



CLINICAL PRACTICE GUIDELINE

Palliative Care

This document should be read in conjunction with the [Disclaimer](#)

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Palliative Medicine specialist Service

Who can/should be referred to palliative care?

Patients with a terminal illness who have physical symptoms (such as pain, nausea and vomiting, fatigue) or psychosocial distress (such as depression or anxiety) are appropriate for a palliative care review. Palliative care can also suggest ways of supporting family and caregivers. Patients do not have to be in the final dying phase to be referred.

Other services for patients with cancer include:

- Social Work
- Nutrition and Dietetics
- Physiotherapy
- Psychological Medicine
- Community palliative care e.g. .Silver Chain Hospice Care Service (Referral required)
- Cancer Council Help Line
- WAPOS – WA Psycho – oncology Service

Palliative care services at KEMH

Palliative Care Specialists attend the Thursday Gynaecology Oncology Clinic -West Wing Clinic (WWC) and occasionally the weekly multidisciplinary team meeting. They are also available for ward based consultations Monday to Friday. They can be contacted on their mobile phones via switch board. Rosters for the consultants are on the ward, in WWC and at switchboard.

Metropolitan Services

Hospital Services

Royal Perth Hospital (RPH), Queen Elizabeth II (QEII) and Fiona Stanley Hospital (FSH) have palliative care liaison services that are available for Inpatient advice. There are no dedicated inpatient beds in these hospitals.

There are public inpatient beds at the following Palliative Care Units (PCU's) in Perth: (note private patients can be admitted to these facilities also)

- Bethesda PCU, Bethesda Hospital, Claremont
- St John of God Murdoch Community Hospice, Murdoch
- Kalamunda PCU, Kalamunda Hospital, Kalamunda

For patients with private health insurance there are options to be admitted under a palliative care specialist at;

- Hollywood Private Hospital,
- SJOG Subiaco
- Glengarry Hospital.

Community Services

Metropolitan Perth has care provided by the Silver Chain Hospice Community Service (SCHCS). Nurses, doctors and other staff are available 24 hours for patients in their own homes. Referrals are made on the referral form and faxed to 9444 7265 or a doctor can make a referral 24 hours a day by telephoning 9242 0242.

The state has been divided into several regions. Each region is visited monthly by a Palliative Care specialist.

Geraldton, Bunbury, Albany and Northam have dedicated Palliative care services. See [Specialist Palliative Care Referrals](#) DOH and

[Guide to specialist palliative care services](#) DOH

[WA Cancer and Palliative Care Network for Health Providers](#)

If patients are from a residential facility, psychiatric facility or from a prison, the Metropolitan Palliative Care Consultancy Service (MPaCCS) is able to provide support. This is a Monday to Friday service and consists of nursing, medical and social worker expertise. A referral can be made with contacting MPaCCS on 9217 1777 or fax 9217 1788.

Pain in Palliative Care

Background

Pain syndromes associated with gynaecological malignancy are related to the characteristics and progression of the underlying disease which vary with each primary site. The most common causes of pain in women with advanced gynaecological cancer are direct nerve infiltration, compression of structures by tumour masses, treatment neuropathies, bony or muscular infiltration, peri tumour oedema, infection or necrosis and hollow viscus obstruction.

Pelvic pain

Acute Onset

1. Acute onset of pelvic pain that is severe, difficult to localise and is worse with palpation and coughing may be caused by:
 - Peritonitis
 - Colitis secondary to radiotherapy or chemotherapy
 - Pelvic abscess
 - Pelvic thrombophlebitis
 - Ovarian vein thrombosis
 - Bleed into pelvic mass or cyst.
2. Abrupt onset of pelvic pain associated with flank pain, fever, nausea and vomiting with dysuria and haematuria may be caused by:
 - Pyelonephritis
 - Other urinary tract infection
 - Urinary tract fistula

- Renal infarct
 - Renal vein thrombosis
 - Papillary necrosis
3. Distressing, midline suprapubic pain with an associated palpable mass may be caused by:
- Acute urinary retention
 - Ovarian mass
 - Pelvic abscess

Gradual Onset

1. Women with advanced cancer who develop pain that is dull, aching and poorly localised at rest, but more defined with movement may have:
 - Bone metastases
 - Other soft tissue injury
2. Visceral pelvic pain is characterised by dull aching pain associated with a dragging sensation when standing
 - Distinguishing pain of lower gastrointestinal (GI) and gynaecological origin is difficult because the uterus, cervix and ovaries share the same visceral innervation as the lower ileum, sigmoid colon and rectum.
 - Infiltration of the uterus (cancer, adenoma, endometriosis) and stretching of the broad ligament tends to lead to pain that is felt in the midline of the hypogastrium.
 - Cervical pain (cancer, infection) is usually perceived in the lower back, sacrum and hypogastrium and vulva.
 - Ovarian pain tends to be the most poorly localised due to interconnection of the ovarian and pelvic nerve plexus. It is usually perceived towards either edge of the pelvis.
3. Severe and difficult pain that is worse with hip flexion may be caused by:
 - Lumbosacral plexopathy.
 - Psoas muscle dysfunction.
4. Midline or flank pain associated with dysuria, urgency, polyuria, fever, nausea may represent a number of different disorders of the renal tract and may be caused by:
 - Cystitis
 - Nephrolithiasis
 - Perinephric abscess
 - Urethritis

Abdominal pain

Acute Onset

1. Associated with guarding, worse with palpation or coughing suggests inflammation which may be caused by:
 - Ruptured viscus leading to peritonitis where there is associated fever, delirium, nausea and vomiting.
 - Gut ischaemia.
 - Other problems to exclude

- Lower lobe pneumonia
 - Cholecystitis or cholangitis.
 - Pancreatitis
 - Appendicitis.
 - Bleeding into or infarct of metastases
 - Peptic ulcer disease
2. Left lower quadrant pain associated with loose bowel actions, low grade fever and rectal blood loss may be caused by:
 - Colitis / mucositis – ischaemia / infection / post treatment (radiotherapy, chemotherapy).
 - Metastases
 - Diverticulitis
 - Angiodysplasia
 3. Few physical findings, but escalating pain may be caused by :
 - Mesenteric angina or ischaemia.
 - Gut ischaemia
 4. Cramping abdominal pain associated with altered bowel habit may be caused by:
 - Constipation
 - Disordered motility of the gastro-intestinal tract
 - Early bowel obstruction
 5. Severe right upper quadrant pain may be caused by:
 - Sub capsular hepatic bleed
 - Sub phrenic abscess
 - Renal infarction
 6. Sudden onset ,left upper quadrant pain that is associated with fever, nausea and vomiting may be caused by:
 - Renal infarction
 - Splenic infarction or haemorrhage

Gradual Onset

1. Generalised abdominal discomfort associated with increased abdominal girth, early satiety, altered bowel habits and increasing shortness of breath particularly when lying flat may be caused by:
 - Ascites
 - Infiltration of the abdominal wall
 - Constipation
2. Epigastric pain may be caused by :
 - Compression of the stomach by a large liver
 - Metastatic infiltration of the stomach or upper GI
 - Peptic ulcer disease or gastritis secondary to *H.pylori*, NSAIDs (inc Aspirin), corticosteroids, delayed gastric emptying, prolonged hospitalisation.
 - Upper GI lymphadenopathy.
3. Right upper quadrant pain or discomfort that may radiate to the back or epigastrium may be caused by:

- Hepatic metastases
4. Focal epigastric pain may be caused by
- Peptic ulcer
 - Metastases

Back pain

Acute Onset

1. May be caused by osteoporosis, metastatic bone disease or prolonged corticosteroids, **exclude:**
 - Vertebral crush fractures
 - Spinal cord compression or cauda equina compression
2. If associated with fever, neutropenia or epidural or intrathecal lines, possible causes include:
 - Epidural abscess
 - Meningitis
3. If associated with coagulopathy or thrombocytopenia, exclude:
 - Local epidural bleed.
4. In the presence of malignant disease, with or without neurological changes or changes in continence, exclude:
 - Cord compression from direct tumour effects
 - Cord compression with vertebral collapse.

