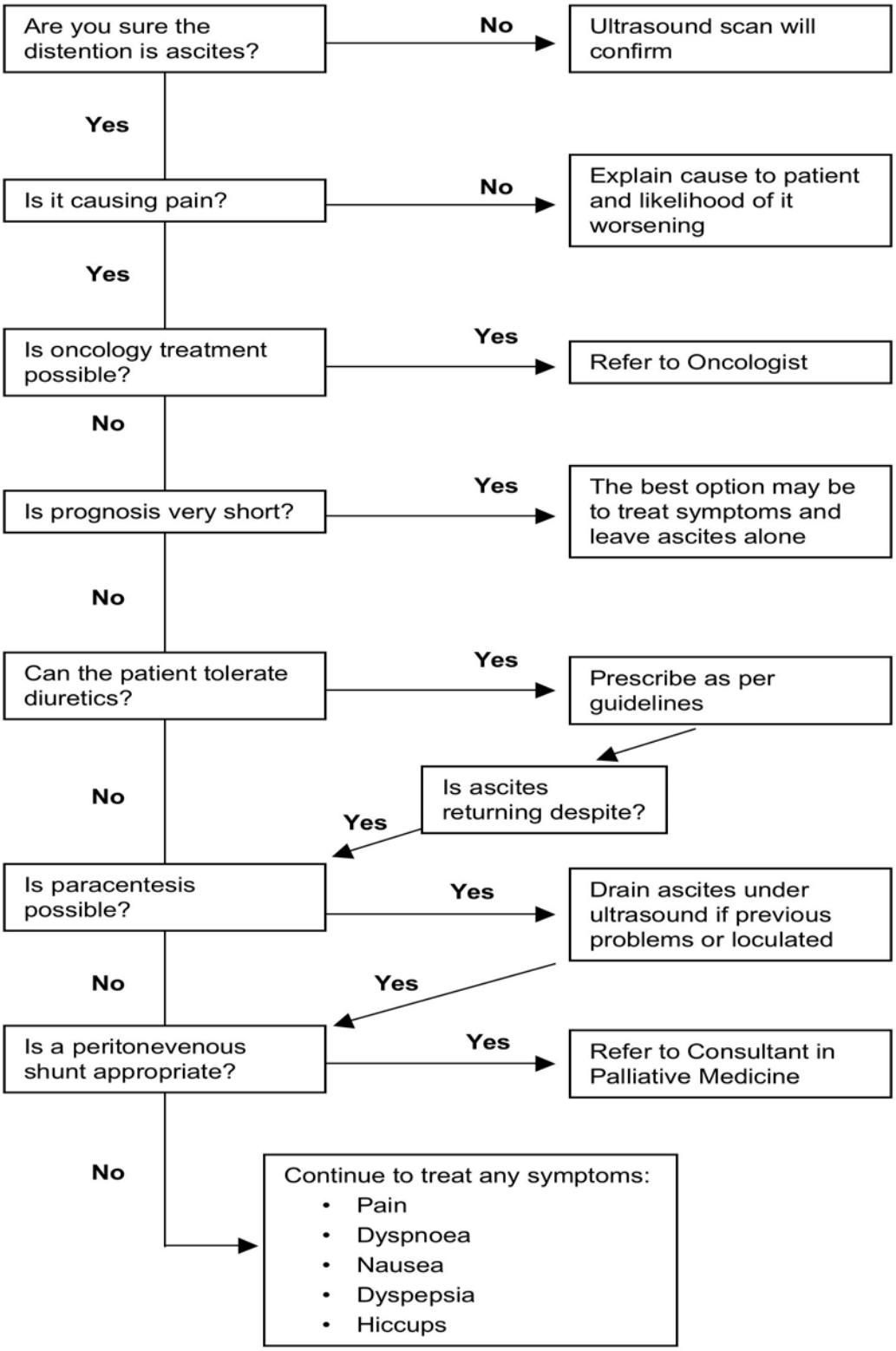
- Process can be repeated if diuretics do not prevent re-accumulation [1]
- It can cause infection, hypovolaemia and renal impairment [3]
- If there have been problems with paracentesis in the past, or if the ascites is loculated, ultrasound guidance should be considered [1]

4.3.4 Peritoneovenous shunt

Shunts have been used for patients with refractory ascites. These allow continuous re-infusion of ascitic fluid from the peritoneal cavity via a one-way valve directly into the superior vena cava. [3]

- Option for patients who have had repeated paracentesis, to promote longer term comfort and maintain serum albumin concentrations [3]
- Associated with a number of complications including infection, shunt occlusion and coagulation disorders [3, 7]
- Generally only suitable for patients who are relatively fit and who are expected to live long enough to derive benefit [1,7]
- Often not used in malignant ascites [1]
- The mean functional survival time is approximately 12 weeks [3]

Ascites Flow Chart



4.3.5 References

1. Twycross, R. and Wilcock, A. (2001). Symptom Management in Advanced Cancer. 3rd ed. Oxford: Radcliffe Medical Press.
2. Hanks, G., Cherny, N.I., Doyle, D. & Bruera, E. (2005). Symptom Management. In Doyle, D., Hanks, G., Cherny, N.I. & Calman, K. eds. Oxford Textbook of Palliative Medicine. 3rd ed. Oxford: Oxford University Press.
3. Smith, E.M. & Jayson, G.C. (2003). The Current and Future Management of Malignant Ascites. Clinical Oncology, 15, pp. 59 - 72.
4. Lee, C.W., Bociek, G. & Faught, W. (1998). A Survey of Practice in the Management of Ascites. Journal of Pain and Symptom Management. 16 (2), pp. 96 - 101.
5. Kaye, P. (2003). A-Z Pocketbook of Symptom Control. Northampton: EPL Publications.
6. Watson, M., Lucas, C., Hoy, A. & Back, I. eds. (2005) Oxford Handbook of Palliative Care. Oxford: Oxford University Press.
7. Becker, G., Galandi, D. & Blum, H.E. (2006). Malignant Ascites: Systematic Review and Guideline for Treatment. European Journal of Cancer. 42, pp. 589 - 597.
8. Kaye, P. (2000). Flow charts for Symptom Control. Northampton: EPL Publications.

5 Bowel Obstruction

5.1 Incidence

- 5.5-42% ovarian
- 4.4-24% colorectal
- 3-15% all other cancers [1]

5.2 Causes

- Adhesions
- Radiation enteritis
- Malignancy
- Fibrosis
- Narrowing/occlusion of the lumen
- Constipation [1]

5.3 Assessment

A good history should include the bowel habits and any changes in these. A plain abdominal x-ray is helpful to differentiate between partial and incomplete obstruction, and to determine the site(s) and nature of the obstruction in a patient who is being considered for surgery. [2]

5.4 Signs and Symptoms

- Abdominal distension (the lower the obstruction the greater the distension)
- Diarrhoea (with partial obstruction)
- Constipation
- Nausea and vomiting (the higher the obstruction the more profuse the vomiting)
- Abdominal pain
- Intestinal colic [1,2]

In patients with advanced disease, the obstruction may be insidious over some weeks. [2] Symptoms may gradually worsen and be continuous. Even without treatment obstructive episodes may spontaneously resolve. [1, 2]

5.5 Management

Surgery remains the primary treatment for malignant obstruction. Patients with advanced disease or poor general condition are often unfit for surgery and require alternative management to relieve distressing symptoms.

5.5.1 Nausea and Vomiting

- Metoclopramide may increase colic and vomiting, and is contra-indicated in complete obstruction
- Cyclizine 150mg s/c over 24 hours +/- haloperidol 2.5-5mg s/c over 24 hours via a CSCI is recommended for complete obstruction [3,4]
- Metoclopramide 60-120mg s/c over 24 hours via a CSCI may relieve partial upper gastro-intestinal obstruction. If not helpful after 24 hours substitute with cyclizine 150mg and haloperidol 3-5mg s/c over 24 hours via a CSCI [4]

- Dexamethasone 8-20mg s/c over 24 hours via a CSCI may be of benefit as a second line anti-emetic used in conjunction with metoclopramide or cyclizine.[5] Prior to starting this it may be helpful to discuss with the Specialist Palliative Care Team
- If the vomiting persists, start octreotide 250 microgram s/c over 24 hours via a CSCI to reduce volume and frequency of vomits to once/twice daily and increase dose every 1-2 days as needed. Seek specialist advice re increasing the dose [3]
- In persistent nausea levomepromazine 5-25mg s/c over 24 hours via a CSCI may be used [6]

Naso-gastric suction is not indicated except where the patient has faeculant vomiting and is distressed by it.

5.5.2 Bowels

Stop stimulant, bulk forming, and osmotic laxatives. [5] If constipation is the likely causal factor and in partial obstruction, then the careful use of rectal measures and a faecal softener e.g. docusate sodium capsules 100-200mg bd can be considered. [3, 5]

5.5.3 Pain

Prescribe and titrate diamorphine or alternative strong opioid for abdominal pain. Prescribe hyoscine butylbromide 20mg s/c stat and 80-160mg s/c over 24 hours via a CSCI for colic. [3]

5.5.4 General measures

- Pay close attention to oral hygiene (see oral care guideline)
- For dry mouth sips of fluid or an ice cube to suck
- Patients who wish to eat/drink should not be discouraged from doing so

5.6 References

1. Ripamonti, C. & Mercadante, S. (2005) Management of Malignant Bowel Obstruction. In Doyle, D., Hanks, G., Cherny, N., and Calman, K. eds. Oxford Textbook of Palliative Medicine.3rd ed. Oxford: Oxford University Press. pp. 496-506
2. Fallon, M. & O'Neill. B. (2005) ABC of Palliative Care. Bristol: BMJ Books.
3. Back, I. N. (2001) Palliative Medicine Handbook. 3rd ed. Cardiff: BPM Books.
4. Watson, M., Lucas, C., Hoy, A. & Back, I. (2005) Oxford University Handbook of Palliative Care. Oxford: Oxford University Press.
5. Twycross, R. & Wilcock, A. (2001) Symptom Management in Advanced Cancer. 3rd ed. Oxford: Radcliffe Medical Press.
6. Evidence is based on expert opinions of the Specialist Palliative Care Teams across the NE sector of Greater Manchester (with the exception of North Manchester Primary Care Trust).

6. Constipation

6.1 Common causes

- Abdominal masses causing reduced mobility
- Frailty and reduced mobility
- General debility & weakness
- Hypercalcaemia
- Spinal cord compression
- Electrolyte imbalance
- Low fibre diet
- Reduced fluid intake/dehydration
- Depression
- Toilet arrangements

6.2 Common Signs and Symptoms

- Reduced/infrequent or difficulty in defaecation
- Anorexia, nausea, halitosis, general malaise
- Overflow diarrhoea
- Urine retention
- Headaches, confusion, restlessness
- Colicky abdominal pain, rectal pain
- Hard, bulky or pellet sized stools
- Faecal impaction (1,2)

6.3 Examination

- General observation, palpation and digital examination (3)

6.4 Investigations

Should not be routine, but for confirmation where appropriate. This may involve checking blood calcium levels, and a plain abdominal x-ray. (3)

6.5 Management

Management depends on cause and therefore a detailed history is important and includes the usual bowel habit.

