

# **Key Notes on Symptom Control Issues in Palliative Care**

**The following pages contain information about how to manage some of the common symptoms that can affect people who are living with a life limiting illness. Everyone is different and even people with the same illness will develop different problems as a result of their illness. For example not every person with advanced cancer will have pain but some will. The notes contain technical information and recommendations about drugs that can be used to ease symptoms. They are advisory and are offered as a framework to help the professionals involved in the care of people living with advanced, life limiting illnesses make decisions.**

**These notes are not a comprehensive guide to symptom control. There are other ways that symptoms can be managed which are not included in these notes. If you are not sure how these pages apply to you, your relative or the people you are caring for please seek advice from your doctor, district nurse, hospital doctor or the hospice staff.**

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## **Background on symptom control issues in Palliative Care**

Most palliative care is straightforward, relying on common sense and good general medical and nursing care. Good palliative care is as much about good communication skills, empathy and wisdom as it is about medical and nursing knowledge. For most patients it is carried out best by the people who know the patient and family well, in the place the patient feels most comfortable and which is safe. For most people that will be at home with their family and friends, being cared for by their primary care team, but for some it will be in hospital, a nursing home or some other institution such as a hospice.

The following pages contain some general guidance about some of the commoner symptoms experienced by people suffering from various life threatening illnesses. The guidance focuses on those areas where practice differs from other fields of medicine, but it is not exhaustive. It is written as a guide on how to start to manage those symptoms that may not be encountered very frequently by many healthcare professionals and to indicate when to seek specialist advice and support. The guidance is not intended to replace the local specialist advice each healthcare team has available to them.

It is good practice to ask the question ‘why’ when any patient with a life threatening illness develops new symptoms or appears to deteriorate rapidly. As with all areas of medicine there are certain symptoms that should ring alarm bells and which demand a rapid response from all professionals involved in their care. If there is no straightforward explanation for a patient’s deterioration, or if the patient is still receiving active treatment such as radiotherapy or chemotherapy, dialysis, non-invasive ventilation etc. consider referral back to their specialist unit or centre. At the very least such patients should be discussed with these specialist services to ensure treatment related conditions such as neutropenic sepsis, or reversible conditions such as infection have been excluded or are being appropriately managed.

As a specialist in Palliative Medicine I was asked to write these guidance notes for our local healthcare teams. It was hoped they would contribute to the ongoing education of staff on palliative care issues and to support them in the excellent work they do in managing complex and challenging patients:

Websites with useful additional information:

[www.endoflifecareforadults.nhs.uk](http://www.endoflifecareforadults.nhs.uk)

[www.palliativedrugs.com](http://www.palliativedrugs.com)

[www.cancerbacup.org.uk](http://www.cancerbacup.org.uk)

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## Pain

Pain is what the patient says it is. Approximately 25% of all cancer patients will have pain at diagnosis. Up to 75% of all cancer patients will have pain in advanced disease. Up to 60% of patients with end stage cardiac failure and end stage respiratory disease have pain that affects their activities of daily living. There are three main types of pain. These may co-exist and therefore it may be necessary to use more than one approach to achieve adequate pain control. The three different types of pain are:

- Visceral – due to enlarged organs by tumour bulk or congestion;
- Bony – replacement of bone by tumour, pathological fracture, stress fracture;
- Neuropathic – nerve injury or nerve compression

Always take a careful history and carry out an appropriate examination. Identify the likely pathological process(es) contributing to the pain, and where possible treat reversible causes such as infection or fracture. **Analgesia should not wait for investigations to be completed.** The pain associated with life limiting illnesses is usually chronic and needs regular medication to keep it under control. Adequate doses of analgesia on an ‘as required basis’ in addition to the regular medication must be made available. Where possible give analgesia by mouth, by the clock and by the ladder. Pain that does not respond to oral medication is unlikely to respond to parenteral medication unless there are absorption problems.

- Always explain what you propose to do and why – explanation reduces anxiety and will help with pain control
- Review the effectiveness of any intervention on a regular basis.
- Ensure all patients on a step 2 or step 3 analgesic are on regular laxatives and that the effectiveness of the laxative regimen is being adequately monitored.
- Remember the role of rest, relaxation, adequate sleep and distraction.
- Measures such as heat pads, TENs machine and massage may also aid pain control.

## Visceral pain

### Visceral pain

Step one	Take a thorough history	Diagnose the cause and treat if possible
Step two	Follow the WHO ladder	Add in regular paracetamol
Step three	Add in an adjuvant analgesic	Ask for help

- **Paracetamol.** May be particularly effective for some types of headaches and musculoskeletal pain. In combination with codeine (30mg) it is the step 2 analgesic of choice. Tramadol (50-100mg every 4 –6 hours) is an alternative step two analgesic when codeine seems to be ineffective. It may be combined with paracetamol to enhance its effect. Always prescribe a laxative if a step 2 analgesic is being used.
- **Short acting opioids.** There are the drugs of choice for visceral pain when step 2 analgesics have failed. If a patient is already on the maximum dose of a step 2 analgesic, then the starting dose of oral morphine sulphate is 10mg every four hours, with the same dose for breakthrough pain. The dose should be titrated against the pain using increments set out in the table. Only consider starting doses of oral

morphine sulphate of less than 10mg if the patient is in renal failure, is very frail or has not been on a maximum step 2 analgesic.

- Once adequate pain relief has been obtained convert the total dose of oral morphine sulphate taken in 24 hours (including breakthrough doses), divide by two to calculate the appropriate 12 hourly formulation dose (Zomorph, Morphgesic, MST). Always ensure you have prescribed the equivalent four hourly dose for breakthrough.

12 hourly morphine sulphate strength	20	30	50	60	90	120	180
4hrly morphine sulphate dose increments	5mg	10mg	15mg	20mg	30mg	40mg	60mg
	renal failure	normal starting dose					seek specialist advice

- Consider prescribing haloperidol 1.5 mg – 3mg orally at night, or 3 – 6 mg levomepromazine orally at night, as an anti-emetic if the patient is at risk of opioid induced nausea and vomiting.
- Warn patients about the possibility of short-term drowsiness as the morphine sulphate is started. For most patients this wears off after 3-4 days.
- There is no ceiling dose of oral morphine sulphate but specialist help should be sought if the 24 hour dose of morphine sulphate exceeds 300mg (50mg every four hours) or if pain does not seem to be coming under control and the patient is experiencing unacceptable side effects.
- Alternative opioids that may be used under the direction of a specialist are oxycodone, fentanyl and buprenorphine.

### Notes on the use of alternative opioids:

#### Oxycodone (oral)

Is similar to morphine but appears to cause less drowsiness, hallucinations and vomiting than morphine. It is safer than morphine in renal failure. It causes more constipation. There is some evidence to say it may be slightly more effective in patients with neuropathic pain. It is about 1.5 times more potent than morphine. It is used in the same way as morphine with titration with short acting formulation, then conversion to a 12 hourly formulation.