Gradual Onset

1. In women who are bedbound, consider:
 - Pressure areas
 - Women may experience pain simply from the fact that they are bed bound.
2. Aching discomfort, worse with pressure in the paravertebral area, consider:
 - Para – aortic lymphadenopathy
 - Malignant bone disease.
3. Unilateral lower back pain radiating to the flank that is severe, intermittent and dull (sometimes exacerbated by oral fluids) and can be associated with haematuria and / or fever ,consider:
 - Hydro nephrosis or hydro ureter
 - Pyelonephritis
4. Dull, poorly localised, non-colicky pain in the flank, back or lower abdomen, sometimes with fever, lower extremity oedema, phlebitis and deep vein thrombosis consider:
 - Retroperitoneal fibrosis
5. Cachexia:
 - Wasting of paravertebral muscles

Chest pain

Acute Onset

Sharp, pleuritic pain, associated with breathlessness may be caused by:

- Pulmonary embolus (PE)

- Pneumonia
- Fractured rib
- Oesophageal disorders
- Pericarditis
- Myocardial ischaemia.

Gradual Onset

Gradual onset of chest pain associated with increasing shortness of breath and a non-productive cough may be caused by:

- Pleural effusion
- Herpes zoster infection
- Bone metastases or fracture(pathological or traumatic)
- Chest wall invasion
- Oesophageal disease
- Pericardial disease.

Vulval pain

Vulval burning and discomfort may be caused by:

- Vulvovaginitis:
 - Contact vulvitis or vaginitis secondary to an allergic reaction.
 - Infection e.g. bacterial, parasitic, fungal
 - Dysuria
 - Cutaneous ulceration of vulval tumour
 - Vulval / vaginal mucositis secondary to chemotherapy or radiotherapy.
- Vulvodynia
 - Hyperaesthesia of vulvovaginal skin from tumour infiltration of local nerves or surgery.
 - There may be no identifiable cause.
- Genital oedema

Lower limb pain

1. Pain tenderness and leg swelling may be caused by:
 - Deep vein thrombosis may occur unilaterally or bilaterally
 - Lymphoedema
 - Dependant oedema
 - Inferior vena caval obstruction
 - Fibrosis secondary to treatment
2. Neuropathic pain radiating to the lower limbs may be caused by
 - Spinal cord compression
 - Nerve roots compression
 - Lumbosacral plexopathy

Treatment-Related Pain

Neuropathic pain

- Post-surgical
- Radiation induced plexopathy.

- Neurotoxic chemotherapy

Post-Surgical

- Wound infection or abscess
- Peritonitis may occur as a consequence of undetected bowel perforations
- Bowel obstruction
- Enterocutaneous fistula
- Intra-abdominal adhesions
- Thermal injury to the bladder or ureter
 - Manifests up to 14 days postoperatively with abdominal or flank pain, fever and peritonitis.
 - Findings from an intravenous pyelogram demonstrate extravasation of urine or urinoma
 - Women with mechanical obstruction of urine may present with a similar clinical picture.
- Incisional hernias may become incarcerated, although this is rare.
- Thermal bowel injury
 - Occurs infrequently, but may have serious consequences
 - Symptoms may not occur for days or weeks post-surgery and women are likely to present with bilateral lower quadrant pain, tenderness, fever, elevated white cell count and may develop peritonitis.
 - Changes consistent with a paralytic ileus or free gas under the diaphragm may be notes on a plain abdominal x ray.

Post chemotherapy

- Peripheral neuropathy

Post Radiotherapy

- Colitis -- may manifest with pain, diarrhoea and blood with bowel movement and tenesmoid pain. May be early complication of treatment when it occurs within treatment or within 4 weeks of completing treatment or late when it may occur months to years later
- Cystitis-- presents as dysuria, retention and bleeding. This may occur during or soon after treatment. It may also be a late complication occurring months to years later.

Headache

Dull aching discomfort that is worse in the morning associated with nausea and vomiting may be caused by cerebral or leptomeningeal metastases.

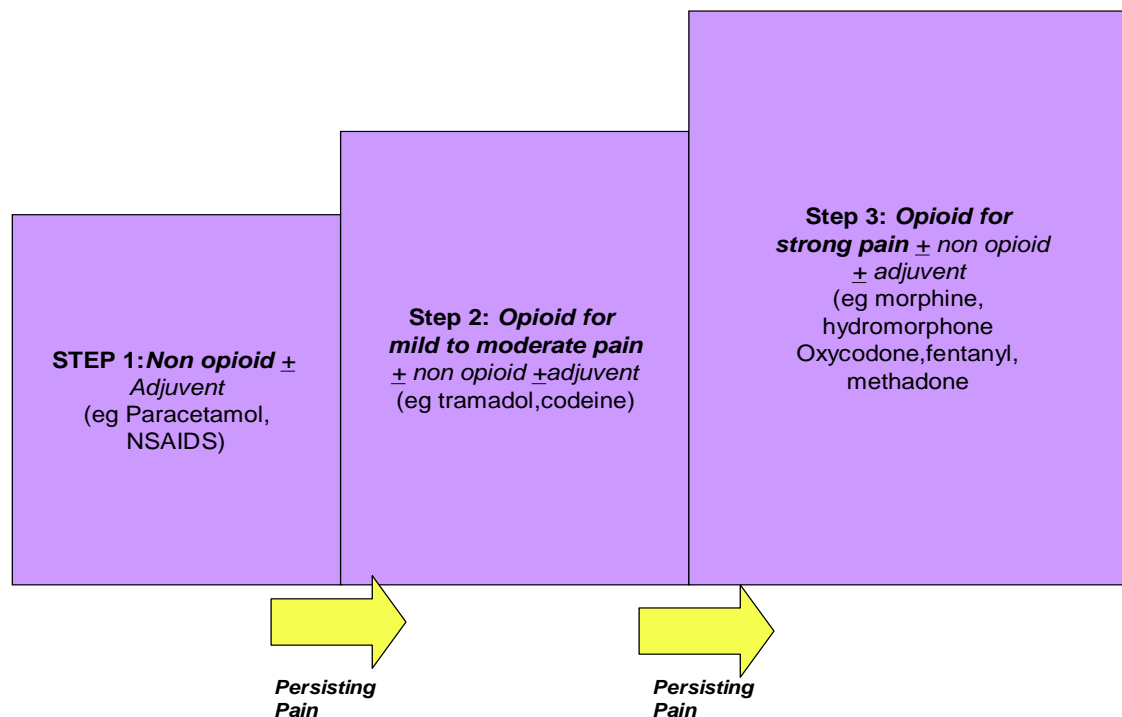
Principles of pain management in Palliative Care

Key points

1. Multiple factors can influence a woman's perception of pain.
2. A comprehensive pain history should include
 - The site(s) of the pain.
 - The severity of the pain.
 - The quality of the pain described in the woman's own words.
 - Any exacerbating and relieving factors.
 - The onset of the pain.
 - Interference with activities of daily living, sleep patterns.
 - The impact on her psychological state.
 - The response to previous and current analgesic therapies.
 - The usual practitioner, duration and doses of opioids confirmed
3. Observe how the patient walks and sits-- e.g. a patient who never sits squarely has pain in the perineum.
4. Follow the World health Organisation (WHO) principles of pain management
 - a) *By mouth*
 - The oral route is preferred
 - Use the subcutaneous route as an alternative if the woman is unable to swallow or she has constant nausea and vomiting or impaired gut function
 - b) *By the clock*
 - Analgesia should be ordered at regular intervals either by short acting analgesia (50% of anticipated daily dose) or long acting opioids (50% of anticipated daily dose).
 - Analgesia should not be written up prn unless it is for breakthrough pain.
 - c) *By the ladder*
 - The choice of analgesia prescribed is dependent on the type and the severity of the pain.
 - The principle of the WHO 3-step ladder is to move up the ladder and titrate doses with or without adjuvant analgesia **until acceptable analgesia/function** is achieved.