Considering the patient's condition, and where possible:

- Anticipate constipating effects of drugs and start laxatives prophylactically. Remember, when starting patients on an opioid also prescribe a laxative
- Exclude intestinal obstruction
- Increase fibre in diet
- Encourage fluids
- Increase mobility, where possible
- Position
- Create a favourable environment, ensure privacy and promote dignity
- Consider equipment needs (1,2,3)

Clinical Situation	Agent Type and examples	Comments
Soft bulky stools - low colonic activity	*Stimulant* Senna 2-4 tablets po at night; Bisacodyl 10mg suppositories 1-2 od Bisacodyl 5-10mg nocte	Start with low dose and titrate. May cause abdominal cramp
Colon full, no colic	*Stimulant* ± *softening agent* – e.g. senna + docusate sodium, or co-danthramer	
Colon full and colic present.	*Macrogols* Movicol 2-3 sachets per day	Encourage fluids
Hard dry faeces	*Softening agents* - docusate sodium up to 500mg/day. Arachis oil enema **(avoid if known nut allergy)**	Useful in sub-acute obstruction. Higher doses may stimulate peristalsis.
Hard faeces in rectum	Glycerol (glycerin) suppository 4g	
Hard faeces - full rectum, colon	Stimulant plus softener, e.g. Co-danthramer strong 2.5-15ml or caps 1-3 at night and titrate	May cause red urine; peri-anal rash/irritation; colic
	2nd line -Movicol 2-3 sachets/day	Encourage fluids
Faecal impaction	Arachis oil retention enema **(avoid if known nut allergy)** ± phosphate enema	Warm before use Give arachis oil at night, followed by phosphate enema in the morning
	2nd line - Movicol - 8 sachets dissolved in 1 Litre of water over 6h po Repeat for up to 3 days	Keep dissolved solution in a refrigerator. Discard after 6 hours Limit to 2 sachets/hour in patients with heart failure

(4)

N.B. – in paraplegic patients it is *essential* that a regular bowel regimen is established. A common pattern is use of a stimulant laxative with defaecation assisted by suppositories or enema, avoiding faecal incontinence on the one hand and impaction on the other.

6.6 References

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7 Depression

A depressive illness occurs in about 5-15% of patients with advanced cancer. Another 10-15% will have some depressive symptoms, often as part of an adjustment disorder or because of a loss of morale associated, for example, with unremitting distressing symptoms. It is important to identify depression particularly because conventional treatment achieves a good response in>80% of cases. [1]

7.1 Assessment

- Psychosocial factors e.g. past history of depression, obsessional personality, lack of supportive, confiding relationship [1]
- Exclude organic brain syndrome, acute confusional state, dementia, drug side effects [2]
- Other physiological problems: unresolved pain, biochemical (hypercalcaemia), endocrine (hyperparathyroidism), vitamin deficiency [1]
- The physical state of the disease, prognosis [2]
- Family and social support [2]
- Severity of depressive symptoms/anxiety [2]

7.2 Psychological factors

- Understanding of medical situation
- Insight into illness
- Impact of illness
- Concurrent life stresses
- Past losses and how they coped
- History of alcoholism, substance abuse (2)

7.3 Clinical features

For major depression, at least five of the following symptoms must be present, including one or both of the first two. In addition, symptoms must be present most of the day, on most days, for at least two weeks. [1]

- Depressed mood
- Markedly diminished interest or pleasure in almost all activities
- Significant weight loss or gain
- Insomnia or hypersomnia
- Psychomotor agitation or retardation
- Impaired concentration (indecisiveness)
- Fatigue (lack of energy)
- Feelings of worthlessness (or guilt)
- Suicidal ideas

Assessment may be aided by using a patient administered questionnaire validated for use in patients with cancer, such as the Hospital Anxiety and Depression Scale (HADS). [1, 2]

7.4 Management

- Treat the treatable – If caused by the cancer may respond to appropriate treatment – i.e. hypercalcaemia (bisphosphonate) or brain involvement (steroids) [2]

- Treating unresolved symptoms, particularly pain can also be helpful [2]

- In patients who have had depression in the past ask what has helped before and consider whether such measures might help again [1]

7.4.1 Non-drug treatment

- Palliative day centre may help with those who are isolated [1]

- General support – caring and empathy, provision of information about illness, strengthen family and social support [2]

- Explain the illness [1]

- Psychotherapy should be of short duration and aimed at clarification and resolution of problems caused by the patient's illness, expectations of treatment and fears about suffering and death. It is designed to improve coping skills and reinforce previously successful coping strategies [2]

7.4.2 Drug treatment

Drug therapy is nearly always needed. [3] Antidepressants may take 2-4 weeks to become effective. The choice of drug will be determined by the presence of other symptoms and the patient's probable prognosis. [3]

Class	Examples	Considerations
Selective serotonin re-uptake inhibitor (SSRI)	Paroxetine 20mg od increased gradually in steps of 10mg to max 50mg od (elderly 40mg od) Fluoxetine 20 mg od increased after 3 weeks if necessary, usual dose 20-60mg od (elderly 20-40mg) Citalopram 20-60mg od (in incremental dose increases of 20mg after 3 – 4 weeks) In elderly max. dose is 40mg. Sertraline 50mg od increased if necessary by increments of 50mg over several weeks to max 200mg od	SSRIs can provoke "anxiety flare" on commencement. Benzodiazepines may be required until the antidepressant takes effect if chronic anxiety is diagnosed. [4] For generalized chronic anxiety all can be used. Nausea and anorexia can occur with all four. All can sometimes provoke bowel disturbances. Increases risk of convulsions and bleeding

[4]

If considering any other drug therapy, e.g. mirtazapine, for depression in palliative care please seek specialist advice.

7.4.3 References

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8 Diarrhoea

8.1 Causes of Diarrhoea

Treatment	Laxatives/overdose Magnesium antacids Misoprostol antibiotics radiotherapy chemotherapy coeliac axis plexus block
Mechanical	**Overflow:** obstruction, faecal impaction **Short bowel:** bowel resection colostomy Ileostomy Ileocolic fistula
Functional/ Diet	excess roughage nasogastric feeding enteric supplements other e.g. allergy to food
Other disease related	**Steatorrhoea:** pancreatic cancer obstructive jaundice **Visceral neuropathy** **Carcinoid syndrome**
Concurrent	gastro-enteritis irritable bowel syndrome ulcerative colitis diabetes mellitus heart failure

(1)

8.2 Assessment

- A careful history often indicates the cause
- Examination should exclude faecal impaction, and intestinal obstruction and should therefore include a rectal examination and abdominal palpation
- Plain x-ray if intestinal obstruction is suspected (see intestinal obstruction guideline)
- Depending on the patient's general condition and prognosis other investigations (e.g. sigmoidoscopy) may be appropriate if the results will significantly affect treatment
- If the patient is terminally ill they should be treated symptomatically and not investigated (2)

8.3 General Management

- Depends on the cause
- Rehydrate - use clear liquids, flat lemonade, ginger ale, Lucozade Sport or proprietary rehydration solutions
- Review diet
- Prescribe specific antidote or non-specific anti-diarrhoeal drug (see table below)
- Consider antibiotic treatment if the cause is infective or if bacterial overgrowth seems likely (see table below)
- Preserve dignity – access to toilet /hand washing
- Patients with HIV/AIDS frequently have diarrhoea. Please seek specialist advice [2]

Cause	Management
Drugs - e.g. laxatives, magnesium antacids, PPIs	Review medication [2]
Antibiotics - altered bowel flora	Stop antibiotic if possible Exclude Clostridium Difficile (use local guidelines) [1]
Infection	Fluid and electrolyte support; antibiotic uncommonly needed (seek microbiology advice) [2]
Overflow (constipation, partial obstruction)	Identify. Treat underlying constipation. Soften stool if partial obstruction. Avoid constipating treatments.
Acute radiation enteritis	Absorbent (see below); seek specialist advice [1]
Secretory diarrhoea (e.g. AIDS, tumour, fistula)	**Seek specialist advice** [2]
Steatorrhoea	Pancreatin supplements [1]

8.4 Pharmacological Management

Medication type	Example and dose
Opioid drugs	Loperamide 4-32mg/day in 2-4 divided doses Codeine 30-60mg 4-6 hourly [3]
Absorbents - hydrophilic bulking agents	Ispaghula husk 1 sachet bd - avoid fluids for 1 hour after taking [3]
Intestinal secretion inhibition; fistula	Octreotide 300-1200 microgram s/c over 24 hours via a CSCI (**seek specialist advice before use**) [3]

For severe resistant diarrhoea – seek specialist advice

8.5 References:

1. Sykes, N. (2005) Constipation and diarrhoea. In Doyle, D., Hanks, G., Cherny, N. & Calman, K. eds. Oxford Textbook of Palliative Medicine 3rd ed. Oxon: Oxford University Press. pp. 483 - 496.
2. Back, I.N (2001) Palliative Medicine Handbook. 3rd ed. Cardiff: BPM Books.

3. BNF British National Formulary 56 BMA/ Royal Pharmaceutical Society of Great Britain: London.1.4.1 – 1.4.2.

9 Fatigue

"Fatigue is perceived by the patient as more severe and persistent than tiredness. The concept of fatigue seems to be a combination of physical, affective and cognitive sensations". [1] It tends not to be relieved by rest rather it is unrelenting and eludes patients' attempts at management. [2]

It is one of the most common symptoms associated with illness [3] and is recognised to be problematic in palliative care. [4, 5] However it is rarely assessed or addressed in clinical settings. [6] It is not always easy to perceive in others and therefore may not receive the priority it deserves. [7] Finally it may be neglected if health professionals view it as an inevitable consequence of chronic illness. [8]

Statistics confirm that large numbers of patients with chronic illness experience fatigue.

Prevalence of fatigue in end stage chronic illness					
	Cancer	Acquired immune deficiency syndrome	Heart disease	C.O.P.D.	Renal disease
Prevalence of fatigue	32% - 90%	54% - 85%	69% - 82%	68% - 80%	73% - 87%

[9]

9.1 Causes of Fatigue

There is an inter-relationship between multiple physiological and psychosocial causes which compound each other and result in the complex presentation of fatigue in people with cancer. [10]
Fatigue is frequently associated with disease progression, although it is important to identify the cause as the patient may be open to treatment or palliation which can improve their quality of life.

- Disease progression – tumour burden – size, site and stage of tumour and extent of metastatic spread
- Effects of cancer treatments – radiotherapy, chemotherapy, hormonal therapy
- Anaemia
- Cachexia – reduced hunger as a result of increased cytokine production and loss of nutrients due to anorexia, nausea, vomiting or hypometabolism.
- Metabolic – hypercalcaemia, electrolyte imbalance, dehydration, renal failure
- Endocrine – adrenal insufficiency, diabetes
- Excessive analgesia/sedation

The psychosocial factors that have been found to have a positive correlation with fatigue in cancer are summarised as including:

- Anxiety and depression
- Sleep difficulties
- Reductions in physical functioning [11]

9.2 Management of Fatigue

History taking is the most important tool for defining patient treatment strategy. There are two broad approaches – pharmacological and non pharmacological which may be used in fatigue management.