#### Fentanyl (transdermal)

Indications for the use of TD Fentanyl instead of morphine are:

- Intolerable or undesirable side effects from morphine such as persistent nausea and vomiting, constipation etc
- Renal failure
- Tablet phobia or poor compliance with oral medication
- High risk of tablet misuse

It should **not** be used in patients who need rapid titration of analgesics for severe uncontrolled or short-term pain. It is most appropriate for patients already on a stable dose of morphine or other opioid analgesic.

Effective analgesic concentrations of the drug are generally reached 12 hours after the patch has been applied but steady state is not achieved until 36 - 48 hours. Around 10% of patients will experience some opioid withdrawal side effects on moving from oral morphine

to a patch. *Each TD Fentanyl patch strength is equivalent to a broad range of morphine doses so care needs to be taken not to change the strength of the patches too quickly.* All patients on a fentanyl patch should have a short acting opioid available for breakthrough.

## Bone pain

### Bone pain

Step one	Diagnose the cause and treat if possible	Start an NSAID
Step two	Follow the WHO ladder	Consider radiotherapy
Step three	Trial of steroids	Ask for help

- Non-steroidal-anti-inflammatory drugs (NSAIDs). Start with the maximum dose of the NSAID. The dose may be titrated down if good pain relief is achieved. The choice of which NSAID to use will depend on the route of administration as well as a risk / benefits analysis. Use appropriate GI protection with either a proton pump inhibitor or misoprostol in at risk patients.
- For bone metastases consider referral to a clinical oncologist for palliative radiotherapy
- Orthopaedic intervention for large bone metastases, particularly in the shaft of the humerus or femur, may be appropriate and can improve pain control.
- Many patients with chronic disease have osteoporosis so are at greater risk of fractures

## Neuropathic pain

### Neuropathic pain

Step one	Treat reversible causes if possible	Follow the WHO ladder
Step two	Start either an antidepressant or anticonvulsant	Add in the agent of the class not already in use
Step three	Trial of steroids	Ask for help – may need a nerve block

This is partially opioid responsive and so the patient should be titrated on short acting oral morphine sulphate as for visceral pain. At the same time they should also be started on a neuropathic analgesic. The choice of what to use will depend on the side effect profile and the risk / benefit assessment for each patient. Usually this type of pain is difficult to manage and the early involvement of the specialist palliative care team should be considered.

The agents commonly used are:

- Amitriptyline starting at 25mg (10mg in the elderly) in a single night time dose and increasing by 25mg every 3 days to a dose of 75-100mg depending on response.
- Sodium valproate starting at 200mg 12 hourly and increasing by 200mg every three days to a maximum of 2.4g depending on response.
- Gabapentin starting at a dose of 300mg daily and increasing to 300mg twice daily on day 2, then 300mg 3 times a day on day 3 then increasing by 300mg every three days to a maximum dose of 2.4g, depending on response
- Pregablin is also licenced for use in this area but should under specialist supervision.
- Local nerve blockade by pain anaesthetists may help in some cases.

## Nausea and Vomiting

There are a number of basic causes of nausea and vomiting and if these can be identified an appropriate anti-emetic can be prescribed. It is not uncommon for the nausea and vomiting to be multi-factorial in which case a combination of anti-emetics may be helpful.

- Nausea and vomiting can sometimes be a difficult symptom to control. It is therefore important to seek out specialist advice early if initial measures fail.
- Remember that it may be necessary to use the subcutaneous route initially to ensure adequate absorption of the drug and thus control the symptom. Once the nausea and/or vomiting have settled the drugs can then be converted to the oral route.
- Assess the patient's bowel function and treat any constipation appropriately.

### Chemical or drug induced

#### Chemical induced nausea & vomiting

Step one	Diagnose the cause and treat if possible	Review medication and where possible remove those causing nausea and vomiting
Step two	Start regular haloperidol or levomepromazine	
Step three	Ask for help	

This can be iatrogenic due to drugs such as morphine sulphate, NSAIDs or anti-depressants, or due to biochemical abnormalities such as uraemia, jaundice, or hypercalcaemia. All these affect the chemoreceptor trigger zone in the brain to produce nausea and or vomiting.

Treat reversible causes where possible. Consider using either:

**Levomepromazine** 6.25 –12.5mg sc or 2.5-12 mg orally as a single dose at night or

**Haloperidol** 2.5-5mg sc. or 1.5-3 mg orally as single dose at night

### Impaired intestinal Motility

#### Nausea & vomiting due to altered intestinal function

Step one	Diagnose the cause and treat if possible	Treat constipation aggressively
Step two	High GI tract - metoclopramide	Lower GI tract – cyclizine
Step three	Consider a surgical referral	Ask for help

This can be due to tumour compressing the lumen, altered intestinal flow or bleeding into the gut causing irritation (especially in the upper gastrointestinal tract).

If the problem is thought to be high in the gastrointestinal tract, consider **metoclopramide** 10 - 20 mg sc or 10 - 20 mg orally every 6- 8 hours.

If colic is a significant feature **hyoscine butylbromide (Buscopan®)** 20mg sc as a stat dose **or** 60 - 120 mg in a syringe driver over 24 hours may help. (Oral buscopan® is not well absorbed)

### **Nausea and vomiting due to raised intracranial pressure**

This may be due to a primary brain tumour, brain metastases and / or meningeal spread. High dose oral steroid 12-16 mg **dexamethasone** given as a single daily dose in the morning (with appropriate GI protection) is the drug of choice. The dose should be titrated downwards over the subsequent days or weeks depending on the patient's response. Steroids alone may not be sufficient to control the nausea so may need to be co-prescribed with levomepromazine (as above).

### **Movement related**

This may be due to a middle ear infection, vestibular problems or tumour at the cerebello-pontine angle. **Cyclizine** is the drug of choice, 25 mg – 50 mg orally three times a day or 25 mg subcutaneously as a stat dose followed by 75-150 mg over 24 hours in a syringe driver.. Oral steroids may also help such as dexamethasone 8 mg –12 mg in a once daily dose in the morning (with GI protection).

### **Regurgitation**

This is common with patients with end stage cardiac failure where an enlarged liver delays gastric emptying; oesophageal tumours and where there is mediastinal lymphadenopathy, causing extrinsic compression of the oesophagus. **Metoclopramide** is the anti-emetic of choice. **Antacids** combined with a **proton pump inhibitor** may help the gastritis and oesophagitis that occurs. Interventions such as stent insertion, endoluminal radiotherapy and laser therapy, where available, may help.