The WHO ladder should be considered an important component of a flexible approach to adequate analgesia.

WHO Analgesic Ladder



Opioid Prescribing in Palliative Care

Morphine

1. Morphine is the initial opioid of choice.
2. Choose a different opioid if the woman has had a history of the following symptoms with previous use of Morphine:
 - Delirium or hallucinations.
 - Severe renal impairment.
 - Had severe nausea / vomiting despite anti-emetics.
 - A true morphine allergy.
3. Provide the woman with a clear explanation of the benefits, risks and alternatives of morphine.
4. Address the woman's and her family's fears and misconceptions i.e. addiction, tolerance and early demise.
5. Be aware of the conversion from other analgesia to morphine (e.g. tramadol, codeine). See [Opioid Conversions](#)
6. Oral administration of opioids is the preferred route, unless the woman cannot swallow or has uncontrolled nausea and vomiting or severe constipation. In these cases morphine should be given subcutaneously, or alternative opioids used sublingually (buprenorphine)
7. Be aware of the need to modify doses in renal failure and the need to exercise caution in impaired liver function.
8. Chart aperients and anti-emetics.

9. In women who are opioid naïve, start with 2.5mg to 5.0mg oral short acting morphine four hourly.
 - If morphine is to be given subcutaneously, start with 2.5mg of morphine four hourly. Be aware that to convert oral morphine to equi-analgesia injectable morphine you must divide by 3 e.g. 30mg oral morphine is equivalent in effect to 10mg morphine by injection.
 - Refer to the [Opioid Conversions](#) section in this guideline and [WACPCN opioid conversion chart](#) and [How to use the Opioid Conversion Guide](#).
10. Breakthrough analgesia must be available
 - A breakthrough dose should be given as often as necessary for breakthrough pain, but not more frequently than every 60 minutes to avoid stacking/accumulation with late onset of overdose symptoms
 - If three or more breakthrough doses are consistently required in a 24 hour period, the regular dose should be reviewed.
 - If morphine causes excessive drowsiness, limit or reduce the dose and maximise non- opioid analgesia.
11. Titrate the dose to maximise the analgesia and limit the adverse effects.
12. Once the woman's pain is controlled on a short acting opioid, the total 24 hour requirements can be calculated and changed to a long acting preparation of morphine.
 - MS Contin every 12 hours or Kapanol every 12-24 hours.
 - A short acting opioid breakthrough dose must still be prescribed which should be approximately equivalent to 1/6 of the total morphine dose per day..
13. Seek advice from Palliative Care Consultant or Pain Medicine Consultant if unsure or pain remains difficult to control while maintaining safety.

Oxycodone

- Commonly used in place of morphine.
- Useful if intolerable side effects from morphine.
- Considered more potent than morphine but the efficacy is similar.
- Renal excretion of the parent drug, therefore use with extreme caution in renal failure.
- Versatile:
 - Short acting preparation: Oxycodone Immediate release capsules (OxyNorm®) (or Endone®) or oral immediate release liquid (OxyNorm®)
 - Long acting preparation: Oxycodone Controlled release (Oxycontin®) every 12 hours
 - Long acting preparation Oxycodone Controlled release with Naloxone (Targin®) (max dose of 40/20mg) 12 hourly
 - Rectal Proladone suppositories- inflexible dosing as it comes in only one strength and cannot be halved. Administer 12 hourly.
 - Parenteral: **Seek specialist advice.**

- For further information on dosages, refer to Oxycodone Monograph in the AMH

Fentanyl

- Is available as a transdermal patch, lozenge or parenteral injections
- Is commonly used in advanced cancer for women whose pain responds to an opioid, especially for
 - Intolerable adverse effects from other opioids
 - Impaired gastrointestinal function
 - Impaired oral absorption
 - Impaired renal function
 - Poor compliance with oral medications
- Should be reserved for stable pain states or when other difficulties are present such as difficult to control nausea, constipation or impaired gastrointestinal function.
- When commencing the patches
 - Apply the patch to dry hairless skin on the upper arm or body.
 - Continue the previous opioid for 12 hours, and then encourage the use of breakthrough analgesia until stable.
 - Heat increase the absorption of fentanyl so care must be taken when using heat sources e.g. hot packs and therapeutic mattresses.
- Fentanyl lozenges are an oromucosal preparation for breakthrough cancer pain for women who are on a regular opioid.
 - There is a rapid onset within minutes after the lozenge is moved along the inside lining of the cheek.
 - The lozenge **must not** be chewed or sucked.
 - There is **no** dose equivalent between fentanyl lozenges and other opioid formulations.
 - All women should be commenced on the 200mcg lozenge and the dose titrated according to each individual's response.
 - Lozenge doses range up to 1600mcg, but most patients will benefit from lozenge doses of 200mcg or 400mcg.
- Fentanyl sublingual tablets are absorbed by the oral mucosa and can be used as a break-through opioid when on a regular opioid especially when oral medications are ineffective as in intestinal obstruction and vomiting from any other cause.
 - They are of rapid onset
 - Not to be chewed or sucked as the efficacy will be diminished
 - Particularly useful for incident pain or unpredictable quick onset pain
 - No equivalent doses between sublingual tablets and other opioid formulations
 - There is as yet no direct conversion for break through dosing. Doses range up to 800mcg. Start at 100mcg 2 hourly PRN. Seek specialist advice for adjusting doses.

Hydromorphone

- A strong opioid that is commonly used for opioid rotation when
 - The woman is intolerant of morphine.
 - The woman is experiencing adverse effects from morphine.
- May also be useful as breakthrough analgesia for women on fentanyl, and women who are intolerant of other opioids.
- It is more potent than morphine and care must be exercised when changing from other opioids to hydromorphone.
- A variety of formulations are available:
 - Short acting PO Dilaudid tablets and liquid.
 - Long acting preparation: Journista tablets once every 24 hours. Note: Journista tablets must be swallowed whole and must never be chewed or crushed. Intact tablet shells may be passed in the faeces, but is of no consequence.
 - Parenteral- seek specialist advice.
 - In renal impairment, metabolites may accumulate, increasing adverse effects.
 - For further information on dosages, refer to Hydromorphone Monograph in the AMH

Buprenorphine

Seek specialist advice

Methadone

Seek specialist advice

- ***Caution – conversions to methadone from other opioid analgesics are complicated and prescribing should be restricted to medical specialists with experience of methadone prescribing.***
- Methadone hydrochloride is an effective, inexpensive, and relatively safe opioid to use in the management of pain during the final stages of life. In single dose studies methadone is only marginally more potent than morphine; however, with repeated administration it is several times more potent.
- Methadone is a significant clinical alternative to morphine, but its safe administration requires knowledge of its pharmacology and experience. The plasma half-life of methadone is long, averaging approximately 24 hours (with a range from 13 to over 100 hours) but most patients require dosing at intervals of 4 – 8 hours. This discrepancy between plasma half-life and duration of effect may place patients at increased risk of drug accumulation when treatment is initiated or the dose increased. Sedation, confusion and even death can occur if patients are not carefully monitored.

Ketamine

Seek specialist advice.

- Ketamine is a short acting N-methyl-D-aspartate (NMDA) receptor antagonist. The analgesia role of ketamine (when given in sub anaesthetic doses) appears to be linked to an alteration in opioid sensitivity as part of its clinical effect.¹
- Ketamine is given either orally or subcutaneously by continuous infusion via a syringe driver as a single agent or in combination with other analgesics.
- There is an absence of large controlled trials supporting ketamine as an analgesic for cancer or neuropathic pain, but a large body of case reports and uncontrolled trials. Two small randomised controlled trials reported decreased morphine use and reduced neuropathic pain intensity. However a recent systematic review found insufficient evidence that ketamine improves the effectiveness of opioid treatment in cancer pain.²

Recommended observations for patients who are prescribed ketamine

The first 12-24 hours are the most important

Perform and record the following observations at the time of initiation, at 1 hour then 4 hourly for 24 hours

- Pulse, respiratory rate, blood pressure.
- Pain score
- Sedation score.
- If the dose rate is increased revert to 1 hour and then 4 hourly for 24 hours.
- Women with the following should have 4 hourly observations until dose titration is complete
 - Women with relative contraindications to ketamine.
 - Where ketamine is started while the woman is on a long acting opioid.
 - Where a rapid dose titration of ketamine is needed.
- For all other women daily pain score, pulse and blood pressure is recommended during titration.