9.2.1 Pharmacological Management

Treat any identifiable causes which may be causing fatigue:

- Correction of metabolic disturbances
- Transfusion if anaemic, although as the patient deteriorates the benefits become less
- Treatment of tumour where appropriate
- Corticosteroids may give symptomatic improvement but this is often short lived [13]
- Review any nutritional deficiencies
- Treat co-morbidities such as pain, infection, cardiac or renal dysfunction
- Treat identified depression

9.2.2 Non Pharmacological Management

These strategies should be adopted to manage residual fatigue:

- Educate regarding energy conservation and the 3 'P's approach – Prioritise, Plan and Pacing of activity. Encourage to balance activity with rest periods – optimise energy reserves
- Graded exercise – regular, gentle exercise within the patients' limitations, referral to physiotherapy maybe helpful [13]
- Review sleep pattern and treat any existing sleep disturbance [13]
- Teach relaxation techniques to help with anxieties
- Encourage patient to accept assistance from support network – referral to day care services?
- Modify activities which may increase fatigue and use equipment which may conserve energy
- Acupressure/acupuncture – a non invasive intervention which studies have shown have helped manage fatigue and enhanced sleep patterns [12]

9.3 References

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10 Fungating Wounds

"A fungating cancer is a primary or secondary malignant growth in the skin which has ulcerated the skin. The tumour may be proliferative or cavitating and is associated with pain, exudates, bleeding, infection and malodour". [1] A fungating wound should be assessed in the context of the patients overall physical and psychosocial health. [2]

10.1 Assessment

- Record location, as this may affect the rate of healing and will also influence dressing choice [3]
- Measure size and depth of wound (wound mapping grid and photography can be helpful)
- Determine colour of wound bed and type of tissue present; black – necrotic, yellow – sloughy, red – granulation, green – infective, pink/purple – epithelial
- Observe for bleeding, degree of exudates, evidence of fistula or infection (swab wound)
- Assess surrounding skin for signs of fragility, dryness, cellulitis, maceration and infection (wound swab to be sent)
- Undertake a pain assessment (see pain section)
- Assess odour
- Consider referral to Tissue Viability Clinical Nurse Specialist [4]

10.2 Management

10.2.1 Bleeding

- Haemostatic absorbent dressings, e.g. alginates
- Gauze soaked in 1:1000 adrenaline applied with pressure over 10 minutes
- Oral tranexamic acid 1.5g stat and 0.5-1g bd-tds (do not use if disseminated intravascular coagulation is suspected), or etamsylate 500mg qds
- In difficult bleeding consider surgical referral (plastic), cautery or refer for radiotherapy [1]

Remember that fungating wounds may culminate in a fatal haemorrhage. Significant indicators are the depth of the wound, exposure of relevant anatomy, pulsating vessels, ballooning of vessels and warning bleeds. If a patient is identified as being at risk, the protocol for the management of haemorrhage must be implemented. [5]

10.2.2 Exudate

- Absorbant dressings, e.g. foam or alginates [1]

10.2.3 Slough

- If dry use a hydrocolloid dressing in order to maintain wound temperature/hydration and facilitate slough autolysis. If moist, use a foam/alginate [1]

10.2.4 Pain

- Use dressings that maintain optimum humidity and do not adhere to the tumour [6]
- Keep wound surfaces moist so dressings can be removed with minimal trauma [1]
- Occlusive dressings help relieve pain by reducing oxygen at wound surface [4]
- Consider pre-emptive analgesia prior to dressing change [7]
- See pain guidance for analgesia
- Pain can be increased by anxiety/fear at sight or smell of wound [1]

10.2.5 Malodour

- Frequent dressing changes [7]
- Charcoal, charcoal/alginate or charcoal/foam dressings [7]
- Topical metronidazole gel (0.8%) or oral metronidazole 400mg tds if not effective [6]
- Surgical debridement of necrotic areas if appropriate [1]
- Deodorisers [7]
- Single room/open windows if appropriate [1]

10.2.6 Infection

- If there are clinical signs of infection present a swab should be taken. If malodorous see Metronidazole regime above [4]
- If Methicillin Resistant Staphylococcus Aureus (MRSA) refer to MRSA Care Pathway [8]

10.2.7 Disfigurement

- Restore body symmetry using cavity dressings that conform to and support wound shape
- Cover dressing where appropriate [6]

10.3 References

1. Twycross, R. & Wilcock, A. (2001). Symptom Management in Advanced Cancer. 3rd ed. Oxford: Radcliffe Medical Press.
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11 Hypercalcaemia

Hypercalcaemia occurs in 10% of patients with cancer. A corrected plasma calcium concentration above 2.6mmol/litre defines hypercalcaemia. At this level symptoms will often be mild with patients only becoming symptomatic with levels above 3.0mmol/litre.(1)

11.1 Assessing Hypercalcaemia

- History – Tumour histology (especially breast, myeloma, lung (non-small cell), kidney, cervix, head and neck, bony metastases) and previous episodes of hypercalcaemia (2,3,4, 5, 6)
- Clinical features may be present as shown in the table below. These may be in any combination and vary in severity

11.2 Clinical features of hypercalcaemia

General	Gastrointestinal	Neurological	Cardiological
Dehydration Polydipsia Polyuria Pruritus	Anorexia Weight loss Nausea Vomiting Constipation Ileus	Fatigue Lethargy Confusion Myopathy Hyporeflexia Seizures Psychosis Coma	Bradycardia Atrial arrhythmias Ventricular arrhythmias PR interval prolonged QT interval reduced Wide T waves

(2)

Establish corrected calcium levels* - if >2.6 mmol/l then hypercalcaemia is confirmed. (5)
*Some laboratories do not correct the calcium level to establish the full calcium level. If you need to correct yourself the formula is:
Corrected calcium level = calcium measured + [(40 – serum albumin) x 0.02]. (2)

11.3 Treatment

- Communication with the patient and family is essential to help alleviate some anxiety
- Stop calcium promoting drugs e.g. thiazides, vitamins A & D (2).
- Symptom management as appropriate/necessary
- Primary care – urgent referral to secondary care for i/v rehydration and treatment with disodium pamidronate or zoledronic acid (2,3,4,5,6)
- Acute care i/v fluids; 2 – 3 litres normal saline/24 hours (2,6)
- Potassium supplements (5,6)
- i/v bisphosphonate in normal saline

Disodium pamidronate as a single dose infusion

Corrected plasma calcium concentration (mmol/l)	Pamidronate dose (mg)
Up to 3.0	15 – 30
3.0 – 3.5	30 – 60
3.5 – 4.0	60 – 90
Above 4.0	90

(6)

- Do not exceed concentration of 60 mg per 250 ml normal saline (6)
- Infusion rate should not exceed 60mg/hour (20mg/hour in patients with renal impairment) (6)
- Rehydrate first if serum creatinine greater than 250 micromols/l and infusion rate should not exceed 20 mg/hour (8)
- Pyrexia can occur for 24 hours (5)
- Normalisation of serum calcium takes 5-7 days and maintenance may last for 3-4 weeks (2,3)

Zoledronic Acid (Zometa)

Dose: 4mg by intravenous infusion

- More potent than pamidronate in inhibiting bone re-absorption, having a longer duration of action and higher response rate (5)
- Zoledronic acid is tolerated as well as pamidronate with side effects such as pyrexia, flu-like symptoms, fatigue etc. (7)

Bisphosphonates other information

- Monitor serum calcium every 2 weeks (8)
- Assess regimes where it is appropriate to use oral bisphosphonates post infusion, e.g. sodium clodronate (Bonefos 1600 mg or Loron 2 x 520 mg tablets (either od or in divided doses) or to give regular i/v infusions (7)
- i/v treatment may be repeated if serum calcium rises again. Note: each subsequent treatment is generally less effective and has a shorter duration (7)

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12 Insomnia

12.1 Causes

- Medication (e.g. steroids, diuretics, bronchodilators) [1]
- Pain
- Fear, anxiety, depression
- Environmental noise or disturbance
- Breathlessness and other uncontrolled symptoms
- Cognitive impairment or hallucinations
- Hunger
- Bowel or bladder dysfunction or discomfort [2, 3, 4]

12.2 Treatment

- Talk to the patient to ascertain any potential cause
- Review all current medication. Amend or discontinue any which may be contributory to the problem, e.g. ensure steroids or diuretics are taken earlier in the day if possible [1, 4]
- For the management of pain, review current analgesia, dosage and frequency. Ascertain the type and site of the pain. Medication alteration may relieve the problem though caution must be used in the use of opioids. These may contribute to other side effects such as confusion, hallucinations or reduced mobility. Consider alternative therapies e.g. cold/hot packs; pressure relieving devices; gentle massage [1, 4]
- Ascertain if infection may be the cause e.g. urinary or chest infection. Treat as appropriate
- For the management of anxiety or depression, counselling, relaxation techniques or discussing the issues may help, though medication may be an option, e.g. a sedative anti-depressant (see anxiety or depression guidelines).
- Review the patient's usual routine, encourage them to avoid sleeping during the day; suggest some exercise if possible; establish a night time routine
- Medication may be required to treat the relevant cause or to promote sleep e.g. hypnotics. These should be used with caution as potential side effects may cause problems with mobility and falls [4]

Drugs used in the management of insomnia

Medication	Dose	Further Information
Diazepam	5 – 15 mg nocte	Anxiolytic. May cause hangover effect. [1, 4]
Nitrazepam	5 – 10mg nocte	Benzodiazepine hypnotic. May cause a hangover effect. [1, 4]
Temazepam	10 – 40 mg nocte	Benzodiazepine hypnotic. May cause a hangover effect. [1, 4]
Zopiclone	3.75 – 7.5mg nocte	Non-benzodiazepine hypnotic. Use with caution in liver impairment. [1, 4]

12.3 References:-

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13 Major Haemorrhage

'Major arterial haemorrhage from a patient in whom active treatment is not appropriate or possible, and which will inevitably cause death in minutes'. [1]

13.1 Causes

Most common: Gastric: Gastric carcinoma
Oesophageal varices
Use of NSAID's especially if steroids are used concomitantly [2,3]

Less common: Lung cancer (reduced incidence if radiotherapy is given in early stage of disease).
Erosion of artery by malignant ulcer (neck, axilla or groin) [2,4,5]

13.2 Treatment

If there are warning signs, have a plan:

- Inform all staff
- Prepare the family [1,5,]
- Prescribe drugs "as required" and ensure they are immediately available in the home or on the ward. See below
- Discuss with the family about having red, blue or green towels available where possible as they look dark not red when soaked with blood [5]

The aim of care is to reduce the distress and anxiety of the patient and carers:

- The patient will be frightened, so never leave them alone [5]
- Give immediate sedation [1,2,4]

Midazolam 10 mg as a minimum i/v or i/m (not s/c as it will be poorly absorbed if there is circulatory shutdown.) Repeat after 10 - 15 minutes if necessary. [6]
or
Diamorphine i/v, or i/m if no vein is available, 10-20 mg as a minimum (if already on the drug 1/6 to 1/4 of the total daily dose). [1, 2, 3]

If at home and no doctor or nurse is likely to be available: The family can be instructed to give **rectal diazepam solution (Stesolid) 20 mg**, but it takes 10-15 minutes to take effect. (These are supplied in 10mg rectal tubes). Can be repeated if needed. [6]

- As rectal diazepam may be difficult for carers to use in the community the use of buccal midazolam 10mg/1ml may be effective in sedating most patients in this situation. Please contact the Specialist Palliative Care Team should you need any advice regarding this. Despite this suggestion, most relatives may be too distressed in the event of haemorrhage to administer this [7,8]

13. 3 Ongoing Care

- Bleeding may stop temporarily as the blood pressure drops but will start again if it rises
- If the patient survives, a continuous infusion of diamorphine and midazolam may be necessary as the patient will be in shock [5,6]
- Hospital admission is not advised if death is imminent as an i/v infusion may be started and futile resuscitation procedures commenced
- If the haemorrhage is smaller, but a warning of more to come, a discussion with the patient and family is needed to decide if they wish to continue care at home [3]
- If patient is to be admitted to hospital where possible:
  a) inform the A&E staff there of the advanced nature of the patient's disease to prevent emergency resuscitation and
  b) inform ambulance control by telephone if possible and ensure there is appropriate documentation/current DNAR order in the house stating that resuscitation must not be attempted (paramedics cannot exercise discretion in such cases) [9, 10]

13.4 References

1. Back, I.N. (2001) Palliative Medicine Handbook 3rd ed. Cardiff: BPM Books.
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14 Nausea & Vomiting

14.1 Assessment

- Review history/drug regime
- Distinguish between vomiting, expectoration and regurgitation
- Check fundi for papilloedema although its absence does not exclude raised intracranial pressure
- Examine abdomen
- Consider a rectal examination if appropriate
- Consider checking plasma levels of: calcium, albumin, creatinine, carbamazepine, digoxin [1, 2]

14.2 Management

- Encourage and support the patient to take an active role in their symptom management, (explain the purpose of the treatment that is prescribed and the ways in which this will help them).
- Where possible, avoid the use of nasogastric suction. However, there are some exceptions: total gastric outflow obstruction, floppy stomach syndrome, faecal vomiting where it may be appropriate
- Anti-emetic choice depends on the cause
- A single anti-emetic is sufficient in two thirds of patients
- Any added anti-emetics should have a different action
- First line treatment may be cyclizine/metoclopramide/haloperidol. Levomepromazine is considered as a 2nd line treatment [1]
- In the last days of life levomepromazine is used as a first line antiemetic [3]
- If commencing anti-emetic for opioid induced nausea and vomiting review and consider stopping after seven days
- If the patient is vomiting most of the time or vomiting within 2 hours of an oral anti-emetic a subcutaneous infusion of an appropriate anti-emetic should be commenced [1,2]