### **Anxiety**

Fear and anxiety may contribute to nausea and vomiting. Stress relieving measures such as relaxation techniques as well as anxiolytics such as **diazepam** may help. Acupuncture may help some people. Occasionally some patients undergoing chemotherapy or radiotherapy develop anticipatory vomiting. This often needs specialist input to ensure that compliance with therapy as well as good symptom control is achieved.

# Intestinal Obstruction

## Intestinal obstruction

Step one	Diagnose the cause and treat if possible	Consider palliative surgery
Step two	Commence syringe driver with appropriate anti-emetics	Trial of hyoscine butylbromide and /or dexamethasone
Step three	Trial of octreotide	Ask for help

Any patient with cancer that affects the abdomen or pelvis may develop bowel obstruction, but it is most common in patients with ovarian and colorectal cancers. Bowel obstruction is rare in other life limiting chronic conditions.

### Common Signs and Symptoms of intestinal obstruction

- Large volume vomits often with little or no preceding nausea. May vary in frequency.
- Abdominal colic, which often varies in frequency and intensity.
- Remember that abdominal distension may be absent
- Constipation or reduced number of bowel movements.

In many cases there are multiple levels of obstruction, which means patients may not present with all the classic symptoms. It should be considered in any patient with advanced malignancy who is vomiting.

### Investigations

The diagnosis is based on the clinical picture. Investigations may help but are not needed for appropriate management to be initiated.

- Plain abdominal films may show the classic fluid levels of obstruction.
- CT of abdomen and pelvis may be helpful in detecting tumour recurrence.

### Management

- If a single level of obstruction is possible, as in colorectal cancer, then a surgical opinion should be sought, if the patient's general performance status is good.
- Vomiting will rarely be abolished whatever the level of obstruction, but can be reduced to a tolerable frequency in most cases.
- It is rare for a patient with malignant bowel obstruction to need nasogastric tube insertion and parenteral fluids. The nausea and vomiting can usually be controlled (although not completely eliminated) using appropriate medication in a syringe driver. This often needs specialist input to establish the correct drug combination
- If colic is a significant feature use hyoscine butylbromide 60-120mg subcutaneously over 24 hours in a syringe driver.
- If nausea is a significant symptom use levomepromazine 6.25-25mg subcutaneously over 24 hours.
- With frequent large volume vomits, consider using octreotide 600-900 micrograms subcutaneously over 24 hours in syringe driver, titrating the dose up or down depending on response.
- If not settling ask for specialist palliative care advice and consider high dose steroids 12-16mg of dexamethasone orally or sc.

**Patients may eat and drink what they wish: sufficient absorption across the GI tract can take place to prevent absolute dehydration. Patients will tolerate some degree of dehydration provided careful attention is paid to mouth care.**

# Breathlessness

Breathlessness		
Step one	Diagnose the cause and treat if possible	Small doses of oral short acting opioids
Step two	Nebulised saline	Anxiolytics
Step three	Trial of steroids	Ask for help

- The impact of dyspnoea on patients will vary. Patients with a history of chronic obstructive pulmonary disease whose respiratory capacity is already limited may be less affected than someone with no such history.
- Identify and where possible treat reversible factors such as anaemia, bronchospasm and pleural effusion.
- Identify and address patient's and family's concerns and expectations about breathlessness. Patients and families are frequently fearful that the patient will choke to death or literally run out of breath, both of which are unlikely to happen.
- Teach self help measures such as use of fans, open windows and relaxation/breathing techniques. Modify lifestyle to minimise physical exertion e.g., moving the bed downstairs, sitting down to wash and shave, etc.

## Drugs which may be used in breathlessness

- **Short acting opioids** decrease the sensation of breathlessness. Start with 5mg of oral morphine sulphate solution on an as required basis (2.5mg if patient is particularly frail or there is concern about renal function). Remember to co-prescribe a laxative and anti emetic. Long acting opioids probably have a similar effect, but there is less evidence for their effectiveness.
- **Anxiolytics** may help when there is considerable anxiety exacerbating the breathlessness. Possible drugs that can be used include diazepam 2-5mg three times a day, lorazepam 0.5 – 1mg twice a day, buspirone 5mg twice a day (although its effect may take up to two weeks).
- **Nebulised saline** may improve the sensation of breathlessness although will have no effect on lung function. Use 2.5 –5ml of normal saline for injection in a standard nebuliser.
- **Nebulised broncho-dilators** may help if there is associated bronchospasm, as identified by an inspiratory wheeze on auscultation. Salbutamol or bricanyl 2.5 –5mg as often as two hourly may be needed, but the patient may find the subsequent tremor unacceptable.
- **Oral high dose steroids** may help where there is evidence of lymphangitis or broncho-spasm. Consider dexamethasone 8mg in a single morning dose. If effective, titrate dose down to the minimum dose that controls symptoms (usually 2-6mg). Use appropriate GI protection with either a proton pump inhibitor or misoprostol in at risk patients.
- **Oxygen** has a limited role to play in the dyspnoea of advanced lung problems, but if a patient has been shown to be hypoxaemic (ideally by pulse oximetry at least), the judicious use of oxygen at flow rates between 2 –4 l/min may be of benefit. In some cases of lymphangitis, higher flow rates may be needed to maintain oxygenation.

# Cough

Cough		
Step one	Treat reversible causes if possible	Simple linctus
Step two	Small doses of short acting opioids	Nebulised saline
Step three	Trial of steroids	Ask for help

- Affects up to 90% of lung cancer patients at some point in their cancer journey. Is also very common in patients with end stage respiratory disease and end stage cardiac failure. Can affect patients with other primary diagnoses such as oesophageal carcinoma and those with metastatic lung involvement, particularly breast cancer.
- May lead to muscle strain, rib fracture, vomiting, syncope, headache and / or urinary incontinence.
- Can be very debilitating particularly if spasmodic, affecting sleep, rest, eating or social activities.
- Identify treatable causes such as acute infection, bronchospasm or iatrogenic causes such as ACE-inhibitors. Remember the possibility of cough induced by aspiration or gastro-oesophageal reflux.
- Consider the use of postural drainage and physiotherapy.

## Drugs which may be helpful in treating cough

- **Simple linctus** - acts as a peripheral anti-tussive.
- **Nebulised saline** - Use 2.5 –5ml of normal saline for injection in a standard nebuliser.
- Short acting oral opioids – **act as a central anti-tussive.**
- **Oral steroids** may help if there is associated lymphangitis. Starting dose 8mg dexamethasone as a single morning dose. Titrate downwards after one week to the minimum dose that controls the cough. If no effect after one week stop. Use appropriate GI protection using either a proton pump inhibitor or misoprostol in at risk patients.
- **Oral methadone** 1- 2 mg orally (as needed) may occasionally be used, but is usually used under specialist supervision
- **Mucolytics** such as **carbocisteine** can help if secretions are very thick.
- **Nebulised local anaesthetic** may occasionally be used, but should only be commenced after assessment by a specialist in palliative care or respiratory medicine.