Note: Be aware for potential opioid toxicity (i.e. respiratory depression, drowsiness, jerking during titration, especially for those women on high dose and long acting opiates, however in most circumstances it is rare.³

Modest blood pressure rises need no action; significant rises should prompt medical review.

Clinical review of the woman should be carried out within 24 hours of starting ketamine and documented in the notes.

Renal Impairment

- Use the Cockcroft-Gault equation to calculate creatinine clearance(CrCL):
 - $\text{CrCL} = \frac{[140 - \text{age (years)}] \times \text{bodyweight (kg)}}{0.815 \times \text{serum creatinine (micromole/L)}}$
 - Multiply value by 0.85 for females
 - Use ideal body weight for overweight or obese patients
- Caution must be exercised if renal function is impaired as an increased accumulation of the parent drug and metabolites may occur.
- Be aware that elderly and cachexic women may have impaired renal function (decreased glomerular filtration rate) even when serum creatinine is within 'normal' range.
- Codeine should **not** be used.
- Extreme caution should be used when prescribing morphine, hydromorphone and oxycodone. They should be dose reduced with extended dosing frequency.
- Fentanyl and methadone are considered safe, but should be prescribed with caution and specialist advice.

Liver Impairment

- Women with severe liver disease should be prescribed lower doses of opioids, with an extended dosing frequency.
- Codeine and methadone should not be given.
- Use morphine, hydromorphone and oxycodone very cautiously with close supervision.
- Fentanyl is considered safe, but specialist advice is recommended.

Opioid Conversions

Key points

1. These doses are approximate and care must be exercised when commencing or changing opioids.
2. Most opioid conversion tables are based on single dose studies and there is wide individual variation.
3. It is recommended that when one opioid is substituted for another, the dose of the second opioid is commenced at approximately one third less than the first opioid.
4. The preferred routes of administration are either orally or subcutaneously.
5. In some situations such as shock or coagulopathic states, the intravenous route of administration is preferable. Urgent consult with the Palliative Care Team is recommended in these situations.

6. When commencing a fentanyl patch it is strongly recommended that the manufacturer's guidelines and Palliative Care Team are consulted.
7. Refer to the [WACPCN opioid conversion chart](#) and [How to use the Opioid Conversion Guide](#)

Opioid conversion charts

Approximate Equivalent Doses of Alternative Opioids		
Opioid	Oral Dose	Equivalent parenteral dose
Morphine	30mg	10mg SC / IM / IV
Hydromorphone	6 to 7.5mg	1.5mg SC / IM / IV
Oxycodone	15mg	10mg SC / IM
Tramadol	100 to 150mg	100mg IM / IV / SC
Fentanyl	–	100mcg IV / IM / SC

(Adapted from Australian Therapeutic Guidelines: Analgesia)

Dose Conversion of Transdermal Fentanyl Patches to Oral Morphine		
Total patch strength in milligrams	Hourly dose in micrograms	Oral morphine dose in milligrams per day
2.1	12	< 60
4.2	25	60-100
8.4	50	120-200
12.6	75	180-300
16.8	100	240-400

(Adapted from Australian Therapeutic Guidelines: Palliative Care)

Further Information

Refer to Cancer Council's [Pain management in Adults](#)

And NHMRC [Guidelines for a Palliative Approach in Residential Aged care](#)

Therapeutic Guidelines (eTG)- [Palliative Care](#)

Australian and New Zealand Intensive Care Society (ANZICS)

[Statement on Care and Decision-Making at the End of Life for the critically ill](#)

[WACPCN opioid conversion chart](#)

[How to use the Opioid Conversion Guide.](#)

Opioid-Induced Adverse Effects and Toxicity

Key points

1. In palliative care, the preferred routes of administration are either orally or subcutaneously.
2. In certain situations e.g. shock or coagulopathic states the intravenous route of administration is preferable. Contact the Palliative Care Team in these circumstances.

Opioid induced adverse effects

- When commencing opioids, discuss the possibility of adverse effects with the woman. Apart from constipation, most of the effects are self-limiting and can be easily managed with anti-emetics, adequate hydration and appropriate titration.
- Common adverse effects include: nausea, vomiting, drowsiness, headache, dizziness, dry mouth, orthostatic hypotension, urinary retention, constipation
- [Management of Constipation](#)
- For a full list of adverse effects, refer to the AMH or eMIMS

Opioid-Induced Constipation

See [Opioid-Induced Constipation](#) under Management of Constipation

Opioid toxicity

- Toxicity may include drowsiness, delirium, hallucinations, nausea, vomiting, myoclonic jerks, seizures, pruritis, respiratory depression and constipation.
- It occurs when:
 - Either the parent drug or its metabolites accumulate.
 - Other medications have synergistic or cumulative adverse reaction or alter the metabolism of opioids.
 - Other patient related factors mimic opioid toxicity.
- Respiratory depression is unlikely if opioids are titrated appropriately. If it occurs, withhold the morphine or other opioid and check for other causes of respiratory depression e.g. hypercapnia. Consider referral to the Specialist.
- Use of Naloxone to reverse opioid analgesia should only be considered in significant respiratory compromise i.e. respiratory rate < 8 per minute.
- Naloxone should not be used diagnostically to exclude opioid toxicity in women with ongoing requirements for opioid analgesia.
- If an adverse effect fails to settle, repeat biochemistry and exclude other contributing factors. A change of opioid may be required.

Opiate Overdose

- If the respiratory rate is less than 8 per minute and the woman is not cyanosed, no action other than observation is required.
- If life threatening respiratory depression occurs, dilute Naloxone 400micrograms in 10mL saline 0.9% and give intravenously at the rate of 1 mL per minute. Repeat until the woman's condition improves.
- If there is no response after 3200 micrograms reconsider the diagnosis.
- If relapse occurs (likely after about 20 minutes) give a further 400-800 micrograms intravenously and consider commencing an intravenous infusion of 400 micrograms per 100mL saline 0.9% and titrate the rate according to the woman's response.
 - **NB:** Most opioids used in palliative care have a longer half-life than Naloxone and therefore relapse is likely. With sustained release preparations there may be relapses for 24 hours or more.
- Total reversal of opioid action will result in the recurrence of pain. The aim is to reverse respiratory depression to safe levels and not necessarily abolition of opioid effects.

Niki t34 Syringe Pump

See KEMH Clinical Guideline [Niki t34 syringe pump: continuous subcutaneous infusion management](#)

Use of adjuvant medications

Key points

1. Adjuvant medication may be introduced at any point in the analgesic ladder with the main aim to improve pain control and limit the adverse effects of medications.
2. Antidepressants and anticonvulsants are the first choice of medications for neuropathic pain.
3. Response to adjuvant medications is highly variable and individual.

Paracetamol

- Activates the descending pathways of pain.
- Is recommended as a universal adjuvant in the management of cancer pain.
- Should be considered in all people with cancer pain except:
 - The extreme elderly
 - Past history of heavy alcohol use, and
 - Liver failure where transaminases are elevated more than 3 fold.

