



Yorkshire Cancer Network
and
Humber & Yorkshire Coast
Cancer Network

**A GUIDE TO SYMPTOM MANAGEMENT IN
PALLIATIVE CARE**

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YORKSHIRE CANCER NETWORK PALLIATIVE CARE GROUP

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INTRODUCTION

Authors

Members of the Palliative Care Groups of the Yorkshire Cancer Network and the Humber and Yorkshire Coast Cancer Network produced these guidelines for symptom management. They were updated in 2009 by Consultants in Palliative Medicine in Yorkshire and Humber. The information reflects a consensus of opinion from specialists working in the field of palliative medicine in hospitals and hospices.

Useful Resources

Details are given here of selected widely used drugs. See also BRITISH NATIONAL FORMULARY (BNF) sections on "Controlled Drugs" and "Prescribing in Palliative Care". Check BNF for formulations and dose recommendations.

Other useful resources are

- "The Palliative Care formulary (PCF3)" Third Edition. Twycross R, and Wilcock A. Radcliffe Medical Press Ltd 2007 and website <http://www.palliativedrugs.org/>
- "The Syringe driver. Continuous subcutaneous infusions in palliative care". Second edition. Dickman A, Schneider J and Varge J. Oxford University Press 2005
- NICE website <http://nice.org.uk/guidance>

Disclaimer: These guidelines are the property of the Yorkshire Cancer Network and Humber and Yorkshire Coast Cancer Network Palliative Care Groups. It is intended that they be used by qualified medical and other healthcare professionals as an information resource. They should be used in the clinical context of each individual patient's needs. The palliative care group takes no responsibility for any consequences of any actions taken as a result of using these guidelines. In difficult situations, seek advice from the local Specialist Palliative Care Team (SPCT).

PAIN MANAGEMENT

SECTION A: PRINCIPLES

1. Pain is a total, personal experience with physical, psychological, social and spiritual dimensions. Optimal pain management will be compromised if any of these aspects are neglected.
2. Pain is common in advanced cancer and non-malignant conditions, and management can be difficult.
3. Not all pain experienced by a patient with cancer is caused by cancer itself. Often several pains coexist, and an accurate diagnosis of the cause or mechanism of each pain must precede effective treatment. Regular review is vital for good pain control.
4. In general, successful relief of pain in palliative care patients requires:
 - (a) Regular, as well as p.r.n. dosage.
 - (b) Titration of dosage against effect with no rigid upper limit.
 - (c) Appropriate time interval between doses.
 - (d) Sufficient dose to prevent return of pain before next dose is due.
 - (e) Willingness to give strong opioids early when other analgesics fail.
 - (f) Early consideration of co-analgesics.
 - (g) Regular review and assessment.
5. Morphine sulphate orally PO (or diamorphine or morphine subcutaneously SC) is the "Gold Standard" analgesic in advanced cancer and other end-stage conditions, although other analgesics such as paracetamol or a weak opioid may suffice. Follow the "analgesic ladder" (see later).

Alternative opioids may be required in patients with renal impairment (seek specialist advice).
6. Give morphine orally if the patient can swallow and absorb the drug. Only consider other routes if the patient has dysphagia, gastric stasis, intractable nausea or vomiting or impaired consciousness.
7. If parenteral opioids are required, a continuous

subcutaneous infusion (CSCI) by portable syringe driver or p.r.n. subcutaneous injections should be used. Diamorphine is the drug of choice because its high solubility allows larger doses to be given in small volumes, but during periods of shortage, morphine sulphate for injection may be substituted.

8. Opioid side effects include

- constipation (very common),
- nausea and vomiting (a common but controllable and transient side-effect that usually improves after approximately 5 days),
- drowsiness (often dose related and temporary) and
- respiratory depression (clinically not a problem if dose is titrated correctly).

Always prescribe laxatives, and consider prescribing p.r.n. (as required) or regular anti-emetics. Neither tolerance nor addiction are significant problems in palliative care practice.

9. Some pains are only partially opioid-responsive. These include tension headache, post-herpetic pain, muscle spasms, nerve damage/compression, bone pain, visceral distension, tenesmoid pain and activity provoked pain. These may require other measures including co-analgesics, nerve blockade or specific oncological treatments.

10. Co-analgesics include corticosteroids, anti-depressants, anti-convulsants, benzodiazepines, non-steroidal anti-inflammatory drugs (NSAIDs).

SECTION B: ASSESSMENT AND REVIEW

What is the pain due to?

Consider:

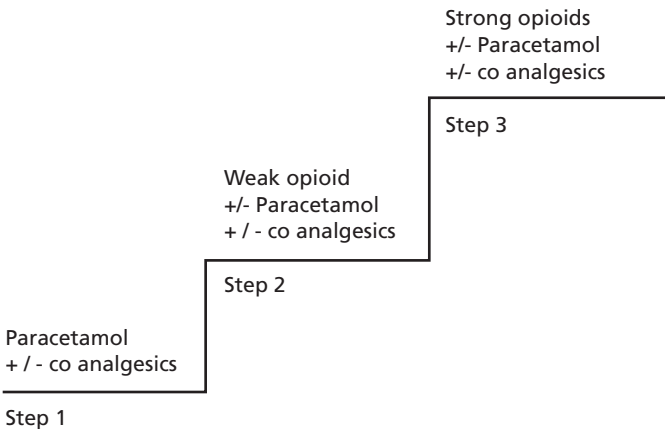
Anatomy = site of origin

Aetiology = cause of pain

Be inquisitive. Review and review again. Investigate appropriately. Think of X-ray for pathological fracture or bone metastases; ultrasound or CT scan for deep soft tissue tumours. Remember common non-malignant causes, e.g. arthritis, tension headache, infections including oral thrush.