Cause of Nausea & Vomiting	Underlying cause	Additional Info	Treatment
Gastric outflow obstruction	tumour	mainly large volume vomiting may need naso-gastric tube and i/v hydration *use metoclopramide with caution as may increase symptoms of colic and vomiting. Must be discontinued if obstruction not resolving	If partial obstruction: metoclopramide 10mg tds orally. Give $^1/_2$ hr before meals. If symptoms of colic and vomiting worsening or obstruction not resolving, stop If total obstruction: cyclizine 150mg s/c over 24 hours via CSCI and /or haloperidol 3-5 mg s/c over 24 hours via CSCI

Cause of Nausea & Vomiting	Underlying cause	Additional Info	Treatment
Gastric outflow obstruction continued			If unsuccessful use levomepromazine 6.25mg oral or 5-25mg s/c over 24 hours via CSCI [2]
Gastric stasis	drugs: opioids, tricyclic anti-depressants, hyoscine hydrobromide, propantheline, chlorpromazine	mainly large volume vomiting often accompanied by: oesophageal reflux, epigastric fullness, early satiation or hiccups	Metoclopramide 10-20mg po qds give ½ hour before meals [1]
Compressed stomach ("squashed stomach syndrome")	ascites, liver tumour	features as for gastric stasis except vomits are small	Metoclopramide 10mg-20mg po qds give ½ hour before meals [2]
Raised intracranial pressure	cerebral tumour recent radiotherapy to head and/or neck		Cyclizine 50mg po tds or 150mg s/c over 24 hours via CSCI. To reduce pressure use dexamethasone 16mg po or s/c over 24 hours via CSCI Reduce after 3-5 days [4]
Metabolic	uraemia, hypercalcaemia, bacterial toxins		Haloperidol 1.5mg nocte or levomepromazine 6.25mg oral nocte or levomepromazine 5-25mg s/c over 24 hours via CSCI [2]
Constipation	laxatives		see constipation guideline
Drugs (that cause gastrointestinal Irritation)	non-steroidal anti-inflammatory drugs, propanolol, ampicillin, long-term antibiotics, steroids, iron supplements, cytotoxic drugs	Epigastric discomfort often post – prandial vomiting	Stop NSAIDs, add proton pump inhibitor, metoclopramide 10mg po tds. Treat gastritis stop the offending drug [1] cytotoxic drugs merit use of 5HT3 antagonists e.g. ondansetron, or equivalent alternative
Vagal stimulation	pharyngeal irritation (candida, sputum) stretched liver capsule by metastases consider dexamethasone 4-6mg once a day [1,2] ureteric distension, bowel obstruction, cough		Cyclizine 50mg po tds or 150mg s/c over 24 hours via CSCI [1] Treat candida [1]
Bowel obstruction	tumour constipation functional and mechanical causes		As bowel obstruction guideline

Cause of Nausea & Vomiting	Underlying cause	Additional Info	Treatment
Vestibular problems	cerebral metastases		Cyclizine 50mg po tds or hyoscine hydrobromide transdermal (scopoderm) patches 1mg/72 hours [1]
Psychological factors	many	see Anxiety guideline and Depression guideline	Reassurance, good symptom control avoidance of precipitating sights and smells. Consider benzodiazepines or levomepromazine 6.25mg po nocte [1]

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4. Evidence is based on expert opinions of the Specialist Palliative Care Teams across the North East Sector of North Manchester. (With the exception of North Manchester Primary Care Trust).

15 Oral Care

- The most important factor in oral care is the frequency rather than the product used. It is also important the mouth is kept moist and free from debris [1]
- Chlorhexidine gluconate 0.2% (e.g. Corsodyl) or hexetidine 0.1% (Oraldene) 12 hourly can reduce oral bacteria by up to 80% [2]
- Oral care should be offered at least four times daily: after each meal and before settling at night [3]
- Natural teeth should be cleaned with a soft toothbrush and fluoridated toothpaste. Water is used for rinsing [3]
- Dentures should be removed twice daily, cleaned with a brush and rinsed with water. They should be removed at night and soaked in water or the patient's usual solution and cleaned with a brush prior to be being placed back in the patient's mouth [3]
- Adequate oral fluid intake should be encouraged [3]
- Lips should be also kept moisturised [3]
- Chlorhexidine is relatively expensive and should be used for specific indications rather than as a regular mouthwash [3]

Oral Problem	**Symptoms**	**Causes**	**Treatment**
Mucositis	Painful condition, in which lining of the mouth is sore and inflamed [4]	Usually an adverse effect of chemotherapy or radiotherapy treatment. Dry mouth	Stringent mouth cleaning. [2] Assess grading of mucositis using a tool i.e. WHO grading tool [5] Comfort: Warm normal saline mouthwashes, 1 teaspoon of sodium chloride in 500ml of water = 0.9% [3] Difflam mouth wash or spray [6] Soluble paracetamol or codeine [4] Mechanical protection in the form of a barrier gel i.e. Gelclair - follow instructions carefully [7]
		Inflamed bleeding gums (gingivitis)	Chlorhexidine gluconate gel 1% [6]

Oral Problem	Symptoms	Causes	Treatment
Fungal Infection	Angular Chelitis Red under dentures White patches Red oral mucosa	High dose/long term steroid use Dry mouth Debilitated patients more at risk	Swab patient Start anti-fungal treatment. (9) e.g. nystatin 1ml qds (6) Treat the dry mouth (8) Change toothbrush once condition has cleared up. Soak dentures overnight in the patients own solution (9) Treat the dentures with the prescribed anti fungal treatment (6) Chlorhexidine should be avoided if patient is using nystatin as it renders the nystatin ineffective (9)
Coated Tongue	Tongue looks white, brown, black or furry	Elongation of filiform papillae with staining from food pigments and tobacco smoke (10)	Brush tongue firmly, if not too sore, from back to front (9) Consider one-quarter of one 100mg tablet of effervescent ascorbic acid dissolved on the tongue once or twice daily (3) Consider sodium bicarbonate mouth rinse. Dilute one teaspoon of sodium bicarbonate per 500mls of water (9) Chew pineapple chunks
Aphthous ulcers		Stress, fatigue, accidental biting and vitamin B12, iron and folic acid deficiencies. A non healing ulcer must be examined for a possible mouth cancer	Warm saline mouthwashes, 1 teaspoon of sodium chloride in 500ml of water = 0.9% (3) Antibacterial mouthwash e.g. chlorhexidine (6) Difflam mouthwash or spray as prescribed (6) Barrier gel i.e. Gelclair (7)
Viral ulcers	Cold sore lesions	Stress, fatigue and immunosuppressant e.g. corticosteroids	As above for cleansing and pain control Aciclovir 200mg 5 times a day for 5 days (10) Topical cream e.g. Zovirax (6)
Periodontitis	Inflammation of the gums around the teeth with some bleeding. Detachment of gums from tooth surfaces	Poor oral hygiene. Stress, poor Nutrition or compromised immune system	Effective tooth brushing if possible (10) Consider metronidazole 400mg tds (6) Antibacterial mouth wash e.g. chlorhexidine gluconate (10)

Please note Gelclair within community can be obtained on an FP10 as a class 1 medical device.

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16 Pain

16.1 Assessment & characteristics

Physical assessment

P= Palliative
P = Provocative factors
Q = Quality
R = Radiation
S = Severity
T = Timing

(1)

Also consider these other aspects

Functional - effects in activities of daily living
Psychosocial -mood/relationship effects/sleep
Spiritual - fears/hopelessness/regrets/guilt

(2)

- The patient should be the prime assessor of the severity of their pain using a simple formal assessment tool e.g. use of a numerical score: 0 = no pain and 10 = severe and overwhelming
- Also consider non-verbal behaviour
- Considering using a chart to mark the site(s) of pain
- Each different pain will need to be assessed individually
- Once measures have been put in place to control the patient's pain, these should be reviewed on a regular basis (2)

Sudden severe pain should be recognised as a medical emergency and patients should be seen and assessed without delay.

16.2 Common Pain Types

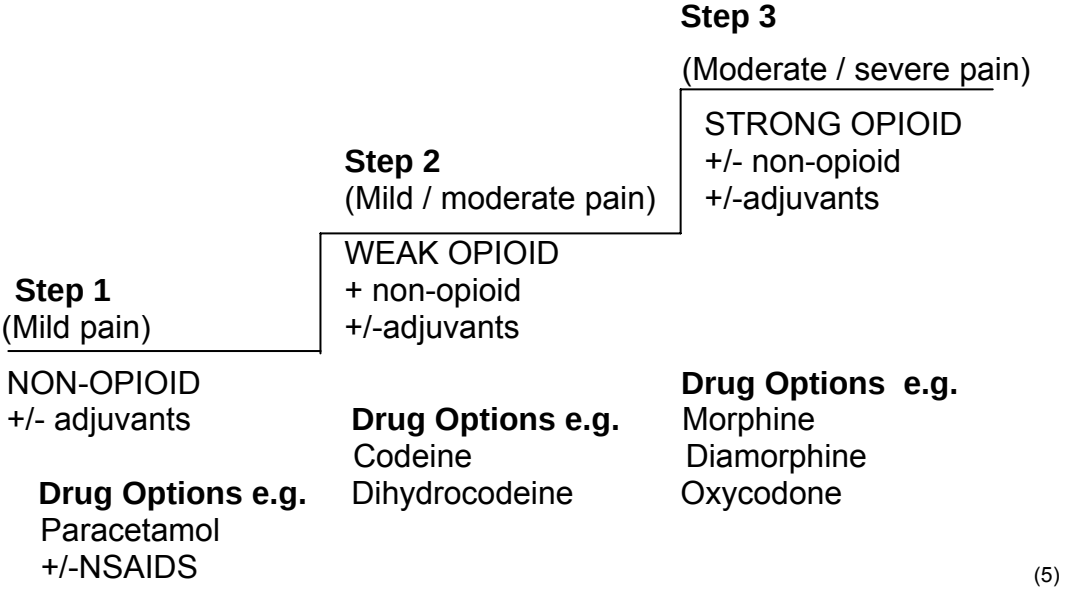
Pain	Examples	Character	Initial Management	Adjuvants	Consider
Deep Somatic	Bone Metastases	Gnawing, Aching. Worse on moving or weight bearing	WHO ladder	NSAIDS	Radiotherapy Surgery Bisphosphonate
Visceral	Liver, lung, bowel	Sharp ache or deep, throbbing. Worse on bending or breathing	WHO ladder	Corticosteroid NSAIDS	Nerve Block Surgery
Neuropathic	Nerve compression Nerve damage	Burning, shooting, sensory disturbance in affected area	WHO ladder	Tricyclic antidepressant Anticonvulsant Corticosteroid	Radiotherapy TENS Nerve block
Smooth muscle spasm	Bowel obstruction Bladder spasm	Deep, twisting, colicky (waves)	Maybe sensitive to opioids-variable	Anti-cholinergic e.g. hyoscine butylbromide for bowel colic	Surgery for relief of obstruction

(3)

16.3 Principles of pain management

- Set realistic goals, stage by stage e.g. pain free overnight
- Prescribe analgesics regularly (1)
- Consider most appropriate route of administration – use the oral route where possible (1)
- Prescribe using the WHO analgesic ladder see below (1)
- **If pain is not controlled on a given step, move upwards onto the next step of the analgesic ladder. Do not prescribe another analgesic from the same step. E.g if pain is not controlled on Co-codamol 30/500 move up to step 3** (1)
- Prescribe an analgesic for breakthrough and/or incident pain (2)
- Patients and carers should be given information about their pain and pain management. Encourage them to take an active role if possible (4)
- Therapy must be tailored to each patient, taking into consideration previous response to medication and treatment (4)

