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- Patients will require a baseline opioid dosage postoperatively

   referred to as the baseline opioid requirement calculated using their pre-operative opioid dosage. This can either be given using the same opioid or using an alternative opioid in an equi-analgesic dosage. A continuous parenteral infusion may be needed if the patient is unable to take oral drugs. Provision will need to be made for 'as required' dosing for breakthrough pain. Patient controlled analgesia machines have been successfully used in opioid dependent patients, with the advantage that dosages and lock-out intervals can be adjusted according to need.
- In the pre-op and per-operative period, regular opioids (usually oral) may be discontinued for several hours, which amounts to the opioid "debt". This should be replaced with systemic opioids during the operation.

#### Parenteral opioid delivery

Transdermal drug delivery systems have the disadvantage of being relatively inflexible in their dosage delivery, with clinically relevant dosages still being absorbed for up to 12 hours. One strategy is to leave the patch in place and to titrate to analgesic effect using immediate release opioids. Similarly, it may be appropriate to leave implanted analgesic pumps throughout the perioperative period and use additional short-acting opioids and non-opioids to control breakthrough pain.

#### Non-opioid analgesia

Non-opioid analgesic drugs and local anaesthetic procedures will have the effect of reducing opioid requirements – 'opioid sparing effect' (e.g. non steroidal anti-inflammatory drugs (NSAIDs), Paracetamol and Clonidine). Local anaesthetic blocks such as epidurals, brachial plexus block, paravertebral or ilioinguinal blocks will also have an 'opioid sparing' effect.

#### Effects of surgery

Surgery itself will have a variable effect on opioid requirements and parenteral routes will have to be considered if the oral route is not available. It is difficult to predict the precise post-operative analgesic requirements because the effect of surgery may be to increase (if the surgery results in pain due to local tissue trauma) or decrease opioid requirements. Increases of 20% or more above the baseline opioid requirement have been reported, depending on the surgical procedure. However, surgery may alleviate pain due to the removal of direct tumour pressure effects on local structures (e.g. the removal of a retroperitoneal sarcoma tumour pressing on the lumbosacral plexus). In this group of patients, opioid requirements may reduce but they will still need baseline opioid administration.

#### Further reading

James C, Williams JE. How should patients on long-term opioids be managed prior to surgery. British Journal of Hospital Medicine 2006; 67:500-501.

Lewis NL, Williams JE. Acute pain management in patients receiving opioids for chronic and cancer pain Continuing Education in Anaesthesia, Critical Care and Pain. 2005;5:127-129.

Mehta V, Langford RM. Acute pain management for opioid dependent patients. Anaesthesia 2006; 61:269-276.

### Multiple Choice Questions

# Recent and upcoming approaches in the management of cancer breakthrough pain

More than one answer may be correct. Select all that apply.

#### Breakthrough cancer (BTCP) pain:

- a) is a transient exacerbation of pain
- b) always occurs in patients with stable background pain
- c) may occur in the absence of background pain
- d) is the same as incident pain
- e) may interfere with activities of daily living.

#### 2 The ideal medicine to treat BTCP would:

- a) be well tolerated by the patient
- b) have a profile that matched BTCP time course
- c) have an onset of >30minutes
- d) be hydrophilic
- e) be lipophilic

#### Alfentanil:

- a) is a naturally occurring opioid
- b) I available as a buccal/nasal spray
- c) has a shorter onset and duration of action than fentanyl
- d) has an elimination half-life of 90 mins
- e) is licensed for intravenous injection

#### 4 Fentanyl:

- a) is a synthetic opioid
- b) is derived from thebaine
- c) exerts its effects predominantly in the dorsal horn
- d) is 100 times more potent than morphine
- e) is metabolised to the inactive metabolite norfentanyl

### 5 Different transmucosal route products are available (buccal, sublingual or nasal)which of the following statements relating to these products is correct:

- a) lozenges require dexterity and may be unsuitable for patients with mucositis
- b) buccal tablets do not have a distinct taste
- c) buccal and sublingual tablets are easy to extract from their respective packaging
- d) titrate each patient from the lowest dosee) buccal and sublingual tablets doses are equianalgesic

# Transdermal opioids for cancer pain management

More than one answer may be correct. Select all that apply.