Which analgesic?

Diagram of the analgesic ladder



The analgesic ladder progresses logically from a non-opioid via a weak opioid to a strong opioid. Start at the bottom of the ladder and work up as necessary. Use the drugs at the optimal dose regularly i.e. by the mouth, by the clock, by the ladder. Remember:

- Weak opioids include codeine and dihydrocodeine
- Cocodamol is available in three strengths containing paracetamol and either 8mg, 15mg or 30mg of codeine. In elderly or frail patients a lower strength may be required
- Codeine is a pro-drug of morphine. Its analgesic effect is via its conversion to morphine, which varies between patients.
- Paracetamol has a different analgesic effect to opioids and can provide additional benefit for patients taking strong opioids.
- Strong opioids include morphine, diamorphine, oxycodone, fentanyl, alfentanil, hydromorphone, buprenorphine and methadone

SECTION C: RECOMMENDED DRUGS

Opioid analgesics

Oral Preparations

Morphine sulphate

Formulations available

Immediate release tablets and liquids (would be expected to be effective after 20 minutes and to last up to 4 hours). Examples include Oramorph® and Sevredol®.

Modified/slow release tablets, granules and capsules (would be expected to be effective after 4 hours and to last for 12 hours or 24 hours, depending on the preparation) Examples include MST Continus® and Zomorph®.

Starting regimen

- Start with 10mg immediate release morphine 4 hourly, if pain not controlled on full dose of regular weak opioid (or start with 5mg 4 hourly if opioid naïve).
- Halve these doses i.e. 5mg or 2.5mg if patient is elderly or frail.
- Titrate dose upwards by 30-50% increments to relieve pain or until unacceptable side effects occur.
- If the patient has renal impairment morphine may accumulate and specialist advice may be required.

Once a stable dose is achieved it is usual to transfer to modified release preparations, e.g. a patient on 10mg oral morphine immediate release (eg Oramorph) 4 hourly receives a total of 60mg morphine in 24 hours. This is equivalent to 30mg 12 hourly of morphine sulphate (modified release) tablets e.g. MST®, Zomorph®.

Alternatively a patient who has been taking strong Co-codamol (30/500) regularly could be commenced on slow release morphine sulphate (e.g. MST®) 20mg b.d. with immediate release morphine for breakthrough and the dose titrated by 30-50% increments.

Breakthrough pain

- All patients on modified release morphine should have immediate release morphine available p.r.n. for breakthrough pain, which is usually 1/6 of their total 24 hour morphine dose e.g. a patient on 30mg MST b.d. would require 10mg immediate release morphine.
- Remember to prescribe regular laxatives and p.r.n. anti-emetics and discuss potential side effects of opioids with the patient.

Oxycodone

Oxycodone is a strong opioid with pharmacological properties similar to morphine.

It is a useful second line strong opioid for patients who have not tolerated morphine.

Oral oxycodone is about 2 times more potent than oral morphine.

Consult a dose conversion chart when starting oxycodone or ask advice from your local palliative care team or pharmacy.

Formulations available

It is available as immediate release oxycodone (Oxynorm®) with duration of action 4 hours, or slow release oxycodone (Oxycontin®) with a duration of action of 12 hours.

Breakthrough pain

As with morphine sulphate, immediate release oxycodone should be available p.r.n., at a dose which is usually 1/6 of the 24 hour dose of oxycodone.

Parenteral Preparations

This section contains information needed for prescribing subcutaneous syringe drivers.

Diamorphine and Morphine

It is usual practice across the Yorkshire and Humber networks to use the following conversion ratios:

- Parenteral morphine and diamorphine are between 2-3 times more potent than oral morphine (refer to local policy)

Both diamorphine and morphine can be given as required subcutaneously (SC) with duration of action of up to 4 hours.

Alternatively they can be given as a continuous subcutaneous infusion via a portable syringe driver.

Starting regimen

For an opioid naïve patient start with 2.5mg SC p.r.n. or 10mg morphine or diamorphine subcutaneously over 24 hours.

For patients previously on oral morphine,

- To switch to subcutaneous morphine:
Divide the total 24 hour dose of oral morphine by 2,
e.g. if a patient is on MST 30mg b.d., they will require 30mg subcutaneous morphine sulphate over 24 hours.
- To switch to subcutaneous diamorphine:
Divide the total 24 hour dose of oral morphine by 3
e.g. if a patient is on MST 30mg b.d., they will require 20mg subcutaneous diamorphine over 24 hours.

Breakthrough pain

It is extremely important that breakthrough analgesia is prescribed.

Give 1/6 of their total 24 hour subcutaneous opioid dose e.g. in the above example, the SC breakthrough dose would be 2.5-5mg morphine or diamorphine.

Oxycodone

Patients on oral oxycodone who have been intolerant of oral morphine can be converted to a subcutaneous infusion of parenteral oxycodone.