NSAID / Cox-ii inhibitors

E.g. ibuprofen, naproxen, celecoxib

- Inhibits prostaglandin release in the tissues and decreases inflammation.
- Indicated in bone pain, inflammatory pain and colicky pain of the renal tract.
- Use with caution if there is potential for or a past history of cardiac, renal or GI disease.
- Avoid the use of multiple NSAIDs or corticosteroids concomitantly.
- Gastric protection with a PPI should be prescribed **IF** other risk factors are present
 - Non-drug risk factors: elderly, history of upper gastrointestinal bleeding or peptic ulcer disease, *Helicobacter pylori* infection, significant comorbidities, smoking
 - Drug risk factors (in order of risk): anticoagulants, antiplatelets, SSRIs, SNRIs, corticosteroids.
- There is no therapeutic benefit to using COX-II over NSAIDs except if there is concern over platelet aggregation.
- Specialist advice should be sought before using ketorolac.

Tricyclic antidepressants

- Blocks the descending pain pathway through blocking serotonin and noradrenaline.
- Recommended for nerve pain

- Start with low doses and titrate upwards every three days to 150mg / day according to analgesic and adverse effects, especially constipation and postural hypotension.
- Not recommended in the elderly as sedation, delirium and orthostatic hypotension may increase falls risk.

Corticosteroids

- Inhibits prostaglandin release.
- Decreases swelling and inflammation in the tumour mass.
- Indicated for:
 - Nerve compression
 - Raised intracranial pressure
 - Spinal cord compression
 - Organ infiltration
 - Bone pain
- The doses of corticosteroids recommended are variable.
- It is recommended that the lowest effective dose is used for as short a time as possible.

Anti convulsants

- Suppresses neuronal hyper excitability
- Indicated for neuropathic pain.
- Discuss with a Palliative Care specialist or pain management specialist the most appropriate anticonvulsant out of Sodium Valproate, Gabapentin or Pregabalin
- Starting doses should be small and the first dose given at night, then titrated upwards depending on the tolerability and effectiveness.

Anti spasmodics

- Decreases the myotonic activity in smooth muscle.
- Indicated for:
 - Bladder spasm
 - Renal colic
 - Rectal tenesmus
 - Gastric colic
 - Use with caution if there is impaired GI function as its major impact is through

Non pharmacological management of pain

Key points

1. Non pharmacological care has been shown to be very effective.
2. The suggested strategies should be considered in the context of the woman's life expectancy.

Goals of management

- To decrease the woman's perceptions of pain by reducing pain intensity and increasing pain tolerance, increasing adaptive pain behaviour and decreasing maladaptive behaviour.
- To identify and educate women who may benefit from these interventions and provide such measures.
- To refer women to appropriate healthcare providers.

Complementary therapies

- Chinese medicine
- Acupuncture
- Qigong
- Hypnosis
- Reikki
- Aromatherapy

Psychological interventions

- Cognitive behavioural therapy
- Mindfulness
- [Relaxation](#)
- Meditation
- Hypnotherapy
- Imagery
- Support groups

Physical modalities

- Application of [heat or cold](#)
- Transcutaneous electrical stimulation (TENS)
- [Positioning](#)
- Rehabilitative therapy
- [Radiotherapy](#)

Positioning

- Correct patient positioning helps maintain body alignment, prevents or alleviate pain, reduces the risk of injury and the prevention of pressure ulcers.
- Positioning upright or slightly inclined backwards allow expansion of the abdomen.
- Relaxation of the neck and shoulder muscles discourages the use of the upper chest muscles.

- Bed confined women shall be assessed frequently and their position changed every 2 hours to promote comfort and help prevent pressure ulcers.
- Women at high risk for developing pressure ulcers shall be provided with a pressure relieving mattress e.g. Spenco or constant low or alternating pressure mattress.
- Encourage the women to use their own pillows while in hospital.
- Linen shall be regularly straightened and / or changed.
- Ensure correct body alignment.
- Use positioning aids such as pillows, blankets or towels.

Application of Heat or Cold

- Thermal measures may help to reduce pain by alleviating joint and muscle aches and providing comfort.
- Do not place external heat sources over transdermal fentanyl analgesic patches as external heat increases fentanyl release.
- Do not place heat packs on the treatment field of women undergoing external beam radiotherapy.
- Cold gel packs may provide symptomatic headache relief.
- Tepid sponging may provide comfort to those with a fever.
- Use of a fan or open window to create a gentle breeze at the woman's face is thought to stimulate the thermal and mechanical receptors of the trigeminal nerve in the cheek and nasopharynx.

Relaxation

- Encourages the woman to focus on soothing images, tense and relax muscles and breathe deeply.
- It is generally self-induced or guided by another person or audio tape.

Radiotherapy

- Is effective in palliating pain that is due to malignant infiltration.
- Should be considered in soft tissue, bony and neuropathic pain.
- Is less effective in visceral pain.

Intrathecal administration of medications

Intrathecal analgesia is used for pain relief when other methods are either insufficient, or produce excessive adverse effects. The technique involves the insertion of a catheter that is used to give pain relieving drugs into the intrathecal space. The intrathecal space contains the cerebrospinal fluid and the spinal cord. When pain relieving drugs are given in this way they produce pain relief by spreading into the spinal cord or the nearby nerves to block the transmission of pain impulses.

NB: Intrathecal administration of medications at KEMH is extremely rare and should NOT be commenced unless recommended by the Palliative Care Specialist.

See KEMH Clinical Guideline

And the [WA Cancer and Palliative Care Network Guidelines](#) on [Intrathecal Pathways](#) and [Patient information on Intrathecal Catheters and infusions for pain management](#)

Changes in Cognitive State / Delirium in Advanced Gynaecological Malignancies

Common Causes

1. Metabolic
 - Liver failure
 - Renal failure
 - Adrenal failure
 - Hypercalcaemia of malignancy
 - Hypoxia
 - Electrolyte disturbance
 - Dehydration
2. Endocrine
 - Hyper / hypoglycaemia
 - Hypo / hyperthyroid
3. Sepsis
4. Cerebral disorders
 - Cerebral metastases
 - Vascular accidents
 - Paraneoplastic (cerebellar, limbic encephalitis).
5. Iatrogenic
 - Opioids
 - Antidepressants
 - Benzodiazepines
 - Corticosteroids
 - NSAIDs
 - Anticholinergics

- Serotonin syndrome
- 6. Substance withdrawal
 - Alcohol
 - Benzodiazepines
 - Illicit drugs
- 7. Physical discomfort
 - Acute retention of urine
 - Constipation
- 8. Psychological distress
- 9. Impending death.

Management

- Tailor the management to the clinical situation.
- Distinguish the most likely cause of the problem (reversible vs. irreversible).
- Reduce the background dose of the opioid medication if there is adequate analgesia.
- Treat the distressing symptoms.
- Ensure adequate hydration.
- In some situations change of opioid may be beneficial.
- Opioid antagonists i.e. naloxone
 - Should **not** be used 'diagnostically' to exclude opioid toxicity in women with an ongoing requirement for opioid analgesia.
 - Should **only** be considered in the circumstance of significant respiratory compromise.
 - The most appropriate measure of impending airway compromise is rousability in conjunction with respiratory rate.
 - Confusion and pinpoint pupils are unreliable signs.
 - Naloxone should not be given unless clinically indicated as it will reverse the opioid analgesia and may prompt a drug withdrawal and uncontrolled pain.
 - If naloxone is clinically indicated it is recommended that it is given in increments until the woman's respiratory status is satisfactory.
 - Naloxone has a short duration of effect when compared to most opioid formulations in use. Close monitoring is mandatory and repeated increments of naloxone may be required.
 - Ensure that opioids are charted at either a lower dose or use an appropriate alternative opioid.

Management of Nausea and Vomiting

Background

Nausea and vomiting result from a complex reflex that is coordinated by the vomiting centre in the brain. Nausea is a common symptom in women with gynaecological malignancies and is often multifactorial.

Potential causes

Acute Onset

- Acute bowel obstruction
- Treatment related – chemotherapy, medication (opioids, NSAIDs, antibiotics), radiotherapy (if directed to the abdomen, pelvis or brain).
- Metabolic disturbance – hypercalcaemia, acute renal failure, impaired liver function, infection, oropharyngeal candidiasis
- Delayed gastric emptying – gastroparesis, squashed stomach, partial high obstruction
- Gastric irritation.
- Raised intracranial pressure / CNS disease – cerebral or leptomeningeal metastases.
- Vestibular disturbance – drug toxicity, infection and benign positional vertigo, neoplastic and paraneoplastic syndromes.