The WHO Analgesic Ladder



(5)

Adjuvant drugs contribute to pain relief and can be used alone or in conjunction with analgesics. Information regarding the use of adjuvant analgesics can be found within this section. They can be introduced at any step in the analgesic ladder. Morphine is still the first line strong opioid at step 3 of the analgesic ladder. (5)

16.4 Initiating and Titrating Morphine

- Explanation and reassurance about morphine is essential to patients and carers. Consider an explanatory leaflet [4]
- When initiating, use **immediate release morphine 2.5-10mg 4 hourly.** Unless there are contra-indications (caution in elderly and renal impairment). The following doses are suggested [6]

Patient	Suggested starting dose
Adult not pain controlled on weak opioids	10mg 4 hourly
Elderly, very cachexic or not taking weak opioids	5mg 4 hourly
Very elderly and frail	2.5mg 4 hourly

[6]

- The opioid dose for each patient should be titrated to achieve maximum analgesia with the minimum of side effects. Increase the dose by 30-50% rather than by a fixed amount. The incremental percentage tends to decrease a little as the dose increases e.g. 5-10-15-20-30-40-60-80-100-130-160-200mg. There is no maximum dose of opioids as long as the increasing doses provide effective analgesia [6]

- Once suitable pain control is achieved using **immediate release morphine** conversion to the same total daily dose of **a 12 hourly modified release preparation (m/r)** is recommended**.** To do this divide the total daily morphine dose by 2 and this will give the 12 hourly dose [2]

- Titration should where possible, be undertaken using an **immediate release** preparation (4 hourly morphine). However, there may be instances due to compliance where a 12 hourly modified release (m/r) preparation could be used in the first instance

- Please see equi-analgesic doses chart within this section for changing from other opioid analgesics to morphine, e.g. codeine

16.5 Breakthrough analgesia

- Breakthrough pain is defined as “a flare in pain of rapid onset, moderate to severe intensity and of short duration.” [2] Whilst it may be precipitated by movement it can also be spontaneous
- End of dose failure requiring an increase in the regular analgesia must be considered if the breakthrough pain occurs close to the next dose due [2]
- Every patient on **m/r morphine** should have a breakthrough dose of an immediate release morphine preparation prescribed. **The breakthrough dose of morphine or of any strong opioid is the 4 hourly dose given prn, i.e. one sixth of the total daily dose** [7]
- Following the delivery of the oral breakthrough analgesia wait one hour to assess the response. If pain persists, repeat analgesia and reassess in a further 30 minutes. If pain still persists a full re-assessment of the patient is required as this may be a new pain [4]

- Careful explanation of the correct use of breakthrough analgesia to patients and carers is necessary [4]

16.6 Predictable side effects of morphine

- **Constipation** (very common) - prevent by prescribing concurrent stimulant laxative + softener and titrate [6]
- **Nausea and Vomiting:** (30% of patients). Initial nausea should resolve after approximately 1 week. Prescribe haloperidol 1.5mg at night or metoclopramide 10mg tds for 5 days and then stop if asymptomatic [2]
- **Drowsiness:** warn patients that drowsiness and poor concentration may occur at start of therapy, and when dose is increased, but will lessen after a few days when the body adjusts [2]
- **Hallucinations/Delirium/Agitation:** should be managed by reducing the dose of opioid, ensuring adequate hydration and treating the agitation/confusion with haloperidol 1.5-3mg orally or s/c. Consider an alternative opioid if severe [2]
- **Sweating:** refer to sweating guideline
- **Myoclonus: Consider renal impairment as metabolites of morphine accumulate in renal failure causing side effects such as myoclonus and confusion.** In this situation consider an alternative opioid. If this is not appropriate, decrease opioid dose if possible; or consider adding oral clonazepam 0.5mg to 1 mg nocte or use s/c midazolam as per the ICP prescribing guidance [4]
  Please note myoclonus is more likely to occur in patients currently taking antidepressants, antipsychotics or NSAIDs [2]
- If side effects are intractable and reducing the patient's quality of life or limiting pain relief, consider changing to an alternative opioid. **Seek specialist advice if necessary**

16.7 Indications for choosing alternatives to morphine

- When unacceptable side effects to morphine prohibit dose escalation to a sufficient level to achieve pain control, despite the use of adjuvant analgesics or other appropriate interventions
- Patient acceptability
- Renal failure
- Patient compliance issues with regard to taking oral medication regularly
- In patients where the oral route of administration maybe compromised [6]

16.8 Alternative strong opioids

16.8.1 Fentanyl

- Similar analgesic properties to morphine
- Side effects are the same as those for morphine, but fentanyl causes less cognitive impairment, constipation and sedation than morphine [6]
- Less likely to cause toxicity in patients with renal failure [2]
- It is available as a transdermal preparation ("patch") for patients with moderate to severe chronic stable pain [8]
- Is not suitable for use with patients who need rapid titration of their analgesia due to poorly controlled pain [9]

- There are other immediate release preparations available, including oromucosal, which should also be only used using specialist advice [8]

16.8.2 Fentanyl Patch: contra-indications

- Where possible should be reserved for patients with moderate to severe chronic stable pain [9]
- Do not initiate fentanyl patches for pain control when patients are in the last few days of life. If the patient is unable to take oral analgesia consider a syringe driver. [4,9] Guidance on how to do this can be found within this section
- Should not be initiated in opioid naive patients

16.8.3 Starting fentanyl patches:

- **Available as 12, 25, 50, 75, 100 microgram/hour trans-dermal patches.** The 12 microgram patch (Durogesic DTrans only) is licensed for dose titration between the doses of 25 to 50 and 50 to 75 micrograms [8]
- The usual starting dose is a fentanyl patch 25 microgram/hour which is equivalent to approximately 60mg of morphine daily. [9] However although the 12 microgram/ hour patch (Durogesic D-Trans only) is only licensed for dose titration, it can be used as a starting dose for patients who need a lower opioid dose [4,9]
- It takes 12 – 24 hours to reach therapeutic and 36-48 hours to achieve steady peak plasma concentrations. On removal levels decrease by about 50% in 13-22 hours [9]
- Patches are changed every 72 hours but a small number of patients may need patches changing every 48 hours [2]
- Ensure prescription of an appropriate dose of an **immediate release** strong opioid for breakthrough pain such as oral morphine [2,6]
- **Please refer to the chart below for equivalent doses of 24 hour and 4 hourly morphine for fentanyl patches**
- A small number of patients may experience withdrawal symptoms including diarrhoea, nausea, sweating and restlessness when switching from morphine to fentanyl. This can be treated using rescue doses of morphine for a few days [9]

16.8.4 Fentanyl: Other important prescribing information

- Note that there are two forms of fentanyl patch: matrix patches (Durogesic DTrans or Matrifen) and forms with a liquid reservoir (generic products e.g. Tilofyl). Please note that different brands of patch are not necessarily inter-changeable [4]
- Usual dose range is 25-300 micrograms/hour; although it may be higher under specialist care [4]

16.8.5 Equivalent doses of 24 hour and 4 hourly morphine for fentanyl patches

4-hour oral morphine (mg) (also breakthrough medication dose)	Fentanyl patch strength (microgram/hour)	Total 24-hour oral morphine dose (mg)
5mg [4]	12	*30mg* [4]
10mg	25	*60mg*
20mg	37*	*120mg*
30mg	50	*180mg*
35mg	62*	*210mg*
40mg	75	*240mg*
60mg	100	*360mg*
70mg	125	*420mg*
90mg	150	*540mg*
100mg	175	*600mg*
120mg	200	*720mg*
140mg	225	*840mg*
150mg	250	*900mg*
160mg	275	*960mg*
180mg	300	*1080mg*
No upper limit However, consider additional/alternative methods of analgesia when dose exceeds 300 microgram/hour *These intermediate doses are made available with the 12 microgram/hour patch. Please note that using 12micrograms as a starting date is use outside of licence [10]		

16.8.6 Converting to fentanyl patches

See the chart below for guidance on converting patients onto fentanyl patches from other strong opioids

Immediate release oral opioid	Apply patch – continue immediate release opioid four hourly to cover the first 12 hours until fentanyl reaches its therapeutic level. [9] Use immediate release opioid thereafter to treat breakthrough pain [4]
Modified release oral opioid 12 hourly preparations	Apply the patch when the last dose of m/r morphine is administered. Use immediate release opioid to treat breakthrough pain [4]
Modified release oral opioid 24 hour preparations	Apply the patch 12 hours after the last dose of 24 hourly modified release oral morphine [4] Use immediate release opioid to treat breakthrough pain [4]
Syringe driver	Apply the patch and discontinue the syringe driver after approximately 12 hours.[9] Use suitable immediate release opioid thereafter to treat breakthrough pain [4]

16.8.7 Management of patients with a fentanyl patch in the last days of life

If a patient is already established on fentanyl patches and is unable to take breakthrough oral medication please follow the guidelines for using fentanyl patches in the last few days of life (including matrix and reservoir formulations) version 3 (2009), which can be found below. This guidance could also be applied when patients are receiving fentanyl patches but are not able to take oral breakthrough medication due to an acute problem e.g. vomiting. [4]

16.8.7 Guidelines for using Fentanyl Patches in the Last Few Days of Life (including matrix and reservoir formulations) Version 3 (2009)

1. **The patch** should be **continued** at the same dose, being changed every 72 hours. [1,11] If there are any concerns or problems about the dose or continuation of the patch discuss with the Specialist Palliative Care Team.

2. **If the patient experiences breakthrough pain**, administer prn s/c diamorphine. [1,11] To calculate the prn dose
   - divide the total fentanyl patch dose strength by 5 to give the prn dose of diamorphine in mg [1]

e.g. fentanyl patch 25 micrograms ÷ 5 = 5mg diamorphine s/c prn

3. If the patient requires 2 or more doses of prn s/c diamorphine within 24 hours extra analgesia should be given using continuous subcutaneous diamorphine in a syringe driver over 24 hours. [4]

4. **To calculate the dose of diamorphine to be administered in the syringe driver:**
   - Total all the prn diamorphine doses received by the patient in the previous 24 hours and prescribe that dose for administration in a syringe driver over 24 hours [4]
   - If the patient has received any other additional oral breakthrough medication during this period this will need to be taken into account and the appropriate conversion factor used to convert to diamorphine.[4] If unsure discuss with the Specialist Palliative Care Team
   - Continue the patch and change every 72 hours as normal [1]

e.g. Patient is on 25 microgram fentanyl patch and has received 2 x 5 mg of diamorphine over 24 hours. Therefore, prescribe and administer 10 mg of diamorphine via a syringe driver over 24 hours.

5. Then **re-calculate** the prn dose of s/c diamorphine: [4]

- Divide the total fentanyl patch dose by 5 (=a)
- Divide the total amount of diamorphine in the syringe driver by 6 (=b)
- a+b = prn dose of diamorphine s/c in mg

e.g. Patient on fentanyl 25 microgram patch and diamorphine 10mg.
a = 5 b = 1.66mg a+b = 6.6mg (therefore use 5 mgs diamorphine s/c prn)

6. Syringe driver requirements need to be assessed every 24 hours

If the patient appears still to be in pain. **REASSESS**. Ask yourself are there any reversible causes e.g. full bladder? Is the pain likely to be responsive to opiates? Is the problem restlessness rather than pain? (4)

7. **To further increase the dose of subcutaneous diamorphine within the syringe driver –**

- Add any prn doses of s/c diamorphine given in the previous 24 hours to the dose of diamorphine within the syringe driver (4)
- Remember to recalculate the prn dose of diamorphine as in point 5

e.g. Patient on fentanyl 25 microgram patch and diamorphine 10mg over 24 hours via a syringe driver, additionally the patient has had 2 x s/c prn doses of diamorphine 5mg. Therefore increase diamorphine to 20mg over 24 hours via the syringe driver and continue the patch.