To convert to subcutaneous oxycodone, divide the total daily dose of oral oxycodone by 2.

As for morphine and diamorphine it is important to prescribe breakthrough analgesia which is 1/6 of the total 24 hour dose.

Unfortunately, the volume of parenteral oxycodone can preclude its usefulness at higher doses.

Transdermal preparations

Transdermal preparations are mainly suitable for patients with severe chronic pain already stabilised on other opioids.

Transdermal fentanyl patches have a 72 hour duration of action.

Transdermal buprenorphine patches are available as

- Low dose patches which have a duration of action of 7 days.
- Higher strength patches, which have a duration of action of 96 hours.

Consult a dose conversion chart when starting transdermal opioids or ask advice from local palliative care team or pharmacist.

Note. Patients will still require p.r.n. immediate release opioids for breakthrough pain.

Other strong opioids

Other strong opioids available include buccal and sublingual formulations of fentanyl; alfentanil; hydromorphone; and methadone. Please consult with palliative care specialists before prescribing these.

What if opioids don't work?

a) Is the dose high enough?

If there is a partial response or inadequate duration of pain relief (i.e. pain returns in under 4 hours) for immediate release oral morphine or in under 12 hours for modified release morphine), increase the dose by 30-50% increments rather than shortening the interval between doses. Remember to check that the p.r.n. dose prescribed is still adequate.

b) Is drug being absorbed?

If there is uncontrolled vomiting, dysphagia or high stoma output, consider alternative routes of delivery (e.g. subcutaneous, rectal, intravenous, transdermal.)

(c) Is pain breaking through with movement or painful procedures?

Identify and minimise provoking factors. Consider additional doses of morphine, consider NSAIDS. Discuss with palliative care team.

(d) Are co analgesics required?

Please see below for indications.

(e) Who might be able to help?

Don't be afraid to ask a more experienced colleague for help. Your hospital palliative care team, local hospice or community palliative care team will gladly offer advice. Don't forget palliative radiotherapy for bone secondaries, which can be given as a single treatment. In 5-10% of cases some kind of nerve block will help (e.g. coeliac plexus block in pancreatic pain). Discuss with palliative care or pain clinic colleagues.

Co-analgesics

a) Non-steroidal anti-inflammatory drugs (NSAIDs)

Common indications:- bone pain, musculoskeletal pain, liver capsule pain, pelvic pain.

Many cancer patients have risk factors for significant gastrointestinal side effects therefore consider use of proton-pump inhibitor.

Caution with all NSAIDs in patients with renal impairment and heart failure.

Ibuprofen tablets 400mg 8 hourly

Diclofenac tablets or suppositories Maximum daily dose 150mg

Naproxen tablets or suppositories 500mg-1g daily in divided dose

COX-2 inhibitors should be used with caution.

b) Corticosteroids

Common indications: - raised intra-cranial pressure, nerve or spinal cord compression, liver capsule pain.

Dexamethasone 2-16 mg/day

Steroid of choice with high anti-inflammatory potency, high solubility and low mineralocorticoid effect (less salt and fluid retention than with some other steroids).

Use at the lowest effective dose for shortest possible time.

NB = Dexamethasone one mg = Prednisolone 7mg

Taper the dose slowly when stopping (not usually necessary if duration of treatment is one week or less).

Prescribe doses to be given in the morning only, in order to avoid insomnia.

c) Anticonvulsants

Common indications – neuropathic pain.

Gabapentin Needs to be titrated. Usual dose range 300-1800 mg in divided doses.
Consult BNF for titration regimen. Slower titration is recommended in the frail elderly.
Use with caution in renal impairment
Consider asking specialist palliative care or pain team for advice.

Pregabalin Needs to be titrated, check local policy.

d) Antidepressants

Common indications: - neuropathic pain and useful if patient is also depressed.

Amitriptyline 10-75 mg daily. (Lower than usual antidepressant doses).

Start with low dose given at night and gradually increase every 2-5 days if side effects allow. NB Neuropathic pain may take several days to respond to co analgesics.

e) Muscle relaxants

Common indications: - painful muscle spasms

Diazepam 2-5mg 8-12 hourly or once at night

Baclofen 5mg t.d.s.

If ineffective discuss with palliative care team.

f) Anxiolytics

Diazepam 2-5 mg 8-12 hourly or once at night

Lorazepam 0.5-1mg PO/SL 8-12 hourly/p.r.n.

NAUSEA and VOMITING

- Nausea and vomiting can be difficult to control
- It is important to consider all possible causes
- Causes are often multifactorial and may require more than one drug.
- Consider reversible causes
e.g. gastritis - treat with proton pump inhibitor, oral thrush - treat with antifungals.
- If patient has severe nausea or vomiting, parenteral antiemetics may be required
- If initial advice below is not effective contact the Palliative Care Team.
- Prescribe drugs regularly as well as p.r.n.
- Cyclizine and other antimuscarinic drugs block the final common pathway through which metoclopramide acts, therefore concurrent administration should be avoided.