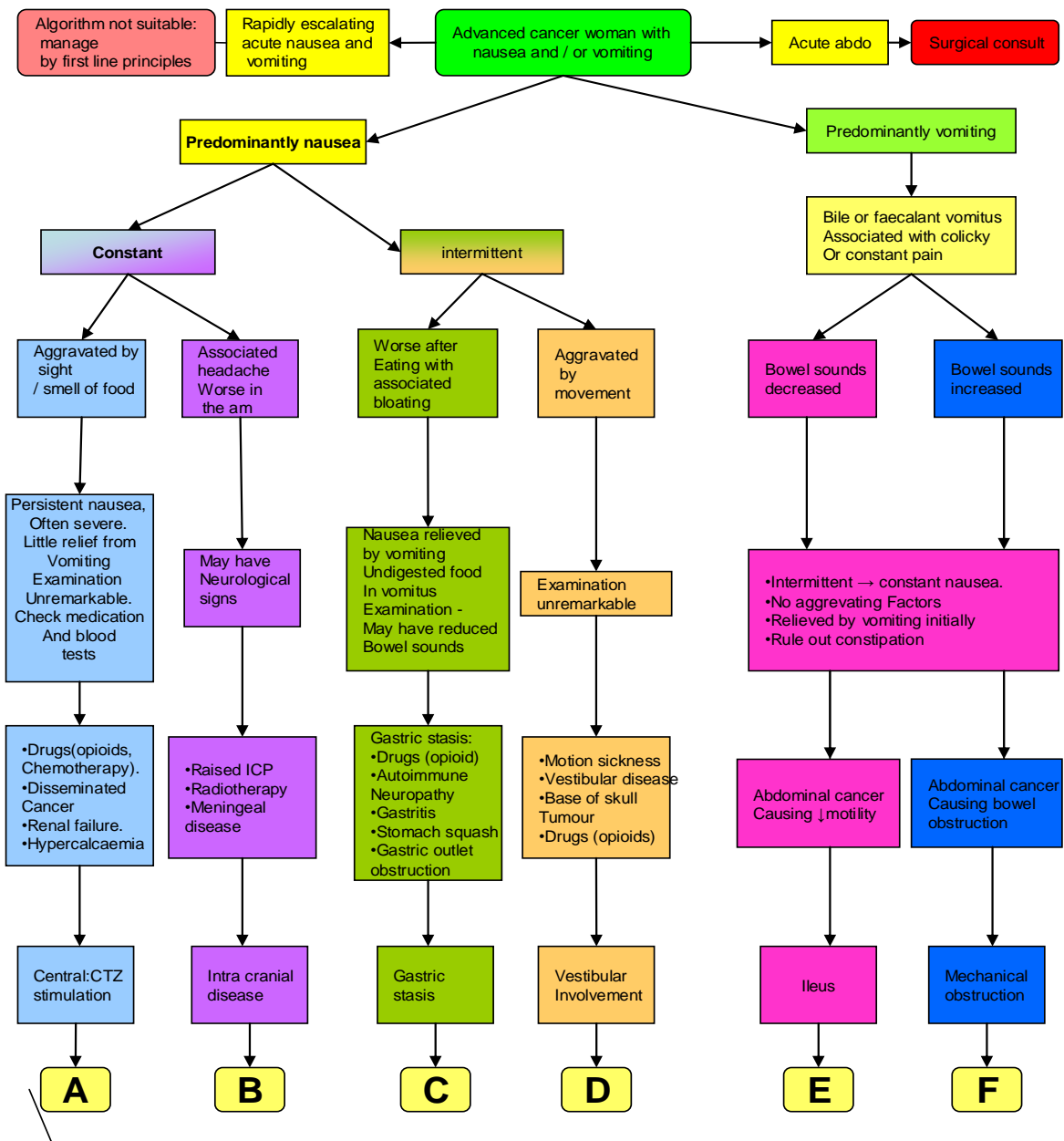
More gradual onset

- Intermittent partial bowel obstruction
- Liver metastases
- Carcinomatosis.
- Drug related toxicity
- Constipation
- Ascites
- Anxiety

Treatment options

- Small regular meals
- Anxiety management
- Reduce offensive smells
- Acupuncture, meditation, relaxation
- See treatment algorithm on the next page
- For further information, refer to [Therapeutic Guidelines on Palliative Care](#)

Algorithm for Nausea and Vomiting



Treatment	1 st line	2 nd line	3 rd line	4 th line
A	Prochlorperazine 5mg TDS	Haloperidol 0.5-1mg nocte	Haloperidol 0.5-1mg BD	Call palliative care consultant
B	Dexamethasone 8mg mane and midday	Call palliative care consultant	X	X
C	Metoclopramide 10mg QID	Metoclopramide 10mg 4 hourly	Metoclopramide 10mg 4 hourly + dexamethasone 4mg mane and midday	Call palliative care consultant

D	Prochlorperazine 5mg TDS	Promethazine 10mg TDS	Chlorpromazine 10mg TDS	Call palliative care consultant
E	Metoclopramide 10mg QID	Metoclopramide 10mg 4 hourly	Metoclopramide 10mg 4 hourly + Dexamethasone 4mg mane and midday	Call palliative care consultant
F	Haloperidol 0.5- 1mg nocte	Haloperidol 0.5- 1mg BD	Haloperidol 0.5- 1mg BD + dexamethasone 4mg mane and midday	Call palliative care consultant

Note

- Corticosteroids have a role in combination with other medications, in the management of nausea and vomiting. If no benefit is obtained within 5 -7 days it should be ceased.
- Drugs such as cyclizine, levomepromazine (SAS only) and 5HT3 antagonists e.g. ondansetron, have a role to play in certain situations.
Seek specialist advice.
- In suspected bowel obstruction, metoclopramide or other prokinetics is contraindicated.
- In established nausea and vomiting there may be dysfunction of the upper gastro-intestinal tract with impaired absorption of oral medications. Change route of administration from oral to parenteral - either subcutaneous or intravenous if there is ready intravenous access.

Management of constipation**Key points**

1. Health professionals consider constipation as the passage of small, dry ,hard stools, however patients may report
 - a. a reduction of stool frequency
 - b. straining to have their bowels open
 - c. the sensation of incomplete emptying
2. Constipation may be accompanied by rectal and abdominal pain and nausea and vomiting.
3. It is especially common in patients receiving opioid analgesia, but there are multiple contributing factors
4. Although laxatives are recommended, the prescription of laxatives remains based on practice guidelines rather than evidence based guidelines.
5. Fibre containing laxatives are not recommended for opioid-induced constipation. Clinical observation supports that use of these agents is probably best avoided in women with gynaecological cancers.
6. All agents must be reviewed regularly and continued or changed based upon the patient's description of response.

Possible causes

Acute onset

Intestinal obstruction – acute constipation may result from small or large bowel obstruction due to tumour involvement or adhesive adhesions. Suspect this if there is also no passage of flatus.

Gradual onset

1. **Bowel disease** – hernia, rectocele, haemorrhoids, anal fissure, rectal prolapse, diverticular disease, colitis, irritable bowel syndrome.
2. **Environmental** – lack of privacy, unfamiliar environment
3. **Medications** – common contributors to constipation include opioid analgesics, anticholinergics, calcium channel antagonists, antacids, 5HT₃ antagonists, diuretics, iron supplements, antidepressants, chemotherapeutic agents (especially carboplatin).
4. **Metabolic and electrolyte disturbances** – hypokalaemia, hypercalcaemia
5. **Medical disorders** – diabetes, hypothyroidism, depression
6. **Neurological** – damage to spinal cord, cauda equine, pelvic plexus and autonomic nervous plexus.
7. **Tumour related** – altered food intake, dehydration, reduced mobility and performance status and reduced bowel motility.