The prn diamorphine dose is re-calculated as (25 ÷ 5 =) 5mg + (20 ÷ 6=) 3.33mg = 8.33mg. Therefore prescribe 7.5mg or 10mg of diamorphine s/c prn depending on clinical judgement

In very exceptional circumstances the fentanyl patch may be discontinued but should only ever be done in conjunction with specialist palliative care advice.

9**. IN THE EVENT OF AN INABILITY TO OBTAIN DIAMORPHINE**, please refer to the NE sector drug conversion chart and use an alternative strong opioid. Morphine sulphate injection is first line choice. To convert from a dose of s/c diamorphine to the equivalent dose of s/c morphine sulphate injection multiply the diamorphine dose by **1·5 (one point five).** (4) For example:

e.g. diamorphine 20mg prn s/c	**=**	**morphine sulphate 30mg prn s/c**
e.g. diamorphine 30mg over 24 hours	**=**	**morphine sulphate 45mg/ 24 hours**
e.g. diamorphine 100mg over 24 hours	**=**	**morphine sulphate 150mg/ 24 hours**

16.9 Oxycodone

- Similar analgesic properties to morphine [9]
- More expensive, and is therefore usually reserved for use in those patients who cannot tolerate morphine [2]
- Licensed for moderate to severe pain in cancer and post-operative pain [8]
- Available in oral immediate release (Oxynorm) in both liquid and capsule form. The modified m/r 12 hourly preparation is a tablet (Oxycontin) [8]
- Additionally available in injection form (10mg/1ml, 20mg/2ml) for i/v or s/c use [8]
- Causes less side effects than morphine including less nausea and vomiting and hallucinations, however constipation may be more common [12]
- The manufacturer recommends a potency ratio of oral oxycodone to oral morphine of approximately 2:1 [7,13]
- Oral oxycodone should be used in the same way as oral morphine [2]
- In renal failure the clearance of oxycodone and its metabolites can be reduced increasing plasma concentration levels by 50% thereby lengthening the plasma halflife by 1 hour to 4.5 hours [12]
- In mild to moderate hepatic impairment the elimination halflife increases by approximately 2 hours [9]
- Parenteral oxycodone should be reserved for those patients who are intolerant of morphine, or on oral oxycodone who are no longer able to tolerate oral medication [4]
- When changing from oral to parenteral oxycodone the dose should be based on 2mg of oral oxycodone = 1mg parenteral oxycodone. However this is only a guide and due to the potential for inter patient variability each patient should be carefully titrated. [13]

16.10 Hydromorphone

- Similar analgesic properties to morphine [2]
- The manufacturer suggests that 1.3mg of hydromorphone is equivalent to 10mg oral morphine [14]
- It is not widely used and if practitioners are planning to prescribe it then specialist advice should be sought

16.11 Buprenorphine Patches

- Not suitable for use in patients with acute pain [9]
- Other immediate release opioids are recommended for the treatment of breakthrough pain e.g. immediate release morphine [2]
- A potency ratio of 100:1 is recommended within the current palliative literature [9] which reflects the manufacturers suggested relative potency with oral morphine of 1:75 -115 [15]
- Common side effects include nausea, vomiting, drowsiness and headache [15]
- Less constipating than morphine and aperients should be titrated accordingly.
- Is not suitable for use with patients who need rapid titration of their analgesia due to poorly controlled pain [9]
- Due to the long duration of action it may take 30 hours for the plasma concentration of the drug to reduce by 50% [8]
- It may take 3 days to reach a steady state

- Analgesic effect should not be evaluated until the system has been worn for 72 hours [8]
- There are two preparations available: Butrans and Transtec

16.11.1 Butrans

- Available as 5, 10 and 20 microgram patches strength [8]
- These are changed weekly and can be useful when patients only have lower levels of pain [8]
- A Butrans '5' patch is equivalent to 12mg morphine/ 24 hours, which is equivalent to 30mg Codeine qds [9]

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16.11.2 Transtec

- Available in 35, 52.5 and 70 microgram/hour doses [8]
- The starting dose is 35 micrograms/hour and titrated according to need [16]
- Patients previously on other strong opioids may need a higher dose patch Please seek specialist advice
- The maximum dose is 140 micrograms/hour which could limit its usefulness in the management of cancer pain where higher opioid doses may be required [4]
- Transtec patches should be changed every 96 hours [16]

16.12 Methadone: Please seek specialist advice

16.13 Travelling aboard with opioids

- Allow plenty of time before travelling. Contact the Home Office for advice about taking opioids abroad. For larger doses/stays over 3 months an export licence maybe required
- The embassy of the country to be visited should also be contacted for advice. Details for the Home Office can be found in the BNF [8]

16.14 Pain Management: Equi-analgesic doses (oral opioids)

Guidance on changing to morphine from another analgesic

Analgesic doses can vary between individuals and within an individual over time. **This is an approximate guide only.** If exact conversions are not possible a dose may need to be rounded to the nearest most practical dose. Adjusted doses in the table are shown in italics.

Drug	To obtain equivalent of oral morphine multiply by:	For example if the patient is having:	The patient is taking this much in 24 hours:	Amount of oral morphine in 24 hours is:	Amount of s/c Diamorphine: in 24 hours is:
Dihydrocodeine [6]	0.1	30mg qds	120mg	12mg	*5mg*
Codeine [6]	0.1	30mg qds	120mg	12mg	*5mg*
Tramadol [9]	0.1*	100mg qds	400mg	40mg	*15mg*
Buprenorphine (sublingual) [9]	80	200 micrograms tds	600 micrograms	48mg	*15mg*
Oxycodone [6]					
Oxynorm	2.0	5mg 4 hourly	30mg	60mg	20mg
Oxycontin	2.0	10mg 12 hourly	20mg	40mg	*15mg*

* The literature suggests tramadol is 1/5 as potent as morphine. [9] However, in clinical practice some patients have become over-opiated using this potency ratio. Therefore the potency ratio of 1/10 or the conversion factor of 0.1 is recommended. [4]

16.15 Conversion factors for parenteral opioids

The following conversion factors are recommended when calculating conversion to parenteral opioids for subcutaneous use.

Oral morphine to s/c morphine – divide oral morphine by 2 [7]
Oral morphine to s/c diamorphine – divide oral morphine by 3 [7]
Oral oxycodone to s/c oxycodone – divide oral oxycodone by 2 [13]

However please see notes above regarding inter-patient variations. Please use a current version of the North East Sector Conversion Chart where available and check with the Specialist Palliative Care Team or a pharmacist if you are unsure before prescribing. When switching to alternative opioids at high doses (e.g. ≥ 1g morphine daily) please contact the Specialist Palliative Care Team for advice.

16.16 Adjuvant Analgesics

Drug	Dosage	Indication	Main side effects
Non steroidal anti inflammatory drugs (NSAIDs)			
Ibuprofen	400mg 3-4 times a day increased to 2.4 g daily if necessary [8]	Bone metastases or soft tissue infiltration [6]	Gastric irritation/bleeding, [8] prescribe gastric protection e.g. Omeprazole 20mg if the patient is considered at risk Fluid retention [1]
Diclofenac	50mg tds [9]		**Avoid if history of:** • renal failure • poorly controlled cardiac failure • asthma or bronchospasm [8]
Corticosteroids Dexamethasone	Usually 8mg daily then reduced to a minimum that maintains benefit [2]	Nerve compression Pain from hepatomegaly Bone pain [6]	Oedema Increased susceptibility to candida infection Increased susceptibility to other infections Mental disturbances: • insomnia • paranoid psychosis • depression • euphoria Gastritis Hyperglycaemia Proximal myopathy Osteoporosis [9]
Tricyclic Antidepressants Amitriptyline (unlicensed use)	10-25mg (nocte), increasing to 150mgs nocte as necessary [4]	Neuropathic pain [8]	Sedation Dry mouth Constipation Urinary retention Delirium Postural hypotension Hyponatraemia [8]
Anticonvulsants Gabapentin	300mg od rising to 3600mg in three divided doses if required [9]	Neuropathic pain [9]	Drowsiness Dizziness Ataxia Fatigue Drowsiness Weight gain Peripheral oedema [9]
Pregabalin	75mg bd rising to 300mg bd if required [2]	Neuropathic pain [9]	

Ketamine is an NMDA receptor channel blocker which can be used to treat complex neuropathic pain. [(9)] It can be used orally, sub-lingually or given sub-cutaneously as an infusion using a syringe driver. It is only used with the supervision of the specialist palliative care team.

16.17 Other approaches to pain management (consider seeking specialist advice)
A range of techniques and interventions complement the pharmacological management of pain . Suggestions can be found listed below.

- Radiotherapy/chemotherapy/hormone therapy
- Surgery e.g. internal fixation
- Bisphosphonates
- TENS
- Massage
- Relaxation/visualisation/diversional therapy
- Psychological support
- Neural blockade/epidural/intrathecal analgesia

16.18 References

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11. Ellershaw, J.E. (2003) Guidelines for the use of transdermal fentanyl in dying patients. Merseyside and Cheshire Palliative Care Network Audit Group, Liverpool
12. Heiskanen, T. & Kalso, E. (1997) Controlled release oxycodone and morphine in cancer related pain. Pain 73, pp. 37 - 45.
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14. Data from manufacturer's summary of product characteristics for Hydromorphone.
15. Data from manufacturer's summary of product characteristics for Transtec patches.

17 Respiratory Symptoms

17.1 Dyspnoea

Dyspnoea is an unpleasant or uncomfortable awareness of breathing or the need to breathe. [1] Breathlessness is a complex symptom in which there is interplay between physical, psychological, emotional and functional factors, all of which need to be considered as integral aspects of effective assessment and management. [2]

There may be more than one cause. Some causes may be reversible, others may not.

17.1.2 Causes

Non-malignant causes

- Chronic respiratory disease
- Anaemia
- Pulmonary embolism
- Cardiac failure
- Pulmonary oedema
- Pneumothorax
- Chest infection
- Psychological factors including anxiety, stress and panic [4]

Causes associated with malignancy

- Primary tumour +/- bronchial or tracheal compression/obstruction
- Metastases
- Malignant pleural effusion
- Generalised weakness/fatigue
- Superior vena cava obstruction
- Phrenic nerve palsy
- Lymphangitis
- Ascites [4]

Causes associated with treatment of tumour

- Radiation induced fibrosis
- Lung resection/pnuemonectomy
- Pulmonary fibrosis due to chemotherapy
- Anaemia following chemotherapy [4]

17.1.3 Assessment

- History and clinical examination [5]
- Investigations – (dependent on the condition of the patient) [5]
- Establish the impact that the breathlessness is having on patient and/or care (physical and psychological) [2, 5]
- Note the severity and factors which ease or exacerbate the dyspnoea [5]

17.1.4 Management

- Treat reversible causes e.g. anaemia, infection, pleural effusions [4]

- Treat any co-existing medical conditions [4]
- Treat any other symptoms which may affect dyspnoea e.g. pain, anxiety [3]
- Refer to an oncologist for consideration of radiotherapy, chemotherapy and hormone therapy [3]
- Identify any non reversible factors e.g. disease progression [3]
- Management of dyspnoea is two fold, addressing symptoms from pharmacological and non-pharmacological perspectives. Both methods are equally important [3]

17.1.5 Non-pharmacological management

- Breathing control [6,9]
- Physiotherapy techniques to aid sputum clearance and promote cough [4]
- Counselling skills – explore anxieties, use a calm reassuring manner, adequate explanation and empathy [4,6]
- Positioning [4,9]
- Psychological intervention e.g. anxiety/panic management [4,9]
- Relaxation, visualisation and distraction techniques [6,9]
- Energy conservation e.g. modify activities of daily living, coping strategies (see section on fatigue) [6,9]
- Use of fan and keep a window/door open [4,9]
- Complementary therapies [4,5]
- Acupuncture [7]
- Consider rehabilitation and exercise regimes if appropriate [3]