CAUSE	FIRST-LINE DRUG	STAT DOSE (PO or SC)	24 HR RANGE
Gastric stasis and irritation	Metoclopramide +/- proton pump inhibitor	10 - 20 mg	30 - 60 mg PO or SC
Bowel obstruction WITHOUT colic	Metoclopramide	10 - 20 mg SC only	30 - 60 mg SC only
Bowel obstruction WITH colic	Cyclizine +/- Haloperidol +/- Hyoscine Butylbromide (Buscopan®)	25 - 50 mg SC only 1.5 - 5mg SC only 20 mg (SC only)	100 - 150 mg 1.5 - 5mg SC 60 - 120 mg SC only
Chemical e.g. • drugs • hypercalcaemia • uraemia	Haloperidol	1.5 - 5 mg	1.5 - 5 mg PO or SC
Raised intracranial pressure	Dexamethasone plus Cyclizine +/- Ondansetron or Granisetron	8 - 16 mg 50 mg See BNF	8 - 16 mg 150 mg See BNF
Motion	Hyoscine hydrobromide OR Cyclizine	0.3 mg SL 0.4 mg SC 25 - 50 mg	0.3 mg SL q.d.s. 0.8 - 1.2 mg SC 100 - 150 mg PO or SC
Indeterminate/ Multifactorial	Levomepromazine	6.25 - 12.5 mg	6.25 - 25 mg PO or SC

NB Cyclizine and Buscopan® are physically incompatible

SYRINGE DRIVER PRINCIPLES

Indications:

- Can be used for a short period for symptom control or in the terminal phase.
- Inability to swallow or absorb oral drugs, e.g. persistent vomiting, intestinal obstruction, dysphagia, weakness, unconsciousness.
NB pain needs to be controlled even when the patient is comatose
- Inadequate pain control is not an indication for syringe driver use, unless there is reason to believe oral analgesics are not being absorbed. A syringe driver is simply an alternative way of giving the same drugs. This should be explained to the patient and their relatives.
- In palliative care practice it is usual to use a syringe driver infusion via the subcutaneous route.
- Doses of medication are calculated on the basis of patients' previous requirements.
- Following commencement of a syringe driver it will be several hours before therapeutic levels are achieved and so consider giving a stat dose of medication equivalent to the normal breakthrough dose.
- Syringe drivers require careful monitoring and should be prescribed on prescription/ syringe driver charts as per local Trust syringe driver policies.

NOTE:

There are two portable Graseby syringe drivers in common use: MS16A (blue front panel) and MS26 (green front panel). The RATE SETTING between these two models is different and confusion can potentially lead to errors in drug prescribing/administration. Other types of syringe driver are also available. Please follow local policy for syringe drivers.

SUGGESTED 24HR REQUIREMENTS OR DRUG DOSAGES FOR SUBCUTANEOUS INFUSIONS VIA SYRINGE DRIVER

	Usual 24 hour dose range	Comments
ANALGESICS Diamorphine or Morphine NSAIDs	5-10mg/24 hours if opioid naïve. Otherwise <ul style="list-style-type: none"> • 1/3 of previous 24 hour oral morphine dose as diamorphine/24 hours • 1/2 of previous 24 hour oral morphine as morphine/24 hours (see local guidelines). Review and adjust dose if necessary. Seek advice from SPCT	Seek advice if: patient requiring rapidly escalating doses patient in renal failure. May relieve musculo-skeletal pain.
ANTIEMETICS Haloperidol Cyclizine Levomepromazine Metoclopramide	1.5-5mg 150mg 6.25-12.5mg 30-60mg	1.5mg } lower starting doses may be required in the elderly or frail 100mg } Doses above 12.5mg may be sedating
ANTISECRETORY DRUGS Hyoscine hydrobromide Hyoscine butylbromide Glycopyrronium	1.2-2.0mg 60-120mg 600-1200mcg	Early intervention for "death rattle" is required. Hyoscine hydrobromide is sedating. Hyoscine butylbromide is not sedating.
SEDATIVES Midazolam	10-20mg (starting dose) May be increased according to patient response. Seek SPCT advice.	Muscle relaxant, anxiolytic and anticonvulsant – short acting so essential to give as a continuous subcutaneous infusion. Doses must also be prescribed p.r.n. If ineffective seek specialist advice.
ANTICONVULSANT Midazolam Clonazepam	20-60mg/24 hours to replace oral anticonvulsants may be required. 1-8mg/24 hours	For uncontrolled fits seek SPCT advice regarding the use of phenobarbitone. Long-acting and sedating

- All the above drugs can be given as subcutaneous infusions in a syringe driver. Avoid mixtures of more than three compatible drugs if possible.
- If patient on fentanyl, hydromorphone, buprenorphine, oxycodone or methadone, seek specialist advice.
- If symptoms are not controlled other regimens may be needed. Seek specialist advice.
- Remember to prescribe subcutaneous (SC) p.r.n. medication.
- Haloperidol and cyclizine are synergistic.
- Cyclizine and hyoscine butylbromide are incompatible.
- Levomepromazine may be sedative.
- If using more than one drug in a syringe driver, check compatibilities with pharmacy or SPCT.

INTESTINAL OBSTRUCTION IN ADVANCED CANCER

INTRODUCTION

Intestinal obstruction in advanced cancer is frequently incomplete, intermittent, at multiple sites or due to motility disturbance. There is a high incidence in ovarian and bowel cancer.

CLINICAL FEATURES

Symptoms vary depending on the level and degree of obstruction and may include any or all of the following:

- Nausea and vomiting
- Colicky pain
- Abdominal distension
- Dull aching pain
- Diarrhoea and/or constipation

DIAGNOSIS

- History is most useful
- Abdominal X-rays may help but "normal appearances" do not exclude bowel obstruction
- Differential diagnosis is constipation but this may also co-exist with bowel obstruction
- Passage of flatus stops in complete obstruction.