# Haemoptysis

## Haemoptysis

Step one	Diagnose the cause and treat if possible
Step two	Palliative radiotherapy
Step three	Ask for help

Can be due to acute or chronic infection as well as lung cancer. It is essential to consider the possibility of a pulmonary embolus. If an embolus is suspected and the patient is felt to have a reasonable or uncertain prognosis then acute management should be started immediately, usually via admission to hospital. Remember that expectorated blood may not have come from the lungs, but can come from the nasopharynx or upper GI tract.

## Management

- In all cases acknowledge and explore the patient's and family's ideas and expectations. Deal with fears honestly.
- Where appropriate, treat infection
- In lung cancer patients consider **radiotherapy**. Both external beam and endo-bronchial are effective in reducing the frequency and severity of haemoptysis. External beam radiotherapy has a response rate of 80% for haemoptysis associated with lung cancer, but can only be given to the tolerance of the lung tissue
- **Laser** treatment is available in a limited number of centres and is highly effective for some types of tumour and can be repeated indefinitely.
- **Anti-fibrinolytics** such as tranexamic acid 1g tds may help some patients and should be considered when the patient is unfit for other interventions.
- **Oral steroids** can help when the haemoptysis is due to tumour progression. Start dexamethasone 8mg as a single morning dose and titrate downwards after one week to the minimum dose that controls symptoms. If no effect after one week stop. Use appropriate GI protection using either a proton pump inhibitor or misoprostol in at risk patients.

## Catastrophic haemoptysis

In approximately 1% of all haemoptysis due to lung cancer a major haemoptysis will be the terminal event. In such cases there has usually been a number of smaller 'herald' bleeds. Managing such cases is difficult and traumatic for all involved. If there is concern about a large haemoptysis, decisions about place of care need to be made with the patient and family. The family need to know what they can do and who to contact.

### Management of catastrophic haemoptysis

- Ensure the patient is comfortable, which is usually in the sitting position leaning forward with the head and neck well supported. Use green towels to mask the amount of blood lost.
- If there is time give midazolam 10mg deep im to relieve distress.
- Ensure all those involved with such a traumatic death have the chance to talk about the events and their feelings.

## Respiratory Tract Secretions

Respiratory tract secretions		
Step one	Diagnose the cause and treat if possible	Treat infection/failure if appropriate
Step two	Alter position in bed	gylcoprronium or Hyoscine butylbromide parenterally
Step three	Ask for help	

- Troublesome respiratory tract secretions can occur in the end stages of any disease process. They are more likely to happen when the lungs are already damaged such as in chronic obstructive pulmonary disease or where there is fluid overload such as cardiac failure.
- A clear explanation to the family (and the patient) about the cause of the secretions may help to minimise the impact of the noise on the family.
- The secretions can often be managed by adjusting the patient's position in bed.
- Occasionally the use of gentle suction may help, but this will stimulate more secretions to form and so has to be an ongoing process.
- Gylcopyrronium (Robulin) will dry up the production of secretions although it will not get rid of secretions already formed. It is longer acting than hyoscine butylbromide. Give a stat, subcutaneous dose of 200 microgram stat. A subcutaneous infusion of 600-1200 microgram over 24 hours may be needed. It is compatible with morphine, diamorphine, midazolam and levomepromazine in a driver.

**Care needs to be taken that both the doctor and the nursing staff are aware of which formulation of hyoscine they are using and why. It is easy to draw up the wrong formulations of hyoscine as the name and doses on the vials are similar.**

- Hyoscine butylbromide (Buscopan) will dry up the production of secretions although it will not get rid of secretions already formed. Give a stat, subcutaneous dose of 20mg, which can be repeated after 15 minutes if no effect. A subcutaneous infusion via a syringe driver will need to be set up within the next four hours to ensure control is maintained. Use 60 -100mg of hyoscine butylbromide over 24 hours.
- Hyoscine hydrobromide 0.4- 0.6 mg sc stat and 1.2 - 2.4mg sc over 24 hours in a driver may be used in a similar way to hyoscine butylbromide, but it is more sedating and can occasionally cause paradoxical agitation.

# Spinal Cord Compression

## Spinal cord compression

Step one	Make the clinical diagnosis	High dose oral steroids
Step two	Pain relief	Urgent referral to oncologist
Step three	Ask for help	

Occurs in approximately 3% of all patients with advanced cancer, most commonly those with breast, lung and prostate cancer. Less common cancers such as renal cell, lymphoma, myeloma, melanoma and sarcoma account for the majority of others. Usually caused by metastatic spread to a vertebral body or pedicle, although rarely can be due to direct invasion through the intervertebral foramina.

### Common presenting signs and symptoms of spinal cord compression

- Pain that is made worse by movement, straight leg raising and coughing. May be described as being 'like a band'. May precede other symptoms by weeks or months.
- Weakness in limbs that initially may be subtle. The patient may describe struggling to get up out of a chair or walk upstairs. They might notice altered balance or legs giving way unexpectedly.
- Altered sensation, often with a definable level on clinical examination. The patient may describe having heavy legs, feet that feel like cotton wool, tingling or altered bladder and/or bowel habit. The patient, until formally examined, may miss this. Disturbance of sphincter function occurs late. There may be painless bladder distension.
- Loss of temperature discrimination, impaired touch and proprioception may be found on formal examination. Reflexes will be absent at the level of the lesion and increased below the level of the lesion. The patient may have up going plantar reflexes. In some cases there is clonus.

The diagnosis is a clinical one based on history and examination. **It needs to be considered in anyone who has gone off his or her legs.** In the majority of cases plain X rays of the spine will show evidence of metastatic disease. **However normal plain X rays of the spine do not exclude the diagnosis.** MRI is the investigation of choice but management should start as soon as the diagnosis is suspected.

### Management of Spinal Cord Compression

- High dose oral steroids 12-16mg dexamethasone given as a single dose as soon as the diagnosis is suspected and continued until the diagnosis is confirmed and subsequent treatment is in place. If the patient is at risk of GI side effects, start appropriate GI protection at the same time in the form of a proton pump inhibitor.
- Contact local oncologist the same day to discuss the need for hospital admission, investigation and palliative radiotherapy. Occasionally neuro-surgical intervention is required. The aim is to maintain function
- Institute adequate pain relief measures.
- Catheterise if there appears to be sphincter involvement.

### Prognosis

There is no guarantee of restoration of function after treatment, so if the diagnosis is delayed this has an adverse impact on outcome. In general those with a rapid onset and paraplegia do badly and those with a paraparesis do better. Treatment should be considered in all cases for pain control purposes, even if function has already been lost. Remember pressure area care. Remember to closely monitor bowel function and avoid constipation.