17.1.6 Pharmacological management

Decisions are based on clinical presentation

- Opioids e.g. oral morphine 2.5mg prn or 4 hourly if dyspnoea is continuous [7,9]
- The evidence for the efficacy of nebulised morphine is limited and it is not recommended in the North East Sector of Greater Manchester & Cheshire Cancer Network. Controlled trials suggest they are no more effective than nebulised saline or systemically administered opioids [7]
- If anxiety is a problem benzodiazepines can be helpful e.g. lorazepam 0.5mg-1mg sublingually prn or diazepam 2mg bd. If unable to take orally, midazolam 2.5mg-5mg 4 hourly prn s/c or 10-20mg over 24 hours via a CSCI can be used [7,13]
- Corticosteroids e.g. dexamethasone 4mg-8mg a day orally can be used if breathlessness is associated with bronchospasm or airway obstruction. However if there is no response they should be discontinued [9]
- Bronchodilators: May be used as a metered dose inhaler or via a nebuliser

    1. Salbutamol via metered dose inhaler 2 puffs up to qds or nebulised 2.5mg-5mg in 2.5ml up to qds [7,9]
    2. Ipratropium bromide - nebulised 250microgram in 1ml – 500microgram in 2mls up to qds [7,9]
    3. Theophyllines e.g. aminophylline mr 225mg bd – 450mg bd. For patients with a body weight > 40kg initial dose is one tablet bd, increased after a week to two tablets twice daily [12]

4. Other drugs such as Salmeterol and Tiotropium may be considered if appropriate. [12]

- Nebuliser/steam inhalation - nebulised saline is very effective at helping to manage thick secretions. Use 0.9% saline 2.5ml qds [4, 7]
- Mucolytics - e.g. carbocisteine 750mg tds can be used [4,12]
- Diuretics [13]
- Antibiotics [13]
- Oxygen therapy – use if the patient is hypoxic (SaO_2 < 90%) unless patient requires it for a co-existing condition. It may also help patients with a normal PaO_2 because of the effect of facial or nasal cooling, or as a placebo [7, 9]
- Please check that the patient is not constipated as this can exacerbate breathlessness [3]
- If symptoms persist contact the Specialist Palliative Care Team

17.1.7 Terminal dyspnoea

Terminal dyspnoea is that which occurs in the last few hours/days or weeks of life. [5]

The symptomatic management is generally the same as in the early phase, but more emphasis is placed on pharmacological management. [5]

Reversible causes that can be treated without invasive/aggressive intervention should be considered, but non-essential medications should be discontinued at this stage. [3]

Anxieties relating to the fear of impending death/choking/drowning in own secretions may increase at this time and should not be forgotten [5]

17.1.8 Pharmacological management

Please refer to the current version of the ICP Prescribing Guidance.

17.2 Excessive respiratory tract secretions

This may be very distressing to relatives, and should be treated prophylactically as it is easier to prevent secretions forming than removing secretions that have gathered in the upper airways or oropharynx. [9]

Please refer to the current version of the ICP Prescribing Guidance.

If symptoms persist contact the Specialist Palliative Care Team. [9]

17.3 Cough

Cough may be associated with malignant or non-malignant causes, or as a result of treatment or co-existing medical conditions. [4]

17.3.1 Management

- Treat any reversible cause e.g. chest infection, heart failure, COPD [4]

- Aspiration of pleural effusion. Cough may be a symptom of a malignant pleural effusion [4,13]
- Breathing control [4]
- Physiotherapy techniques e.g. Active Cycle Breathing Technique and Forced Expiratory Technique to assist clearance of secretions [4,13]
- Use of a nebuliser/steam inhalation – see previous section on dyspnoea management [4,13]
- Cough suppressants
  1. Simple linctus 5ml tds – qds [4]
  2. Codeine linctus 15mg-30mg prn up to qds [10]
  3. Pholcodine (5mg/5ml) 5-10ml tds is non-analgesic and causes less sedation or constipation than analgesic opioids, should be tried first for patients already on opioids [12]
  4. Oral morphine 5mg 4 hourly [7,13]
  5. Methadone linctus – consider trial if unable to tolerate morphine. Use only with advice from the specialist palliative care team. (2mg/5ml) 1-2 mg nocte. [12] Methadone linctus does have a long duration of action which can lead to accumulation and therefore should be avoided if possible
- Mucolytic drugs to help reduce sputum viscosity e.g. carbocisteine 750mg tds [4,12]
- Radiotherapy [13]

If symptoms persist contact the Specialist Palliative Care Team.

17.4 Haemoptysis

Haemoptysis may be directly related to the underlying tumour or related to treatments or infection.

17.4.1 Common Causes

- Tumour bleeding
- Clotting disorders
- Infection
- Pulmonary embolism [9]

17.4.2 Management

- Antibiotics
- Palliative radiotherapy
- Review anticoagulants [9]

17.4.3 Pharmacological management

- Tranexamic acid 500mg -1g tds [9,12]
- Stop if no effect after 1 week [9]
- Continue for 1 week after bleeding has stopped, then discontinue [9]
- Continue long term 500mg tds only if bleeding recurs and responds to a second course of treatment [9]
- Use with caution with patients with haematuria and history of stroke and ischemic heart disease [9]

17.4.4 Major life threatening bleed

- Anticipate this happening [9]
- It may be appropriate to have emergency medication in the home e.g. diamorphine, midazolam. (See separate section on treatment of haemorrhage) [9]
- Use red/green/blue towels to reduce the visual impact [9]
- Relatives/carers who witness an event will need a lot of support

If symptoms persist contact the Specialist Palliative Care Team [9]

17.5 References

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18 Seizures and Myoclonus

Multi-focal seizures are not uncommon amongst dying patients [1] and occur in approximately 1% of patients with disseminated cancer. 20-50% of patients with cerebral tumours may have seizures, as do 20% of those with cerebral metastases. [2] Investigations depend on clinical circumstances, for example, in patients with primary/secondary cerebral tumours may be considered unnecessary. [2]

18.1 Generalised Seizures

18.1.1 Causes

- Neurological disorders
- Primary and secondary cerebral tumours
- Drug withdrawal
- Electrolyte imbalance
- Infection
- Drug toxicity [1, 2, 3]

The risk of seizures is higher if:

- The patient has decreased or stopped the steroids
- Rise in headache or vomiting or other signs of raised intracranial pressure
- Myoclonus or other twitching is present
- History of poor control of seizures /recent seizures [4]

18.1.2 Management

In relatively fit patients:

Proactively investigate the cause, start the appropriate oral anticonvulsant and monitor as usual.

When such patients are no longer able to take the medication oral at the end of life, convert to:

- Rectal diazepam 10 mg
- **Or** midazolam 10mg s/c stat and four hourly prn and 20-60mg s/c over 24 hours via CSCI, according to assessed clinical need [5]

If some hours have elapsed since the last oral dose, it may be wise to give a stat dose of rectal diazepam 10mg or midazolam 10mg s/c [3] and repeat after 15-30 minutes. [5]

Be aware that:

- Phenytoin and sodium valproate have along plasma half life and will be present in the patient for some time after stopping oral therapy. The continuing but diminishing effects of these drugs will supplement the benzodiazepine [3]

- As rectal anticonvulsants may be difficult for carers to use in the community the use of buccal midazolam 10mg /1ml may be effective. Epistatus is the preferred benzodiazepine formulation and is prescribed as a branded, not generic product to avoid confusion with other products of differing strengths. Most epileptic seizures stop within 5 minutes. For those with known prolonged seizures/status epilepticus buccal midazolam should be administered immediately. The usual dose is 10mg (1ml) [6, 7]

18.1.3 Administration

- Using the oral syringe provided draw up 1 ml
- Put half the liquid between the lower gum and cheek of the mouth
- Using the remaining liquid administer in the same way to the other half of the mouth
- If there is no apparent effect after 10 minutes a further dose may be administered. If no further effect after 5 minutes call for urgent medical help
- A third dose must **not** be given until 6 hours after the second dose due to sedating nature of the medication [7]

18.2 Status Epilepticus

- Lorazepam 4mg slow i/v .Repeat dose if needed after 10 minutes (seek urgent medical advice)
- For patients at the end of life please refer to the current version of the ICP prescribing guidance
- Once seizures are controlled review anticonvulsant therapy [4]

18.3 Myoclonus

18.3.1 Causes

- Primary neurological disorders
- Metabolic disorders
- Drug toxicity
- Other chemical toxicity
- Drugs with anti-cholinergic properties
- High doses of opioids
- Secondary causes should not be ignored. These mainly occur in moribund patients and may relate to hypoglycaemia and/or biochemical disturbances e.g. renal failure [2,3]

18.3.2 Management

- If appropriate, parenteral rehydration
- Reduce/stop causal exacerbating drugs
- Prescribe an alternative opioid [4]

18.3.3 Patients with intracranial tumours

- Consider starting, or reviewing dose of corticosteroids

- Consider drug interactions [4]

18.3.4 Moribund patients:

- Midazolam 10-60mg s/c over 24hours via syringe driver according to clinical need [5]

18.4 References:

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19 Spinal Cord Compression

Spinal cord compression is a palliative care emergency. It is reported that 5 - 10% of all patients with cancer may have spinal cord compression but in certain tumour types it is more common (myeloma, prostate, lung and breast cancers). 70% of metastases occur in the thoracic spine, whilst colorectal metastases and pelvic tumours often affect the lumbar spine (20%). [1, 2]

It is important to treat and refer on the basis of clinical suspicion as an ONCOLOGICAL EMERGENCY. The outcome is dependent on the degree of neurological impairment at diagnosis. It is imperative to diagnose this condition to prevent irreversible neurological damage. [3]

19.1 Causes of Spinal Cord Compression

- Direct soft tissue extension from vertebral bony metastases
- Tumour growth through intravertebral foramina (e.g. from retro peritoneal tumours or paravertebral lymphadenopathy
- Compression due to bony collapse
- Intramedullary metastases (rare) [3]

19.2 Symptoms and signs

- Back pain that is increased by movement, such as lying, coughing and sneezing (normally precedes other symptoms) [2, 4]
- Legs feel tired, heavy, weak or just “funny”
- Altered sensation in legs
- Bilateral root pain [1, 5]
- Constipation
- Sphincter disturbance e.g. urinary retention, (a late sign except with cauda compression) [6]
- Multiple sites of compression may produce different and confusing neurological signs [2]

On examination:

- Leg weakness/paresis
- Impaired sensation with sensory level
- There may not necessarily be any upper motor neurone signs present, i.e. brisk reflexes and upgoing plantars [1, 5, 7]

19.3 Treatment –

In order of priority:

- High dose dexamethasone 16mg stat dose oral or i/v. Commence immediately even if the diagnosis is not confirmed. [8] Continue 16mgs daily. Prescribe PPI [3, 9]
- Urgent same day referral to Clinical Oncologist for advice re: radiotherapy and/or chemotherapy
- Urgent MRI Scan
- Refer for a neurosurgical/orthopaedic surgical opinion for possible surgical

decompression; consider if progressive weakness despite radiotherapy, evidence of spinal instability or cervical cord lesion [8]

- Continue dexamethasone 16mg for duration of radiotherapy then subsequently reduce dose allowing time between reductions to assess for deterioration. [2] Monitor bloods sugars and for signs of infection [9]

The aim of treatment is to maximise recovery of neurological function, offer local tumour control, control pain and improve spinal stability. It is well documented (see references) that the earlier treatment is commenced, the greater chance of preventing permanent paralysis and disability. [10]

19.4 Cauda Equina- Lumbar Spine below L1

19.4.1 Presentation:

Lumbar Pain with loss of power in lower limbs and loss of sphincter control

19.4.2 Signs & Symptoms:

Weakness of legs, sciatic pain (often bilateral), urinary hesitancy/retention and perianal numbness (saddle anaesthesia)

19.4.3 Treatment;

As for spinal cord compression- using high dose dexamethasone followed by radiotherapy [2, 5, 8]

19.5 References

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20 Superior Vena Caval Obstruction – SVCO

This may arise from occlusion by extrinsic pressure, intraluminal thrombosis, or direct invasion of the vessel wall. Most cases are due to tumour within the mediastinum, of which up to 75% will be primary bronchial carcinomas. [1, 2, 3]

20.1 Signs of SVCO

- History – Tumour histology (i.e., lung and lymphoma especially)
- Clinical signs may be present as shown in the table below

General signs (head & face)	Respiratory, cardiological changes
Facial swelling	Hoarse Voice
Headaches (worse after bending)	Dilated veins chest and arms
Dizziness/fainting	Dilated neck veins (non-pulsatile)
Seizures	Pleural effusion (late)
Stridor/dyspnoea (late)	Pericardial effusion (late)
Swollen eyes, neck and arms	Degree of dyspnoea is variable
Pink eyes	Periorbital oedema

[1,2]

20.2 Treatment

- Give an explanation of what is happening to the patient and family
- Give oxygen as appropriate (in stridor, helium oxygen is an alternative. Seek advice from a pharmacy) [4]
- Treat the dyspnoea as per the respiratory guideline
- Commence immediately on po/iv dexamethasone 16 mg daily [2]
- Urgent referral or discussion with a clinical oncologist about the future management [2]
- If inappropriate to treat, consider supportive care at home or admission to a hospice [1,2,3,4]

20.3 References

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21 Sweating

A normal part of thermoregulation but excessive sweating (hyperhydrosis) can be really problematic for some patients and very distressing.