MANAGEMENT

All patients will require symptom management. Surgical intervention should also be considered early in appropriate cases (see below).

SURGICAL MANAGEMENT

Selecting patients who are likely to benefit from a surgical procedure (e.g. bowel resection or by-pass +/- stoma formation) is difficult. These decisions are best made with an experienced surgical colleague and careful discussion with the patient. Patients likely to benefit are those with no other life threatening disease and single site obstruction. Other factors to consider include patient performance status, co-morbidity, nutritional status and options for further treatment such as chemotherapy.

SYMPTOM MANAGEMENT

With appropriate symptomatic treatment patients may survive several weeks or occasionally months. Good symptom management can usually be achieved and greatly improves quality of life. Medication should generally be given by subcutaneous injection or continuous sub-cutaneous infusion (CSCI).

a. IV Fluids and NG tube

These regimens are indicated while surgery is being considered or as a short-term intervention but are rarely appropriate for long-term management.

b. Nausea and vomiting

- Set realistic goals. Nausea can usually be reduced significantly but vomiting may continue once or twice daily.
- Give anti-emetics parenterally and regularly. Subcutaneous infusion is often helpful (see nausea and vomiting guidelines).

c. Pain

Colicky pain

- Stop stimulant laxatives and prokinetic drugs, e.g. metoclopramide
- Use antispasmodics (hyoscine butylbromide 60-80mg/24 hours by CSCI)

- Diamorphine/morphine

Dull aching pain

- Diamorphine/morphine

Note: Dexamethasone, high dose metoclopramide and octreotide may also be used under specialist advice.

d. Nutrition and IV Fluids

- IV fluids and total parenteral nutrition (TPN) are rarely necessary.
- Oral intake of food and drink can continue for the patient's enjoyment and is often surprisingly well tolerated - the patient will decide if the risk of vomiting outweighs the pleasure of eating.

Note: Patients with a high obstruction without other life-threatening complications require special consideration regarding symptom management, hydration and nutrition.

e.g. venting gastrostomy, TPN may be considered in individual cases.

CONSTIPATION

Constipation is very common in palliative care patients due to a combination of factors including immobility, reduced food and fluid intake, drugs, bowel pathology and sometimes hypercalcaemia. Diagnosis is usually made on the basis of history and examination. Abdominal X-ray is rarely required.

Guidelines on the use of laxatives in constipation

- Assess cause and treat where possible.
- A combination of stool softener and stimulant laxative is ideal
- Examples of stool softeners include:

Docusate

Poloxamer

Lactulose

Movicol®

Magnesium salts

- Examples of stimulant laxatives include:
 - Senna
 - Dantron
 - Bisacodyl
 - Sodium picosulphate
- Examples of combination preparations include:
 - Codanthramer (poloxamer and dantron)
 - Codanthrusate (docusate and dantron)
- Local units may have their own guidelines on first line laxatives.
- Avoid stimulant laxatives if colic is present.
- Note that dantron stains urine red and can cause contact dermatitis. Do not use preparations containing dantron in incontinent patients.
- Note that lactulose may cause significant flatulence and bloating.
- In complete bowel obstruction, do not prescribe laxatives without seeking advice.
- Ask the patient whether they prefer laxative in liquid or tablet form.
- Review laxatives every 2 days.
- If patients are currently managing well on their laxative regimen, there is no need to change laxatives.
- If bowels haven't moved in 3 days, do a rectal examination and follow local guidelines on rectal measures.
- Subcutaneous methylnaltrexone may be indicated for opioid-induced constipation (seek advice from specialist palliative care team).

DYSPNOEA

Definition of dyspnoea: uncomfortable awareness of breathing.

Dyspnoea occurs very commonly in advanced cancer, cardiorespiratory and neurological disease.

Look for reversible causes as listed below.

Is dyspnoea of sudden onset?

Possible cause	Consider
Asthma	Bronchodilators, corticosteroids, physiotherapy
Pulmonary oedema	Diuretics, diamorphine/morphine 5mg SC/IV
Pneumonia	Antibiotics, physiotherapy
Pulmonary embolism	Diamorphine/morphine 5mg SC/IV Consider anticoagulants
Pneumothorax	Chest drainage, oxygen

Has dyspnoea arisen over several days?

Possible cause	Consider
Exacerbation of COPD	Antibiotics, bronchodilators, corticosteroids
Pneumonia	Antibiotics, physiotherapy
Bronchial obstruction by tumour	Dexamethasone 16mg o.d., early radiotherapy (RT), laser or stents
Superior vena caval obstruction	Dexamethasone 16mg o.d., urgent stenting

Dyspnoea of more gradual onset

Possible cause	Consider
Congestive cardiac failure	Diuretics, digoxin, ACE inhibitors
Anaemia	As a chronic condition unlikely to be the major cause of dyspnoea. Transfusion may help if Hb<8g/dl. Oral iron is ineffective in chronic normochromic normocytic anaemia.
Pleural effusion	Consider pleural aspiration and follow with pleurodesis if appropriate. These procedures may be distressing for frail patients. Consider palliation - see over.