# Superior Vena Caval Obstruction

Superior Vena cava obstruction		
Step one	Make the clinical diagnosis	High dose oral steroids
Step two	Urgent referral to oncologist/ vascular radiologist	
Step three	Ask for help	

Usually caused by tumour in the mediastinum preventing venous drainage from the head, arms and upper trunk. Usually occurs over weeks or months, allowing for collateral circulation to develop. Occasionally occurs acutely, when urgent treatment is needed to control symptoms and prevent death. Most commonly seen in patients with lung cancer particularly small cell lung cancer, lymphoma and those with large lung metastases, such as those seen in breast cancer and renal cell cancer. Patients with central intravenous lines are also at risk due to clot formation.

## Common Signs and Symptoms of superior vena cava obstruction

- Persistent headache and feeling of fullness in the head. This may initially be mistaken for sinus problems.
- Oedema of face and arms that is usually bilateral, is usually worse in the morning and may fluctuate over the day. Early morning oedema of the eyelids, making it hard for the patient to open their eyes, is an early sign.
- Dusky colour to the skin of chest wall, arms or face with distended superficial veins.
- Breathlessness that is worse on lying flat.

## Investigations for Superior Vena Cava Obstruction

- Chest X ray may be helpful in identifying the mass
- CT scan of chest may identify the mass
- Venography may help define the site of the obstruction and will be necessary if a stent is to be inserted.

## Treatment of Superior Vena Caval Obstruction

- Always consider admission to hospital to allow adequate investigation and treatment to improve symptom control and prevent the development of stridor.
- Whilst waiting for a definitive management plan the patient should be started on 12-16mg oral dexamethasone as a single dose. If the patient is at risk of GI side effects start appropriate GI protection using a proton pump inhibitor. This should be continued until other interventions have been carried out, and then the steroids should be tailed off as dictated by the patient's condition.
- Discuss with local oncologist and/or specialist in palliative medicine about the use of an SVC stent inserted under radiological control and/or the role of oncological treatment to reduce the size of the tumour.
- Manage symptoms particular headache and breathlessness. Both may warrant oral opioids.

## Prognosis

SVCO may recur as the disease progresses. There may be a role for long-term anticoagulation to prevent recurrence in patients with a reasonable life expectancy.

# Hypercalcaemia

Hypercalcaemia		
Step one	Make the clinical diagnosis	Appropriate to treat
Step two	Ask for help	Iv fluids and iv bisphosphonates
Step three	Maintenance bisphosphonates	

- Any patient with cancer can develop hypercalcaemia but those with breast, lung, genitourinary, myeloma and lymphoma are the most at risk. The patient may NOT have any demonstrable bone metastases, as this condition is a para-neoplastic phenomenon.
- It is not always appropriate to treat hypercalcaemia, as it may be a pre-terminal event. The decision to treat must be made on clinical grounds.
- Diagnosis can only be made if a raised adjusted calcium backs the clinical suspicion.

## Symptoms of hypercalcaemia

Symptoms are variable and give no indication of the calcium level. In general the more rapid the rise in calcium level the more poorly and symptomatic the patient is. **It may be very difficult to differentiate hypercalcaemia from a general deterioration in a patient's condition.** If untreated, hypercalcaemia is fatal.

### Common symptoms that MAY indicate a raised adjusted calcium level include:

- Fatigue and lethargy
- Profound thirst
- Nausea and/or vomiting
- Anorexia
- Increasing pain, particularly bone pain, but can be very non-specific.
- Intractable constipation
- Drowsiness, confusion that may be intermittent, leading ultimately to coma.

## Indications for treatment

- All patients considered for treatment must have venous access and be willing to have IV therapy. It may be difficult to obtain informed consent, as the patient may be confused.
- For treatment to be considered the patient must have a raised measured adjusted calcium and be symptomatic with a reasonable quality of life prior to the current deterioration, and not to have been treated for hypercalcaemia in the preceding six weeks. For other patients discuss with a specialist in palliative care.
- If a patient does not want to be admitted to an institution, either hospice or acute medical ward, it may be inappropriate to investigate further as the management of hypercalcaemia involves iv rehydration followed by a bisphosphonate infusion, which may be difficult to supervise in the community.

## Management of Hypercalcaemia (cont)

Hypercalcaemia is a poor prognostic indicator for most patients with the exception of breast cancer patients where the response to treatment is better. If the decision is made that the patient is too poorly to treat then it is inappropriate to check the calcium level. Appropriate symptom control measures should be instituted. This will include managing nausea and vomiting, ensuring adequate pain control and considering sedation if the patient is agitated. The situation may well warrant the use of a syringe driver.

If the decision is made that it would be appropriate to treat if the patient is hypercalcaemic then admit to an appropriate institution for the following treatment:

- IV rehydration with at least two litres of normal saline (more if the patient is clinically dehydrated). Reduce the rate of hydration if there are signs of fluid overload developing.
- Give an appropriate dose of a bisphosphonate as directed by local guidelines. There is some evidence that giving maximal dose of bisphosphonate regardless of measured, adjusted calcium level may produce a more effective response.
- If successful in improving symptoms and the patient's physical state allows, check calcium level after five days. The calcium level should then be checked regularly and if it is increasing with recurrence of symptoms the bisphosphonate infusion can be repeated with prehydration with normal saline.
- If there is no improvement in the patient's condition, review decision to treat and seek specialist advice.
- In some areas some of the more potent bisphosphonates which can be administered over a short period are being given in the community without prehydration to aid symptom control. This should only be undertaken after seeking specialist advice and after having carefully weighed the benefits and burdens.

## Prognosis

If the patient has two or more episodes of hypercalcaemia or has metastatic breast cancer it is appropriate to consider either:

- Regular monthly or six weekly bisphosphonate infusions this has to be balanced with the small risk of the development of osteonecrosis of the jaw after prolonged use in some patients.
- May need Vitamin d and calcium supplementation
- Regular oral bisphosphonates, although compliance due to side effects may be an issue.

# Epileptic seizures

## Epileptic seizures

Step one	Assess the risk of recurrent fits	Start anti-epileptic medication
Step two	Teach the family to manage a fit	
Step three	Ask for help	

Any patient who has sustained damage to brain tissue is at increased risk of some form of epileptic seizure, ranging from grand mal tonic clonic seizures to absences or focal fits. However not everyone who has sustained damage to the brain will fit. It may be difficult, particularly if fits are atypical to make the diagnosis. Balancing the risk between preventing fits and the burden of medication can be difficult. Prophylactic medication is often not recommended unless a patient has 2 or more fits: however, if a patient or their carers are very concerned it may be appropriate to prescribe this after one fit. Patients must be told that they must not drive and that they must inform the DVLC, which can cause difficulties for all concerned.