21.1 Causes

- Infection
- Opioids
- Neoplastic fever - Hodgkins Lymphoma
  - Renal cell cancer
  - Any solid tumour – but commonly with liver secondaries
- Hypoglycaemia
- Hormonal treatment including Tamoxifen, LHRH analogues e.g., Zoladex
- Iatrogenic menopause by radiotherapy or chemotherapy
- Anxiety/ fear [1,2]

Menopausal like sweats are usually associated with hot flushes. Patients with cancer related sweats may not have a pyrexia, although small febrile pulses may precede the sweats. [2]

21.2 Treatment

Exclude any reversible causes e.g. infection or metabolic causes and treat where appropriate. [1]

General

- Fewer bedclothes, fan, sponging [3]
- If pyrexial prescribe an anti-pyretic e.g. paracetamol 1g qds [1]
- Review opioid/ consider reducing or an alternative opioid [1,3]

Management of paraneoplastic pyrexia and sweating

- Consider prescribing an NSAID e.g. Diclofenac 50mg tds. If unsuccessful try alternative NSAID e.g. Naproxen 250-500mg bd [1,4]
- If sweating does not respond to an NSAID consider prescribing an antimuscarinic drug e.g. Hyoscine Hydrobromide patch 1mg/3 days [2,4]
- Consider a trial of dexamethasone. There is no agreement on the starting dose. Suggested doses range between 1-4mg od [1,2]

Other options include:

- Cimetidine 400-800mg od
- Thalidomide 100mg nocte for night sweats, but seek specialist advice [1,2]
- Ranitidine 150mg bd [5]

Hormonal Insufficiency

- For hot flushes after surgical or chemical castration Medroxyprogesterone acetate 5-20mg bd-qds [3,4]
- For women with hot flushes on tamoxifen/ men on LHRH consider Clonidine 50 micrograms bd increasing by 50 micrograms every 3-7 days if needed. Usual maintenance dose is 50-100 microgram bd daily [4]
- Diethylstilbestrol 1-3mg can improving sweating in men but with the increased risk of thromboembolic events [1]

*Seek specialist advice if symptoms persist

21.2 References

1. Watson, M., Lucas, C., Hoy, A. & Back, I. (2005) Oxford Handbook of Palliative Care. Oxford: Oxford University Press.
2. Back, I.N. (2001) Palliative Medicine Handbook 3rd ed. Cardiff: BPM Books.
3. Twycross, R. & Wilcock, A. (2001) Symptom Management in Advanced Cancer. 3rd ed. Oxon: Radcliffe Medical Press.
4. Twycross, R. & Wilcock, A. (2007) Palliative Care Formulary. 3rd ed. Nottingham: Palliative drugs.com.
5. Evidence is based on expert opinions of the Specialist Palliative Care Teams across the NE sector of Greater Manchester (with the exception of North Manchester Primary Care Trust).

22 Syringe Drivers/Pumps

(This guidance should be used in conjunction with local syringe driver/pump guidelines)

A syringe driver enables the continuous subcutaneous infusion of a drug(s) to achieve a steady plasma concentration. It removes the need for suppositories or injections.
There are two syringe pumps used in the North East Sector for those requiring symptom control in palliative care.
The Graseby MS26 (with the green label) is used in most areas.
The McKinley T34 is in use in NHS Heywood, Middleton and Rochdale and Springhill Hospice.

- They deliver the required medication over 24 hours. Therefore a 24 hour dose of all the drugs should be prescribed to be given by subcutaneous infusion (1)
- The syringe driver/pump should be kept cool and out of sunlight (1)
- Use the smallest number of drugs possible (1)
- When more than one drug is required refer to the compatibility table
- The syringe should be kept level with or below the patient to prevent siphoning of the contents from the pump (1)
- The pump can be used with 10ml, 20ml and 30ml syringes. However it is usually recommended that drugs are well diluted and therefore a 20ml or 30ml syringe should be used

22.1 Indications for use

- Nausea and vomiting (3)
- Intestinal obstruction (3)
- Dysphagia (3)
- Unconscious/semiconscious (3)
- Severe weakness (4)
- Malabsorbtion of oral drugs (4)
- Medication more effective parenterally (e.g. hyoscine butylbromide) (4)

22.2 Site for infusion

- Upper chest or abdomen
- Upper arm or thigh (4)

22.3 Sites to avoid

- Near a joint
- Oedematous area
- Previously irradiated or damaged skin
- Bony protuberances (2)

Rotation of the site, every three days, should be routine in order to minimize site reactions. With some patients this may not be feasible and attending health professionals should monitor the site regularly and change as required. (1)
If sites become problematic then specialized advice should be sought.

22.4 Mixing of Drugs and Compatibility

"The general principle that injections should be given into separate sites (and should not be mixed) does not apply to the use of syringe drivers in palliative care. Provided that there is evidence of compatibility selected injections can be mixed in syringe drivers." (5)

22.5 Drug compatibility in syringe drivers.

Please refer to the compatibility table in the current ICP Prescribing Guidance.

22.6 References

1. Dickman, A., Littlewood, C. & Varga, J. (2005). The Syringe Driver: Continuous Subcutaneous Infusions in Palliative Care. 2nd ed. Oxford: Oxford University Press.
2. The North East Sector Guideline Working Party (2007) Integrated Care Pathway for the Dying Patient Prescribing Guidance Version 3.4.
3. Twycross, R. & Wilcock, A. (2001) Symptom Management in Advanced Cancer. 3rd ed. Abingdon: Radcliffe Medical Press.
4. Twycross, R. & Wilcock, A. (2007) Palliative Care Formulary. 3rd ed. Abingdon: Radcliffe Medical Press.
5. British National Formulary 56 BMA/Royal Pharmaceutical Society of Great Britain: London. Prescribing in Palliative Care.

Appendix 1: Abbreviations

amp	ampoule
bd	twice a day
caps	capsules
CNS	central nervous system
COPD	chronic obstructive pulmonary disease
CSCI	syringe driver (continuous subcutaneous infusion)
DNAR	do not attempt resuscitation
g	gram
i/m	intramuscular
i/v	intravenous
microgram	not to be abbreviated
mets	metastases
MRI	magnetic resonance imaging
mg	milligram
ml	millilitre
mr	modified release
nocte	at night
NSAID	non-steroidal anti-inflammatory drug
od	once a day
OT	occupational therapist
physio	physiotherapist
po	by mouth
PPI	proton pump inhibitor
pr	by rectum
prn	administered when required
qds	four times a day
s/l	sublingual
s/c	subcutaneous
SSRI	selective serotonin re-uptake inhibitor
stat	for immediate administration
tabs	tablets
tds	three times a day
TENS	transcutaneous nerve stimulator
TSE	transcutaneous spinal electro analgesia
UK	United Kingdom
WHO	World Health Organisation

Appendix 2 - Arrangements for Monitoring Compliance with these Guidelines

The arrangements for monitoring compliance with these guidelines are summarised in the following table:

Standard/ Criterion	Minimum requirement to be monitored	Process for Monitoring	Responsible Individual/ Group/ Committee for Monitoring	Frequency of Monitoring	Responsible Individual/ Group/ Committee for Review of Results	Responsible Individual/ Group/ Committee for Development of Action Plan	Responsible Individual/ Group/ Committee for Monitoring of Action Plan
1. Staff responsible for prescribing, administering &/or caring for patients requiring palliative care will be aware of the current trust guidelines	Ward managers for all wards where palliative care patients are cared for will be made aware of the existence of these guidelines. Each ward will receive a paper copy of the guidelines from the palliative care team. Ward managers will be asked to confirm that they have read, understood and cascaded the information in these guidelines to their staff using the sign off sheet (see example in Appendix 3)	Review of returned sign off sheets	Specialist Palliative Care Service on each Site	As & when each approved version of the guidelines is issued. Sign off sheets will be checked to ensure completion for all relevant wards	Specialist Palliative Care Service on each Site	Specialist Palliative Care Service on each Site	Palliative Care Clinical Governance Group
2. The guidelines are used in practice to ensure palliative care patient receive care based on best evidence based practice	There is evidence of the use of the guidelines within clinical practice specifically prescribing practice across the trust for the care of	An audit of all referrals to the Specialist Palliative Care Team. Against which referrals will be assessed	Individual Specialist Palliative Care Teams on each site	6 monthly	Palliative Care Clinical Governance Group	Palliative Care Clinical Governance Group	Clinical Governance Group for Medicine

	palliative care patients	regarding the appropriateness of the symptom control already implemented with the named patient					
3. That there will be a variety of opportunities where education regarding palliative care & the guidelines can be accessed e.g. palliative care education rolling programme, dedicated training with the medical staff	Palliative care education will be provided through a variety of different sessions and programmes on each of the four sites (NB Heywood, Middleton & Rochdale Team are responsible for input into Rochdale Infirmary)	A comprehensive list of the education provided will be available	NE Sector Palliative Education Group	6 monthly	NE Sector Palliative Education Group	NE Sector Palliative Education Group	Palliative Care clinical governance group
4. There is an agreed process for reporting all incidents/ near misses relating to palliative care/ symptom control/ issues	Audit of incident database (already established)	Palliative Care clinical governance group	Bi-monthly	Palliative Care Clinical Governance Group	Palliative Care Clinical Governance Group	Clinical Governance Group for Medicine	Clinical Governance Group for Medicine

Appendix 3 - Example sign off sheet

The Pennine Acute Hospitals NHS Trust

Policy Confirmation Slip

From: Specialist Palliative Care Service Team
To: All Ward & Departmental Managers
Date:

Please find enclosed a copy of the:

NES of Greater Manchester & Cheshire Cancer Network Pain & Symptom Control Guidelines, 2nd Edition Ref:CPME090,

A copy of this document can also be found on the 'Documents' Page of the Intranet.

Once you have read the document and cascaded the information to your staff please complete and return the following confirmation slip.

NB: as a guide we would expect all slips to be returned within 4 weeks of receipt.

Many Thanks

NB: Paper copies of trust documents should always be considered as 'uncontrolled' and you should regularly check the Documents page of the Trust intranet for the latest version and (if you keep paper copies) to ensure that the version you have on your ward/department matches it.

The Pennine Acute Hospitals NHS Trust

Re: **NES of Greater Manchester & Cheshire Cancer Network Pain & Symptom Control Guidelines, 2nd Edition Ref:CPME090,**

I have read & understood the above document.
I can confirm that I have made my staff aware of its contents & where it can be found on the Intranet.
I have also removed any previous versions from the ward/department.
I understand that this form will be kept on file & may be used for audit purposes.

Signature	
Print Name	
Job Role	
Ward/Department	
Date	/ /

Please return this slip to your Lead Macmillan Specialist Palliative Care Nurse