Pulmonary fibrosis	Possible if history of cytotoxics (esp. bleomycin), or lung RT. Palliative management – see below.
Ascites	Paracentesis if appropriate.
Primary/secondary carcinoma lung	Resection, RT or chemotherapy as appropriate.
Carcinomatous lymphangitis	Dexamethasone 8-12mg o.d. Stop if not effective within one week. Bronchodilators may help.

Reversal of cause of dyspnoea inadequate or impossible – Palliative Management

- Dyspnoea is frightening to patient, family and staff. Reassurance and explanation are vital parts of the treatment whatever the cause.
- Modification of lifestyle, breathing retraining and relaxation may be beneficial if instituted early enough.
- Consider referral to physiotherapist.
- A table fan directed onto the face often eases dyspnoea.
- Good oral care is important if there is persistent mouth breathing.
- Humidified oxygen may help acute dyspnoea but should be used alongside other measures and its use reviewed regularly.
- Long term oxygen therapy for chronic respiratory illness should only be instigated by respiratory physicians.
- Many patients requiring palliation for breathlessness will not benefit from oxygen therapy. Measurement of oxygen saturation levels using a pulse oximeter may aid decision making in assessing whether or not oxygen is of benefit.

Drugs to consider

All drugs for symptomatic relief of dyspnoea are respiratory sedatives. When prescribed, their use should be monitored carefully. In the context of distressing dyspnoea in the terminal stages of illness the benefits usually outweigh the risks.

- **Opioids**

Oral morphine (immediate release) 2.5mg 4 hourly.

Gradually titrate dose upward according to response or until unacceptable side-effects occur. This can be converted to a long acting morphine preparation if effective.

If already taking strong opioid for analgesia contact palliative care team for advice.

- **Benzodiazepines**

Lorazepam 0.5mg-1mg SL may give rapid relief during panic attacks.

For longer-term management consider oral diazepam 2mg once at night or twice daily. Midazolam 2.5mg SC may benefit patients that cannot tolerate oral/sublingual route. These drugs can be continued in the terminal phase. See section of 'Last Days of Life'.

PALLIATIVE CARE EMERGENCIES

METASTATIC SPINAL CORD COMPRESSION (MSCC)

INTRODUCTION

- Spinal cord compression is a well recognised complication of metastatic cancer
- This is a catastrophic event leading to paralysis below the level of the compression, urinary retention and faecal incontinence
- If treated early these problems can usually be prevented or at least partially reversed.
- It is a clinical diagnosis requiring IMMEDIATE discussion with an orthopaedic, neurosurgical or oncology team, or the MSCC coordinator where one exists, to plan appropriate investigations and treatment.
- Please refer to NICE Clinical Guideline 75 on MSCC for further information.

SYMPTOMS

Symptoms suggestive of spinal metastases:

1. Pain in thoracic or cervical spine
2. Progressive lumbar spinal pain
3. Spinal pain aggravated by straining
4. Localised spinal tenderness
5. Nocturnal spinal pain preventing sleep

Symptoms suggestive of MSCC

1. Pain
 - (a) Back pain or nerve root pain either unilateral or bilateral, particularly if associated with alteration in gait
 - (b) May be aggravated by movement, coughing or lying flat
 - (c) May precede other symptoms by up to 6 weeks
 - (d) May be absent in approximately 10% of patients
2. Weakness

Motor weakness below level of lesion. This may be rapid or slow in onset and can be subtle in the early stages. Descriptions of perceived changes in strength are important.
3. Subjective sensory disturbance

Often precedes objective physical signs, e.g. " I feel like I am walking on cotton wool".
4. Bladder/bowel dysfunction.

Urinary retention often develops insidiously. Generally occurs late.

SIGNS

The absence of signs does not exclude early spinal cord compression. Investigations should be considered on the basis of history alone in a patient who is at risk.

- Weakness/paraparesis/paraplegia
- Change in sensation below level of lesion (not always complete loss of sensation)
- Reflexes – absent at level of lesion – increased below it
- Clonus
- Painless bladder distension
- Loss of anal tone

NB: Sensory and reflex changes may occur secondary to other disease processes or previous neurotoxic chemotherapy.

INVESTIGATIONS

URGENT

- Discussion with oncologist/surgeon/MSCC coordinator.
- Whole spine MRI - investigation of choice and shows full extent of disease. This should be done within 24 hours if MSCC is suspected.
- Do not use plain radiographs to diagnose or exclude spinal metastases or MSCC.

MANAGEMENT

Steroids - can be commenced if there is strong clinical suspicion of cord compression, and no contraindications pending definitive investigations. Give dexamethasone 16mg stat then o.d. May give short term improvement while arrangements are being made for investigations and treatment.

After surgery or radiotherapy, dexamethasone can be reduced over 5-7 days unless neurological function deteriorates.

Monitor blood glucose levels while patient is on steroids.

Surgery - discuss surgical treatment with neurosurgeon or orthopaedic surgeon in the following situations:

- (a) Limited disease and fit patient whose prognosis is more than 3 months.
- (b) No previously established tissue diagnosis
- (c) Spinal instability
- (d) Severe pain unresponsive to other measures.

Discuss with oncologist regarding:

Radiotherapy - if patient is unsuitable for surgery, urgent referral for radiotherapy unless prognosis deemed to be only a few days.