The choice of prophylactic anti-epileptic should be governed by local guidelines, where they exist, but must also take into account the ease of compliance and side effect profile. The most commonly used anti-epileptics in palliative care are phenytoin and sodium valproate. The dose needs to be adjusted to response and drug blood levels.

Preventing fits may not always be possible and both patients and their carers should be told how to manage an acute fit, including how to keep the patient safe. Where carers are prepared to do so, they can be taught how to use rectal diazepam, or buccal midazolam to shorten a fit and possibly prevent admission to hospital. It is important to draw up plans with the family about what they should do if a fit happens, including preferred place of care.

When a patient is unable to continue prophylactic anti-epileptics as they enter the dying phase, a syringe driver containing at least 20mg midazolam over 24hours should be set up, unless the patient and family feel that the risk of fitting is small and they are concerned about over-sedation.

Terminal fits can cause considerable distress. It is very important that prn medication in the form of rectal diazepam or subcutaneous / buccal midazolam is readily available and has prescribed by the doctor.

## **Management of the last days of life**

Has the patient completed a Preferred Priorities of Care (PPC) document? If not are they still well enough to complete one now? Is the patient, the family and you sure what the plan should be for the last few days of life? Where is the most appropriate place of care?

This is a difficult time for all concerned. Professional carers may need a way of being able to acknowledge and share their feelings. The mutual support of working in a multi-professional team can be very important.

It may be hard to recognise when death is imminent but it is usually heralded by a more rapid deterioration in the patient's general condition and the following:

- Profound weakness with the patient bed-bound and drowsy for long periods.
- Disorientated in time
- Limited attention span of a few minutes
- Disinterested in food and drink and the world around them
- Too weak to swallow medication

If the approach of death is recognised, this allows the withdrawal of unnecessary treatments such as anti-hypertensives, appetite stimulants etc. It also allows the family and in some instances the patient to prepare for death. It can be difficult to ask directly about the patient's and family's perceptions of how close death is, but if it is possible to do so, it allows for the most appropriate management plan to be negotiated. This will include looking at the preferred place of death and whether this is achievable with the resources (both professional and informal) available. The wishes of the patient may already be known to the primary care team and the family, but they should be checked out again as death approaches. Many patients and carers have unfinished business. This may be legal (drawing up a will), financial, interpersonal or spiritual. Be prepared to ask broad questions and help the family and patient to access the appropriate help from the appropriate 'expert'.

**Where in use and appropriate use the Liverpool care pathway for dying patients.**

## **Physical care in the last few days of life**

- Good regular mouth care to eliminate dry mouth and reduce the sensation of thirst. This is something that some families like to be actively involved with.
- Ensure that appropriate pressure relieving mattresses are in place and their effectiveness regularly monitored.
- Consider catheterisation or the use of convenes or pads to maintain dignity.
- Continue that medication which is needed for symptom control, but ensure that the family is aware of why other medications have been stopped. Review the route of administration and plan ahead, so that an alternative route is available if the oral route becomes impossible.
- Anticipate possible symptoms and ensure there is a means of addressing them quickly both in hours and out of hours. For instance, is the patient at risk of a fit? If so, can the family be taught to use rectal diazepam and is it in the house?
- Patients are dying from their disease and not from lack of fluid or food. Artificial hydration of any sort does not usually contribute to a dying patient's comfort. This needs to be sensitively explained to the carers and patient. If there continue to be issues about hydration consult the specialist palliative care service.

## Terminal Restlessness

### Terminal restlessness

Step one	Treat reversible causes if possible	Stat dose of midazolam sc
Step two	Syringe driver with midazolam	Combine midazolam and levomepromazine or haloperidol
Step three	Ask for help	

'How people die lives on in the memory of those left behind' (Dame Cecily Saunders). No matter how well pain and other symptoms are controlled, agitation and restlessness occur as a pre-terminal event in the final hours or days of life in about 10% of patients. Respiratory tract secretions can also accumulate in the final hours or days of life. This is more likely to happen with lung pathology, whether primary or secondary and those who have cardiac problems. Such secretions cause distress to the relatives and occasionally to the patient and may need to be actively managed.

Exclude treatable causes for agitation:

Urinary retention – palpable bladder?

Faecal impaction – loaded rectum?

Increased pain or under treated pain

Opioid toxicity – is there evidence of myoclonus, twitching, cognitive impairment including hallucinations?

Correct any treatable causes where possible and where the intervention is acceptable to the patient and family.

If opioid toxic, reduce the opioid dose by 50% and review the effect. Consider the use of midazolam as outlined below.

### Generalised agitation

Give a stat dose of midazolam 5mg subcutaneously. Repeat a 5mg dose after 15 minutes if necessary. After another 15 minutes give 10mg, if there was no or only a partial response to the initial two injections. If there was a response to midazolam a subcutaneous infusion via a syringe driver will need to be set up within the next two hours to ensure control is maintained, as midazolam has a very short half-life. Dose range will be between 20 –60mg over a 24-hour period. Ensure an adequate prn dose of midazolam 5-10mg is prescribed and available for use. If there was no settling in response to midazolam consider using levomepromazine 25-50mg sc stat, and ask for specialist help.

### Agitation associated with visual hallucinations and/or paranoia.

Give a stat dose of haloperidol 5mg subcutaneously or levomepromazine 6.25mg sc. Either may have to be combined with midazolam 5mg to get the patient settled initially. A subcutaneous infusion via a syringe driver will need to be set up within the next four hours to ensure control is maintained. Use 10mg of haloperidol or levomepromazine 12.5-25mg over 24hours.

Remember that open and honest communication may help avoid long term complications. Children, parents and grandparents may feel excluded in the last few days of life, and may need to be actively involved by the professionals. Specialist advice might be needed when young children are involved. Look for those members of the family at risk of an abnormal and prolonged grief reaction and organise appropriate support. It may be appropriate for such support to start before the death.

## Liver Capsular pain

### Liver capsular pain

Step one	Make the clinical diagnosis	Position and warmth therapies
Step two	NSAIDs or steroids	Discuss with oncologist
Step three	Ask for help	

Usually presents as a persistent ache in the right hypochondrium, sometimes radiating to either shoulder, or through to the back. It is frequently pleuritic in nature, made worse on sitting forward. It is often associated with anorexia and a feeling of fullness. Sometimes there is associated dyspnoea as the enlarged liver splints the diaphragm. Particularly affects patients with liver metastases and those with end stage cardiac failure.

- Explain the likely diagnosis to the patient and organise investigations if appropriate
- If a new diagnosis of liver metastases has been made, discussion with the oncologist or specialist in palliative care may be appropriate. In some instances palliative chemotherapy to reduce the size of metastases should be considered e.g. breast cancer in a patient who is otherwise well.
- Warmth therapies using wheat bags or heat packs help some patients.
- Start an NSAID with appropriate GI protection in the form of a proton pump inhibitor or misoprostol.
- The pain also responds to oral steroids, and if there are no contraindications this should be considered first line. Suggested drug is dexamethasone 12mg as a single morning dose, titrating down to the minimum dose that keeps the pain and other symptoms under control. Appropriate GI protection should be concurrently prescribed.