Treatment options

1. Early surgical referral if bowel obstruction, bowel perforation or another surgical cause is suspected.
2. Encourage mobility and ensure adequate hydration.
3. Dietitian review.
4. Correction of electrolyte imbalances.
5. Ensure privacy and appropriate positioning for women who are opening their bowels.
6. Discontinue or substitute medications which cause constipation.
7. Laxatives

Laxatives commonly used in palliative care

Class	Laxative	Usual dose	Time to effect
Stool softening laxatives	Docusate	120 – 240mg orally BD	1-3 days
Stool softening combined with stimulant laxatives	Docusate and sennoside	50/8mg x2 BD	6-12 hours
Stimulant laxatives	Bisacodyl tablets	5mg orally BD	6-12 hours
	Bisacodyl suppositories	10mg suppository rectally daily	5-60minutes
	Sennoside tablets	15mg orally daily	6-12 hours
Osmotic laxatives	Macrogol*	1-3 sachets daily; titrate to stool consistency	1-3 days
Lubricant	Liquid paraffin	30-60 mL orally BD	1-3 days

laxatives	Glycerol suppository	2.8g (1 adult suppository) once daily	5-30 minutes
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*Sometimes referred to as “pseudo-osmotic” as it draws less fluid from the circulation provided that it is prepared in the correct volume of water (1 sachet in 120mL liquid). This is purportedly an advantage over those traditional osmotic laxatives that may exacerbate dehydration and electrolyte disturbances. The delayed effect must be considered when titrating the dose

Faecal impaction

- If rectal or colonic impaction is suspected, the use of rectal softeners may sometimes need to be combined with stimulant agents. Glycerol suppositories or oil enemas soften the stool and irritate the bowel which leads to increased peristaltic activity and stool movement. If the stool softens but peristalsis remains ineffective, seek specialist advice regarding high enemas.
- Manual removal of impacted faeces may be required to allow the laxatives to be effective. The administration of midazolam (2.5-5mg subcutaneously 10 minutes pre procedure) may make this more tolerable for the patient.

Opioid-induced constipation

- There are opioid receptors in the mesenteric plexus of the bowel wall, thus administration of opioids for analgesia inevitably results in failure of the bowel to contract in response to distension by accumulating faeces.
- Generally, the dose of laxative (including a stimulant laxative), needs to be titrated upwards whenever the opioid dose is increased.
- Combination analgesics containing both a prolonged release formulation of oral oxycodone and oral naloxone are approved in Australia and are indicated for analgesic use in patients particularly at risk of opioid-induced constipation.
- Severe opioid-induced constipation or faecal impaction in which the opioid is thought to be the principal underlying cause should be treated with a single dose methylnatrexone subcutaneous injection. A result is often seen within 30 minutes, with 70% of patients responding within 24 hours. Seek palliative care specialist advice before repeating the injection 24 hours later. Continuation of (and review of dose) of regular laxatives is mandatory when methylnatrexone has been used.

Bowel obstruction

Key points

1. Bowel obstruction is a common complication of gynaecological malignancies, especially ovarian cancer and is the most common cause of death in this group.
2. Predisposing factors include peritoneal metastases, a history of previous intra-abdominal surgery and pelvic disease from any cause.
3. The small bowel is more commonly affected than the large bowel but both may be simultaneously involved.
4. Most women with ovarian cancer and bowel obstruction will live for less than 1 year, the majority dying within 6 months of presentation.
5. Bowel obstruction is a complex management issue which requires the input and involvement of the gynaecological oncology multidisciplinary team.
6. Surgical opinion must be sought if the obstruction has not resolved within 48 hours of conservative management.
7. Attention to symptom control is paramount. Withhold dexamethasone until a surgical opinion has been obtained.

Diagnosis

History

- Nausea and vomiting are common. Initially the volume and frequency of vomiting depend on the level of the obstruction. High obstructions may be associated with large volume, forceful vomiting of undigested food. Low obstructions may initially have very little vomiting.
- Abdominal distension
- Pain. Colicky abdominal pain often occurs early. Continuous pain can also be present or develops later.
- Absence of stool or flatus. Occurs early in large bowel obstruction and later in higher obstruction. Spurious diarrhoea does not exclude obstruction.

Examination

1. Assess hydration – pulse, BP, skin turgor, axillary moisture. The mouth may be dry and coated.
2. Palpation of the abdomen:
 - a) Abdominal masses
 - b) May be unremarkable, particularly with high obstructions.
 - c) Abdominal distension
 - d) Acute abdomen is a poor sign.
3. Percussion of the abdomen:
 - a) Hyper tympanic
 - b) Ascites may be present
4. Auscultate for bowel sounds
 - a) Reduced
 - b) Increased
 - c) High pitched and tinkling
 - d) Absent
 - e) A gastric splash may be present

5. Rectal examination
 - a) A full rectum suggests constipation
 - b) Empty dilated (ballooned) rectum may occur with previous rectal intervention, constipation, obstruction or a large pelvic mass. Imaging may be appropriate.
 - c) A rectal or pelvic mass may be palpated.

Investigations

- Abdominal X-ray (erect / supine, look for fluid levels, faecal loading).
- CT scan with oral contrast.
- Gastrografin swallow with follow through and / or enema if the woman is a possible surgical candidate. Barium studies are best avoided.
- If there is no radiological evidence of an obstructive lesion on Gastrografin swallow with follow through, consider 'pseudo obstruction' (motility disorder) as a possible diagnosis.
- FBC, U&Es (including calcium, magnesium, phosphate), LFTs (including albumin, coagulation studies).

Surgical management

- Most suitable candidates include those with
 - Good performance status
 - Good nutritional status
 - Minimal ascites
 - Unifocal or non-malignant obstruction
 - Options for future disease modifying treatment
- Absolute contraindications to surgery
 - Results of previous laparotomy demonstrating that corrective surgery is not possible.
 - Diffuse intra-abdominal tumours or multiple palpable masses
 - Irreversible poor nutritional status
- Relative contraindications to surgery
 - Previous abdominal radiotherapy
 - Multiple recurrent partial bowel obstructions
 - Short disease free interval
 - Multiple previous lines of chemotherapy
 - Multi focal obstruction
 - Frailty

Medical management

1. Medical management of malignant bowel obstruction in which surgical treatment is not possible should be supervised by a specialist (usually a Palliative Care Physician) with experience in this condition.
2. A continuous infusion of medications such as Buscopan, Ranitidine and Haloperidol may be considered. A NGT may be considered to drain gastric contents.
3. Octreotide as a continuous infusion may be used when other medications have been ineffective in controlling symptoms

4. Spontaneous resolution of malignant bowel obstructions does happen and close expert observation is necessary as withdrawal of some medications including octreotide may be necessary.
5. In patients thought likely to survive for weeks to months, a percutaneous endoscopic gastrostomy (PEG) for decompression and drainage of upper gastro-intestinal secretions (i.e. a venting gastrostomy) can be considered.

If the prognosis is measured in hours to days prior to the onset of this problem

- This is a clinical diagnosis.
- No further investigations are indicated.
- Attempt a temporary reversal of obstruction.
- Medical management of bowel obstruction.

Acute renal failure

Key points

1. Uraemic symptoms mostly occur slowly, including oedema, poor urine output and confusion leading to delirium and coma.
2. Sudden death may occur from unsuspected cardiac arrhythmia.

Possible causes

Acute onset

- Sepsis
- Acute urinary retention

More gradual onset

- Dehydration
- Nephrotoxic drugs e.g. platinum based chemotherapy, NSAIDS
- Ureteric obstruction (unilateral / bilateral – pelvic tumour, para aortic nodal metastases)
- Bladder atony
- Bladder outlet obstruction (post renal)
- Benign disease – calculi, retroperitoneal fibrosis
- Dehydration exacerbating pre-existing renal disease

Treatment options

Pre renal

- Encourage oral intake (where this is appropriate).
- Consider temporary intravenous fluids if a remediable co-morbidity is present.
- Treatment of sepsis with antibiotics (intravenous or oral) if appropriate.