Chemotherapy - may be indicated in treatment of some tumours.

Pain relief - offer to all patients as per the WHO analgesic ladder.

Supportive care - full holistic care assessment should be made

SUPERIOR VENA CAVAL OBSTRUCTION

INTRODUCTION

- Most commonly seen in lung cancer
- Consider lymphoma, particularly in young patients
- Regard as emergency, as patient's condition may deteriorate rapidly

SYMPTOMS AND SIGNS

1. Swelling of the face and neck
2. Feeling of fullness in the head
3. Dyspnoea, worse on lying flat
4. Non-pulsatile raised jugular venous pulse [JVP]
5. Dilated anterior chest wall veins

INVESTIGATIONS

Discuss with radiologist regarding local policy:

- Chest X-ray
- Thoracic CT

MANAGEMENT

Vascular stenting is usual treatment of choice although radiotherapy or chemotherapy may be good alternatives.

Chemotherapy may be the treatment of choice in lymphoma and small cell lung carcinoma (if diagnosis previously established)

The evidence for the use of steroids as a holding measure before definitive treatment is lacking. Where used this should be for a limited duration.

Discussion with local respiratory team/oncologist is recommended.

Recurrent superior vena caval obstruction

Radiotherapy may be considered. Vascular stent may be replaced. Thrombolysis may be considered if a stent is blocked by thrombus.

OUTCOME

Treatment often gives useful symptomatic relief.

In untreatable SVCO end of life measures are required

HYPERCALCAEMIA

INTRODUCTION

- Affects approximately 10-20% of patients with advanced cancer
- Most commonly seen in multiple myeloma, breast, renal and squamous carcinomas
- Consider in unexplained nausea, vomiting or confusion
- More commonly due to tumour secretion of parathyroid hormone-related protein than to bone metastases
- May develop insidiously

SYMPTOMS AND SIGNS

- Severity of symptoms is more related to the speed of rise of serum calcium rather than the absolute level.
- Non-specific early symptoms: lethargy, malaise, anorexia
- Common symptoms: nausea and confusion
- Other symptoms: constipation, thirst and dehydration
- Late features: drowsiness, fits, coma

INVESTIGATIONS

- Corrected serum calcium
- Urea and electrolytes

MANAGEMENT

- Treat if corrected serum calcium > 2.8 , symptomatic and clinically appropriate.
- Intravenous bisphosphonate e.g. pamidronate 30-90mg, zoledronic acid 4mg or ibandronate 2-4mg. Choice depends on local guidelines and renal function.
- Pre and post dose rehydration with 0.9% sodium chloride tailored to the patient's renal function, cardiovascular status and oral intake.
- Full guidance on management available in palliative care network guidelines.

FOLLOW UP

- Recheck calcium if symptoms have not improved after 3-4 days.
- Maximal response to bisphosphonates is seen after 6-11 days.
- Repeat the same or a different bisphosphonate if calcium level has not decreased.

OUTCOME

- Average duration of response is 3-4 weeks
- Patients should be informed that hypercalcaemia may recur and to monitor for symptoms
- Prognosis depends on the underlying pathology, but refractory hypercalcaemia is a poor prognostic indicator
- For recurrent hypercalcaemia consider intermittent intravenous zoledronic acid.
- If repeated doses are anticipated, patients should have a dental assessment and their dental practice informed, to minimise the risk of osteonecrosis of the jaw.

THE LAST DAYS OF LIFE

It is desirable to recognise when death is imminent. This allows withdrawal of unnecessary treatments and preparation of the patient and family/carers for death. This phase can be difficult to recognise. It is often heralded by a more rapid deterioration in the patient's general condition. Consider use of an Integrated Care Pathway for the dying if available. The following symptoms and signs in patients may indicate that the prognosis is short:

- Profound weakness
- Confined to bed for most of the day
- Drowsy for extended periods
- Disorientated
- Severely limited attention span
- Loss of interest in food and drink
- Too weak to swallow medication

ACTIONS

1. Sensitively check the awareness of patient and family/carers.
2. Negotiate appropriate treatment and Advance Care Plans with the patient. Check if an advance decision has been made. The wishes of the family/carers should be considered but not allowed to override those of the patient.
3. Complete preferred place of care assessment. This should take into account the needs and wishes of the patient and the family/carers.
4. Professional carers may need to acknowledge and share their own feelings. Mutual support and teamwork are important.
5. Physical, psychological and spiritual, practical and legal issues may need to be addressed.
6. Fast Track/Continuing Care Funding Form or equivalent needs to be signed.
7. CPR status should be considered. Complete DNAR forms in all settings and prior to ambulance transfers (see over).

Physical care

What nursing care is needed?

- If a patient is to be discharged home from hospital ensure the district nurse and community palliative care team are aware and telephone the general practitioner.
- Adequate day and night nursing support needs to be arranged. Consider night sitters.
- Ensure the patient is not left alone for long periods.
- Involve family/carers in practical care as much as they wish.
- Treat dry mouth with good regular mouth care (minimum hourly).
- Immobility and pressure areas - bed, mattress, positioning needs to be assessed.
- Continence - consider catheter, convene, pads.
- Bowel care - only if constipation is causing discomfort.

What about food and fluids?