## Squashed stomach syndrome

### Squashed stomach syndrome

Step one	Make the clinical diagnosis
Step two	Trial of metoclopramide +/- oral steroids
Step three	Ask for help

Is characterised by a combination of anorexia, a feeling of fullness in the hypochondrium, pain and rapid satiation during a meal. Some patients may also vomit or regurgitate rapidly after meals. It is often associated with an enlarged liver and/or upper gastrointestinal disease. There is a combination of partial obstruction of the gastric outlet and reduced capacity of the stomach.

- Advise small, regular, high calorie snacks and supplement drinks rather than big meals.
- Try a combination of metoclopramide 20mg every 4-6 hours with oral dexamethasone 8mg as single daily dose. Remember to prescribe appropriate GI protection. If the patient is vomiting, the drugs may have to be administered parenterally using a syringe driver.

# Hiccups

Hiccups		
Step one	Diagnose the cause and treat if possible	Re-breathing and position
Step two	Antacids and proton pump inhibitor	Trial of metoclopramide +/- oral steroids
Step three	Ask for help	

Intractable hiccup is uncommon, but usually occurs in patients with cancer affecting the thorax or upper abdomen, including mediastinal lymphadenopathy and liver metastases. They can be very difficult to manage. Early involvement of specialists in palliative care should be considered.

- Simple techniques such as re-breathing using a brown paper bag may help as may altering a patient's position.
- Antacids prescribed with proton pump inhibitors may reduce inflammation in the upper GI tract and thus the frequency and pain associated with the hiccups.
- Oral metoclopramide 20mg every 4-6 hours acts as a prokinetic and may help, particularly if there are associated liver metastases causing a squashed stomach.
- Oral dexamethasone 4-8mg as a once daily dose, with appropriate GI protection, may help to improve both the hiccups and anorexia if present.
- Baclofen 5mg every 8 hours may help, but this is beyond its product licence and needs to be discussed with the specialist palliative care service.

# Constipation

Constipation		
Step one	Diagnose the cause and treat if possible	Alter diet, encourage fluids and mobility
Step two	Combined stimulant and softener	Consider rectal preparations
Step three	Osmotic laxative	Ask for help

Constipation is common, often due to analgesics, but also because of altered diet and poor oral intake. Prevention is better than cure. It is essential to take an accurate history. There is a wide variation in bowel habit, so it is important to understand how bowel habits have changed.

- Encourage a high fibre diet with fruit and vegetables and good oral intake. This may involve dealing with mouth problems such as dry mouth and oral candida.
- When any step 2 or step 3 analgesic is prescribed prescribe a laxative such as co-danthrusate capsules or liquid, or codanthramer capsules or liquid. The dose needs to be titrated to the patient (dose range from 1-6 caps twice a day or 10-30ml twice a day). Warn patients that danthron turns urine red and can cause skin burns.
- Rectal suppositories or enemas may be needed. They should be used with care and avoided in rectal tumours.
- Osmotic laxatives such as movicol can be helpful in some patients. Their volume may make it hard for some patients to take. Lactulose is not a very potent laxative, too sweet for some patients and can cause wind and distension.

## Sweating

### Sweating

Step one	Diagnose the cause and treat if possible	Fans, open windows and cotton sheets
Step two	NSAIDs	Paracetamol if pyrexial
Step three	Ask for help	

Sweating can be viewed as severe when a patient needs to change clothing and/or bed linen on a regular basis. In some cancer patients it is a paraneoplastic syndrome, although it is also associated with pyrexia, exercise, a high ambient temperature and/or emotion.

- Practical measures such as using fans, opening windows and using cotton bed linen and clothes may help.
- If there is a fever, paracetamol 1g orally or rectally every 6 hours may help. Consider using an antibiotic if there is infection.
- NSAIDs can help with sweating which is persistent and due to a paraneoplastic syndrome. They may not be effective for up to 2-4 weeks.
- If the sweating is secondary to hormone manipulation as in breast or prostate cancer, consider trying megestrol acetate 20-40mg daily or clonidine 50 micrograms twice daily increasing to 100microgrammes twice daily after two weeks. Both these interventions will take at least two weeks and up to a month to reduce the sweating.

## Itch

### Itch

Step one	Diagnose the cause and treat if possible	Good skin care and emollients
Step two	Sedating anti-histamine	Biliary stent or cholestyramine
Step three	Ask for help	

Try and identify the cause. If secondary to obstructive jaundice, biliary stenting may be appropriate. Exclude common causes such as changes in washing powder, additives to the bath etc. Review medication and, where possible, stop drugs that may be contributing to the problem. If morphine sulphate is a suspected cause consult the local specialist palliative care team about alternative opioids.

- Encourage good skin care and regular use of emollients.
- Consider using a sedating anti-histamine such as chlorphenamine 4mg every 4 to 6 hours as needed, or as a single dose of 4mg at night.
- If jaundiced secondary to biliary obstruction and where biliary stenting is not an option, cholestyramine 4-8g as a daily dose may help, although many patients cannot tolerate it. Rifampicin may be an alternative, seek specialist advice.
- If itch persists consider starting stanazolol 5-10mg as a once daily dose. Other options include oral ondansetron 4-8mg daily, but this is beyond its product licence and should only be initiated after discussion with the specialist palliative care service.

## Anorexia

### Anorexia

Step one	Diagnose the cause and treat if possible	Small regular, high calorie snacks
Step two	Aperitif before meals	Low dose steroids or megestrol acetate
Step three	Ask for help	

A loss of appetite is often a sign of advancing disease from any cause. This is a very common symptom and is difficult to manage. Honest discussion with the carers about their desire to meet a basic human need and the patient's inability to accept the offer of food needs to be sensitively handled. The carer may feel rejected and hurt that their loved one is not trying and the patient may feel overwhelmed by the pressure exerted on them to eat. It is important to exclude treatable causes of anorexia such as a sore mouth, oral thrush, ill fitting or lost dentures. It may be appropriate to treat biochemical abnormalities such as hypercalcaemia in order to restore appetite.

- Practical advice should be given to carers about providing regular, small, high calorie snacks rather than a single big meal.
- Ensuring a meal is well presented on a small plate so it is not over facing may encourage a patient to eat.
- Carers may be unaware that taste changes are common in advanced disease and need to be accommodated.
- In addition, if supplement drinks appear too filling when taken from the carton they may be frozen and used like lollipops.
- Simple strategies like giving an aperitif such as sherry before a meal may help.
- Low dose steroids (dexamethasone 4-6mg in a single daily dose) with appropriate GI protection may temporarily stimulate a patient's appetite for a few weeks. If there is no improvement in appetite they should be stopped after a two week trial.
- Megestrol acetate 80mg in the morning and at lunch-time may also temporarily stimulate the appetite for a few weeks or months.