#### 1 Concerning oral administration -disadvantages

- a) least economical
- b) drug taken orally may cause emesis
- c) drug taken orally may be destroyed by gastric acidity
- d) drug taken orally may be metabolized by gastrointestinal flora
- e) drug taken orally may be in consistently absorbed due to the presence of food

# 2 Pharmacokinetic advantages associated with transdermal drug delivery:

- a) relatively constant, sustained therapeutic plasma drug concentrations
- b) commonly low side-effect incidence
- c) good patient compliance

#### 3 Roots of administration that avoid "firstpass" hepatic effects:

- a) sublingual
- b) oral
- c) transdermal
- d) lower rectal suppositories
- e) inhalation

#### 4 Buprenorphine is a

- a) Partial µ-opioid receptor agonist
- b)  $\kappa$  opioid agonist
- c)  $\kappa$  opioid antagonist
- d)  $\delta$  opioid agonist
- e)  $\delta$  opioid antagonist

### Back pain in malignant disease – metastatic spinal cord compression?

Select one correct answer.

# 1 Metastatic spinal cord compression can be the result of:

a) vertebral collapse

- b) hypercalcaemia of malignancy
- c) chemotherapy treatment
- d) muscular spasm

#### 2 Metastatic spinal cord compression occurs most frequently in:

- a) prostate cancer, osteosarcoma and myeloma
- b) lung, breast and prostate cancers
- c) primary cancer of unknown origin
  - d) both a and c above
- e) both b and c above

#### 3 Metastatic spinal cord compression occurs most frequently in:

- a) the cervical spine
- b) the thoracic spine
- c) the lumbar spine
- d) the cauda equine
- e) all of the above

### 4 Signs and symptoms of metastatic spinal cord compression can include:

- a) back pain
- b) limb weakness
- c) decreased quality of life
- d) loss of bladder
- e) all of the above

### 5 Diagnosis of metastatic spinal cord compression is best made by:

- a) isotope bone scan
- b) plain film X-ray
- c) magnetic resonance imaging
- d) computerised tomography
- e) clinical impression

# 6 Initial management of metastatic spinal cord compression includes:

- a) analgesia and prednisolone 40mg po od
- b) intravenous bisphosphonate (e.g. pamidronate 90mg)
- c) dexamethasone 16mg po od and proton pump inhibitor cover
- d) analgesia and consultation with oncology / neurosurgery experts
- e) dexamethasone 16mg po od

# 'Gold standard' treatment of metastatic spinal cord compression can include:

- a) high dose dexamethasone
- b) neurosurgical intervention
- c) chemotherapy

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- d) radiotherapy
- e) all of the above

#### 8 Rehabilitation following diagnosis of metastatic spinal cord compression should commence:

- a) once definitive treatment has been completed
- b) three days after starting high dose steroid treatment
- c) as soon as possible after diagnosis and progressed as appropriate
- d) once the patient is more mobile following treatment
- e) none of the above

### 9 Prognosis following diagnosis of metastatic spinal cord compression is:

- a) longer in patients with lung cancer
- b) less than one month
- c) linked to their functional ability at the time of diagnosis
- d) shorter in patients with breast cancer
- e) none of the above

### 10 Metastatic spinal cord compression always occurs in patients:

- a) with known metastatic bone disease
- b) very quickly over a number of hours / days
- c) with severe, unremitting back pain
- d) with neurological symptoms at presentation
- e) none of the above

### Pain challenges at the end of life - pain and palliative care collaboration

More than one answer may be correct. Select all that apply.

# 1 Pain and symptom control at the end of life may be sub-optimal because:

- a) Clinicians are afraid of causing addiction
- b) Clinicians are afraid of killing patients accidently
- c) Pain Medicine specialists are not involved in their care
- d) Complex pain may need the services of speciaslists Pain Medicine Physicians

# Factors that contribute, with pain, to suffering at the end of life include:

- a) Depression
- b) Joy
- c) Poor communications
- d) Good family relationships

### 3 Examples of how Pain Medicine Specialists can aid in end of life care include:

- a) Acupuncture
- b) Nerve ablation
- c) Spinal Cordotomy
- d) Drug therapy
- Which of the following use radio-frequency ablation to help in pain management at the end of life.
  - a) Facet joint denervation
  - b) Spinal Cordotomy
  - c) Frozen Shoulder (Adhesive Capsulitis)
  - d) Ilio-inguinal Neuropathy

# What is the opioid of choice for intrathecal infusion for pain relief at the end of life?

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 b,c,d,e

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 a,b,c,d

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 a,c,d,e

 3
 a,c,d,e

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MCQ Answers

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