Renal

- Consider substitution of nephrotoxic drugs.

- Uraemia may be transient and renal function may recover (but may require temporary renal dialysis via a subclavian / jugular intravenous catheter). This decision requires careful consideration of all factors.
- Acute tubular necrosis secondary to dehydration is also potentially reversible with dialysis support, but the underlying cause must be remediable.

Post renal

- Ureteric obstruction is treatable, where indicated.
- Bladder atony may be treated with an indwelling catheter.
- Bladder outlet obstruction should instigate placement of a suprapubic catheter after ultrasound confirmation of a dilated bladder.

Ureteric obstruction

Background

Pelvic malignancy represents the second most common cause of extrinsic obstructive uropathy in women. Squamous cancer of the cervix most frequently involves the urinary tract and ureteric obstruction is the most common cause of death amongst these women, accounting for at least 50% of cases.

Ureteric obstruction usually occurs at the distal ureter due to external compression from tumour bulk or nodal metastases.

See Palliative Care Therapeutic Guidelines: [Genitourinary symptoms in palliative care](#)

Key points

1. Decisions regarding whether the obstruction should be reversed in recurrent or treatment refractory disease are complex and should be made in consultation with the treating gynaecological oncology team.
2. Bilateral ureteric obstruction results in rapidly progressive uraemia with a reduction in consciousness and death.

Diagnosis

History

Patients may present with

- No symptoms but a dilated kidney and ureter found on imaging.
- Unilateral / bilateral flank and lower abdominal pain.
- Nausea associated with uraemia
- Oliguria or anuria
- Decreased consciousness due to kidney failure.

Examination

- Commonly renal angle tenderness

Investigations

- Electrolyte imbalance, elevated urea and creatinine (be aware of pre-existing renal impairment and acute renal impairment due to poor fluid intake or other causes).
- Renal ultrasound will demonstrate dilated calyces and proximal ureter, thinning of the renal cortex may indicate long standing obstruction (or another process such as diabetic nephropathy).
- Non contrast CT scan may show the approximate level of the obstruction but definition is limited (contrast is usually avoided due to the risk of worsening kidney failure).
- A retrograde pyelogram.
- MRI to distinguish between fibrosis and tumour.
- MAG 3 renal scan to determine renal function

Treatment options

1. If the prognosis is measured in hours to days prior to the onset of this problem, this is a clinical diagnosis only. No further investigations are required. Pay attention to symptom control and patient comfort. Watch for seizures and myoclonic jerks.
2. If the prognosis is measured in weeks to months prior to the onset of this problem
 - a) Cystoscopy with retrograde ureteric stenting
 - b) Antegrade stenting
 - c) Percutaneous nephrostomy

Management

1. Consultation with the gynaecology oncology and urogynaecology teams.
2. Manage hypercalcaemia until interventions to reverse the obstruction occur.
3. Close monitoring and correction of unregulated loss of water and electrolytes.
4. Morphine, oxycodone and hydromorphone doses should be reviewed, titrated or given less frequently as there may be a rapid accumulation of the parent drug and metabolites, which could lead to encephalopathy and agitation.
5. If the opioids in use are methadone or fentanyl, there is less risk of toxicity in renal impairment, but monitoring of analgesia and opioid therapy is still necessary.
6. Monitor the dosage of neuropathic pain medications especially pregabalin and gabapentin and other medications that are renally excreted.
7. Ureteric obstruction may be caused by tumour oedema and dexamethasone (4mg orally daily) can partially reduce the obstruction.
8. See [Bladder Care Resource kit](#)

End of Life Care

Background

National standards for palliative care require that a plan of care is based on respect for individual uniqueness, acknowledgment of holistic needs along with coordination of care to minimise the burden to patient and family .

Provision of high quality end of life care includes access to information, spiritual and emotional support along with communication regarding timing of death and what to expect.

Maintaining a sense of control for the patient and their family and considering the patient and their family's wishes, is an important aspect of care.

All care will be in accordance with some / all elements of the guiding principles in the [National Consensus Statement: essential elements for safe and high quality end of life care.2015](#)

Estimating prognosis is notoriously difficult. Deterioration may be slow or sudden – review the patient as frequently as their condition warrants

Support the patient/ family

What to say

Preparation for family and patient contributes to better bereavement outcomes.

- Acknowledge the situation, allowing open ended questions. Be aware of the patient and family's perception of the situation while providing accurate information about the disease status.
- Be cautious about removing coping strategies that may be assisting the patient and family; an optimistic outlook is not harmful.
- Provide education about palliative care services and processes; while continually assessing the supportive needs of the patient and family.
- Discuss the services available in the hospital with the patient and their family. e.g. social worker, chaplain and palliative care service.

Families may want information on:

- Who will provide a death certificate and the cremation forms
- Which counselling services are available
- What to do after the patient has died
- Who to contact e.g. Funeral Director, preparation of the body etc.
- Provide the [Talking about end of life brochure](#)
- Other resources can be found on the websites below:
 - [WA Cancer and Palliative Care Network](#)
 - [WA Psycho-Oncology service](#)

Provide information on:

- Palliative Medicine Specialist Services for further information on care.
- Further information can be obtained from
 - [Palliative Care Western Australia](#)

- [Palliative Care Australia](#)

Plan patient care

- Assessment of the patient's physical, psychological, social and spiritual support should occur and needs to be incorporated into the care plan¹.
- Respect cultural and religious views. Specific considerations may be required when delivering care before and after death. Practices can vary considerably so full discussion with the family and patient is important. Develop a care plan to accommodate these requirements.
- When in discussion with the family, consider that ways of expressing grief can vary significantly and are affected by cultural beliefs, previous life experience and gender differences
- Attention to general care such as positioning, pressure area care, mouth and eye care along with bladder and bowel care will aid in symptom control and management.
- Reassure the patient and family throughout all stages of care. Discuss the potential rare distressing acute terminal event.
- Consider rationalising treatment (e.g. ceasing medications if you are certain they are not contributing to patient comfort, cancelling tests, routine nursing observations and appointments).
- All essential medications need to be converted to a route of administration other than oral, e.g. intravenous, sublingual, rectal or subcutaneous infusions. Seek advice from palliative care staff on alternative medications and routes of administration.
- Every dying patient needs to have PRN orders charted pre-emptively in case of any of the 5 common complications encountered when dying
 - Dyspnoea – opioid and benzodiazepines
 - Nausea and vomiting – parenteral metoclopramide or antipsychotic
 - Exacerbation of pain – standard parenteral opioid breakthrough
 - Respiratory tract secretions – parenteral anticholinergic
 - Terminal agitation / restlessness – parenteral antipsychotic

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<http://www.anzics.com.au/Downloads/ANZICS%20Statement%20on%20Care%20and%20Decision-Making%20at%20the%20End%20of%20Life%20for%20the%20Critically%20Ill.pdf>.

Related DoH Policies, Legislation, Operational Directives

[Palliative Care WA](#)

Legislation - [Poisons Act 1964](#) [Guardianship and Administration Act 1990](#)

OD 0528/14 [Storage and Recording of Restricted Schedule 4 \(S4R\) Medicines](#)

OD 0141/08 [Code of Practice for the Handling of Schedule 8 Medicines \(Drugs of Addiction\) in Hospitals and Nursing Posts](#)

OD 0385/12: [Updated: National Recommendations for User-applied Labelling of Injectable Medicines, Fluids and Lines](#)

OD 0647/16 [National Standards for User-Applied Labelling of Injectable Medicines, Fluids and Lines](#)







Related WNHS policies, procedures and guidelines

WNHS [Advance Health Directives](#)

[Refusal of Blood Transfusion and Blood Products](#)

[Recognising and Responding to Clinical Deterioration](#)

[Palliative Care: Immediate Care of the Palliative Neonate and Follow Up of the Postnatal Woman](#)

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