### Fluids in advanced disease

A lack of thirst and a reluctance to drink fluids is associated with advancing disease. It appears that the physiology of the body changes and less fluid is needed to maintain comfort as someone enters the terminal phase of their illness. Honest discussion with the carers about their desire to meet this basic human need and the patient's inability to accept the offer of fluid needs to be sensitively handled. The carer may feel rejected and hurt that their loved one is not trying and the patient may feel overwhelmed by the pressure exerted on them to drink.

All patients should be offered regular sips of fluid and hourly mouth care unless there are significant concerns about aspiration. Even if there is an impaired swallow reflex and risk of aspiration the balance between comfort, risk and intervention in terms of drips or PEG tubes needs to be assessed for each individual patient. Using crushed ice, syringes and oral sponges or lollipops can contribute to comfort and hydration. Where patients are losing a lot of fluid quickly because of persistent vomiting, a high output ileostomy etc, fluid replacement using sc or iv fluids may be appropriate.

## Dry Mouth

### Dry mouth

Step one	Treat reversible causes if possible	Good oral hygiene
Step two	Pineapple chunks / chewing gum	
Step three	Artificial saliva products	Ask for help

This is a very common complaint and can adversely affect both appetite and mood. It is important to exclude oral infection, as this can often be treated. Ensure good and regular oral hygiene is being carried out. Dentures that do not fit may aggravate the problem. Dry mouth can also occur as a consequence of mouth breathing, as a long-term consequence of drugs or of previous treatment such as radiotherapy or surgery.

- Dry mouth is a common side-effect of many of the drugs used in palliative care, particularly the strong opioids and tricyclic antidepressants. If it is possible to stop or alter medication to diminish side effects without compromising other symptoms, this should be done.
- Ensuring that the patient has regular small drinks may be sufficient to restore comfort. Simple measures such as chewing fresh pineapple, which stimulates the natural production of saliva and concurrently cleanses the mouth may be effective. Chewing sugar free gum can achieve adequate moistness in many cases.
- Artificial saliva sprays, pastilles and tablets replace natural saliva and offer temporary relief. They may restore a patient's ability to enjoy the taste of food. However, their effect is often short lived and the patient may need to use the spray as frequently as every hour or so to get sustained relief. Many artificial saliva products are acidic and can accelerate dental caries.

## Fatigue

### Fatigue

Step one	Treat reversible causes if possible	Exclude clinical depression
Step two	Aids to maximise function and minimise effort	Low dose oral steroids
Step three	Ask for help	

A lack of energy and concentration leading to a sense of disinterest in the world and events around them is very common in patients with advanced disease of any cause.

- Identifying and treating where appropriate reversible causes such as anaemia, poor sleep and drug-induced drowsiness must be the first stage of management.
- It is essential to identify and treat clinical depression, although this may be very difficult.
- Providing aids to maximise function and minimise effort are a corner stone of management. There may need to be regular review to ensure the aids provided remain appropriate. Advice about conserving energy, carrying out tasks in stages and pacing activity may help.
- Oral steroids (dexamethasone 4-6mg in a single daily dose) may temporarily increase a person's sense of well-being, but may cause loss of muscle bulk in the long term. They are best restricted to a two week course.
- Specialists may consider using low dose amphetamines if there are short-term goals to be achieved, but there are few helpful pharmaceutical interventions currently available.

## Use of Steroids in Palliative Care

Steroids are frequently used in palliative care to help with symptom control. The risks and benefits to the patient should always be considered before they are started, but in patients with a limited prognosis, they can help considerably in improving quality of life.

In all cases, the dose should be titrated down as quickly as possible, depending on the patient's condition, to the lowest dose that controls symptoms. All patients at risk of GI side effects should have either a proton pump inhibitor or misoprostol prescribed along with the steroid. This is particularly important if a patient is concurrently on NSAIDs and steroids.

- In oncological emergencies – spinal cord compression, superior vena caval obstruction (SVCO). Give 12-16mg dexamethasone in a single dose before admitting to hospital.
- To reduce inflammation associated with the disease process or treatment (non-steroidal anti-inflammatory drugs may have a similar role).
  - Starting dose of dexamethasone is 8-12mg in a single morning dose.  
Liver capsular pain  
Lymphangitis
  - Starting dose of dexamethasone is 12mg-16mg in a single morning dose.  
Post radiotherapy  
Brain tumours causing neurological symptoms or headache associated with raised intracranial pressure
- As an anti-emetic. Dose of dexamethasone is usually between 4 and 8mg daily for a specified number of days (usually less than a week).  
Pre and post chemotherapy anti-emetic regimens  
Radiotherapy. Anti-emetic regimens where part of the bowel is irradiated  
In bowel obstruction
- As an appetite stimulant. Starting dose of dexamethasone is usually between 4 and 6mg daily. They should be stopped after 2-4 weeks.  
Temporarily increases appetite in some individuals.  
Patients may experience an increased sense of well being. This may be due to better nutrition or a direct central effect of the steroids.

Side effects are common. The key ones to look out for are:

- Altered glucose metabolism causing hyperglycaemia. All patients on steroids should have weekly blood sugar monitoring using a finger prick blood sample. All patients on high dose steroids should have a finger prick blood sample prior to starting steroids.
- Oral, oesophageal, vaginal or penile thrush.
- Gastro-intestinal irritation or bleeding
- Agitation and poor sleep. Give steroid as a single dose in the morning.
- Muscle wasting especially the thighs and upper arms.
- Skin fragility leading to increased risk of bedsores, wound break down.
- Increase risk of bacterial infection

**If a patient is known to be diabetic steroids can still be used and may be needed. Seek specialist advice about how to maintain glycaemic control.**

## **Indications for the use of a syringe driver in palliative care**

- uncontrolled nausea and/or vomiting
- severe weakness
- dysphagia
- maintenance of symptom control in the dying phase
- bowel obstruction

Except in the case of poor absorption, pain that is non-responsive to oral morphine sulphate will be non-responsive to parenteral diamorphine or morphine.

Preferred sites for insertion of the needle are the anterior chest wall, anterior aspect of upper arm, anterior aspect of thigh and the anterior aspect of the abdominal wall. It is important to avoid sites where the skin is broken, where there is lymphoedema or where there has been recent radiotherapy.

Always check drug compatibilities and correct diluent. If in doubt contact the specialist palliative care service or the Hospice.

If a patient is well symptom controlled using other routes of administration and these can be maintained in the dying phase, a syringe driver does not have to be set up as a matter of routine in the terminal phase.

Please refer to local syringe driver guidelines.