Regular artificial hydration does not usually contribute to a dying patient's comfort. Remember patients are dying from their disease and not from lack of food or fluids. Dry mouth is usually related to medication, mouth breathing and/or oxygen therapy and can be relieved by good mouth care (i.e. keeping oral mucosa and lips clean and moist).

Possible benefits of withdrawing artificial hydration/nutrition include:

- Reduced vomiting and incontinence.
- Reduced barriers between patient and family/carers.
- Reduced painful venepuncture.

What about medication?

Only continue medication needed for symptom management. If the oral route is not appropriate the subcutaneous route or the rectal route can be used.

Consider stopping some of the following when the patient is no longer able to swallow:

- Vitamins/iron
- Hormones
- Anticoagulants
- Corticosteroids (may need to be continued SC)
- Antibiotics
- Antidepressants
- Cardiovascular drugs
- Anticonvulsants (used for pain)

Terminal restlessness

This can occur at the end of life but there may be a precipitant, therefore look for evidence of:

- Physical discomfort - pain related to underlying condition, urinary retention, faecal impaction or new event e.g. haemorrhage, malfunctioning syringe driver.
- Respiratory distress - dyspnoea, cough, tracheal obstruction.
- Neurological problems - fits, hallucinations, myoclonic jerks, motor restlessness. Remember any of these may be caused by drugs (including opioids and antiemetics).
- Psychological distress (see below).

If there are no reversible precipitating factors or psychosis, midazolam is the drug of choice (see syringe driver section).

'Death Rattle'

This is a rattling noise produced by the movement of secretions in the upper airways in patients who are too weak to expectorate effectively. Relatives and carers may find this distressing. It is important to explain to the relatives/carers that this is unlikely to be causing distress to the patient. Prompt drug treatment is required.

- Repositioning of the patient and postural drainage may help.
- Antisecretory drugs can be used (see syringe driver section).

Distressing terminal events

Events such as haemorrhage, fits or tracheal obstruction are unusual and can often be anticipated and a management plan discussed with nursing staff in advance. Prescribe appropriate p.r.n. medication (e.g. diamorphine or morphine and midazolam)

to relieve distress and sedate if necessary. Seek advice from palliative care team if unsure.

Do not attempt resuscitation (DNAR) orders

If a patient is in the last days of life, cardiopulmonary resuscitation will not benefit them. The resuscitation status of the patient should be discussed within the clinical team and documented as per local policy. It is good practice to inform the patient's carers that the focus of care is on palliation and comfort.

Psychological and spiritual care of patient and family

- Encourage open communication and explore fears and concerns
- Facilitate expression of emotions
- Involve children and those with learning disabilities.
- Remember spiritual care and religious needs (offer to contact chaplain, priest, rabbi etc if appropriate).
- Identify those at increased risk in bereavement:
 - previous multiple losses or recent losses
 - ambivalent relationship
 - dependant children involved
 - bereaved parent
 - previous psychological problems or substance abuse
 - people living alone or feeling unsupported
- Seek advice from colleagues and relative's GP (with their permission), if one or more of these risk factors are present.

Practical and legal aspects to attend to after death

Arrangements may vary depending on place of death and the role of the bereavement co-ordinator (where one exists).

- Warn relatives when Coroner's referral might be necessary (e.g. mesothelioma). It is preferable to do this before the patient's death.
- Ensure prompt provision of death certificate
- For deaths not occurring in the patient's own home, ensure patient's GP is informed within 24 hours
- Ensure hospital appointments are cancelled and hospitals/consultants involved with the patient's care are informed

LYMPHOEDEMA

INTRODUCTION

Lymphoedema is a chronic progressive swelling due to the inability of the lymphatic system to maintain normal tissue homeostasis. This results in an accumulation of protein rich fluid in the subcutaneous tissues.

Lymphoedema is one form of chronic oedema. In patients with cancer lymphoedema is usually secondary to the underlying cancer or previous cancer treatment.

CHARACTERISTIC FEATURES

- Oedema
- Chronic inflammation
- Excess fibrosis
- In the early stages of lymphoedema pitting is demonstrated. With time, this feature is lost due to the oedema having a high protein content.

GENERAL MANAGEMENT

Where available, patients should be referred to specialist lymphoedema clinics

The core treatment elements are:

- Skin care - keep skin clean and moisturised with non-perfumed emollient (e.g. aqueous cream, Diprobase®)
- Compression/support
- Movement and exercise
- Simple lymph drainage, self-massage techniques

Avoid affected limb for any medical procedure, e.g. injection, venepuncture, blood pressure measurement.

MANAGEMENT OF CELLULITIS IN LYMPHOEDEMA **(Consensus document from the Lymphoedema Support Network and British Lymphology Society January 2006)**

Treat early

1. Oral amoxicillin 500mg t.d.s. for minimum 14 days (clindamycin 300mg q.d.s. if penicillin allergic)
2. If evidence of Staph Aureus infection add in flucloxacillin
3. Avoid compression garments during acute attack

Acute infection is usually painful; review analgesics

If patient develops systemic symptoms, IV antibiotics may be required; seek specialist advice.

Recurrent cellulitis

Antibiotic prophylaxis is needed if patient has had 2 or more attacks of cellulitis per year. Penicillin V 500mg daily (erythromycin 250mg daily if penicillin allergic) first line. Please refer for specialist advice

Further information

The Lymphoedema Support Network

www.lymphoedema.org/ltn

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